

SAN ANTONIO INTERNATIONAL AIRPORT

9800 Airport Boulevard
San Antonio, Texas 78216



Soil Management Plan

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Environmental Stewardship Division*

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1.0 Introduction

The Environmental Stewardship Division (ESD) of the San Antonio Airport System (SAAS) has developed this *Soil Management Plan* (SMP) to establish practices for managing soil generated or handled by Airport projects to assure that excavated/imported soil suspected of being contaminated is separated from clean soil and managed in compliance with Federal, State and Local rules and regulations.

This *Soil Management Plan* is designed to:

- ensure that soil entering or leaving the San Antonio International Airport (SAT) or Stinson Municipal Airport (SSF) is not contaminated;
- verify that surplus soil leaving SAT or SSF is not mixed with contaminated soil at an off-Airport location;
- ensure that test procedures to identify soil contamination are scientifically appropriate;
- provide a tracking method for soil disposition.

Note: This *Soil Management Plan* is not designed nor is it intended to be a *Site Safety Plan*. Determination of compliance with Occupational Safety and Health Administration (OSHA) regulations and appropriate training for construction workers is the sole responsibility of the contractor.

1.1 Purpose and Scope

This *Soil Management Plan* is designed to assist SAAS, SAAS contractors and SAAS tenants with cradle to grave liability for contaminated media, provide guidelines to identify potential, or known, environmental conditions that may be encountered during construction projects at SAT or SSF, and assure compliance with applicable laws, regulations and/or policies. The scope of this *Soil Management Plan* is to provide guidelines and procedures to effectively address environmental issues associated with soil excavated from SAAS projects; generated on-Airport, or imported from off-Airport sources to be used by SAAS contractors.

Compliance with applicable federal, state and local health and safety regulations is the responsibility of SAAS and each contractor and/or tenant engaging in activities relevant to this *Soil Management Plan*. Construction contracts may provide more specific project related obligations.

1.2 Definitions

ESD – SAAS's Environmental Stewardship Division.

Project Manager – This is the individual in charge of any construction project that involves the moving or handling of soil. The project manager may be an employee of SAAS, a tenant, or a contractor. The Project Manager is responsible for ensuring the adherence to all requirements of this *Soil Management Plan*.

P&D – SAAS's Planning and Development Division

SAAS – San Antonio Airport System

SAT – San Antonio International Airport

SMP – Soil Management Plan

SMP Authorization – Written authorization from ESD and/or P&D to transport soils to or from SAT or SSF. The written authorization must specify the off-Airport location, expected contaminant levels, soil quantity, time period and Airport site(s) covered by the authorization. Written authorization to import or export soil must be obtained prior to acceptance of contractual obligations for soil importation or exportation.

Soil Stockpile Plan – The *Soil Stockpile Plan* must be generated and maintained by ESD and the Planning & Development Division (P&D) with support from the Wildlife Division (which monitors wildlife activities and hazardous wildlife on and near the airport). The *Soil Stockpile Plan* must distinguish between surplus soil and soil required to remain available on-Airport for use in future planned construction projects. The *Soil Stockpile Plan* must consider soil volume, structural properties, and designate stockpile locations to preserve and maintain surplus clean soils for future development projects as P&D deems appropriate.

Soil – Refers to soil, dirt, fill, gravel, sand, rock, aggregate, alluvium, crushed concrete, constructions soils/spoils, demolition material, backfill, topsoil, engineering fill or earthen material.

SSF – Stinson Municipal Airport

TCEQ - Texas Commission on Environmental Quality

Soil Screening Plan – A written plan prepared by the Project Manager whose construction project involves the moving or handling of soil. This project *Soil Screening Plan* must be submitted for ESD and/or P&D approval prior to conducting related project activities. The project *Soil Screening Plan* must consider:

- Nature of historic activity and potential existing contamination at the construction site (PM can obtain this information from ESD or from Phase I Environmental Site Assessment);
- Description of contaminants that will be screened;
- Identification and justification for contaminants that will not be actively screened;
- Proposed screening methodology;
- Identification of action thresholds for each contaminant;
- Description of handling procedures for soil containing contaminants

- exceeding pre-established screening thresholds; and
- Designated haul routes (if applicable).

Due Diligence Review – The due diligence review is an environmental evaluation conducted by ESD and P&D, applicable to any off-Airport facility to which excavated soil generated by SAAS projects is to be taken for disposal or imported for use on-Airport. The due diligence review must evaluate the proposed off-Airport soil facility for compliance with the provisions of the federal Comprehensive Environmental Response, Compensation & Liability Act (CERCLA) or Resource Conservation & Recovery Act (RCRA). ESD's due diligence review will include:

Due diligence review of proposed soil suppliers:

- Description of soil material
- Description of source of soil material
- Analytical data for soil and/or all quality control data guaranteeing the use of non-contaminated soil.

Due diligence review of proposed off-Airport Soil Disposal Sites:

- Description of soil material to be disposed
- Description of potential contamination of soil to be disposed
- Analytical analysis of soil
- Review of recent (5 to 10 years) federal and state environmental enforcement actions against soil disposal site
- Review and copies of any relevant environmental permits to ensure soil disposal facility can accept soil from Airport
- Description of any programs/protocols/assurances to prevent contamination from other sources during transportation, storage and disposal.

A due diligent review may involve the collection of samples to evaluate potential soil contamination. Sampling will be required, on a case by case bases by ESD, depending on the due diligence review.

1.3 Soils and Geologic Setting

See Appendix A regarding the soil and geology at each SAAS facility.

1.4 Applicability

This SAAS *Soil Management Plan* applies to:

- A. Surplus soil generated by on-Airport projects;
- B. Fill dirt, gravel, spoils, sand, soil, aggregate, and infrastructure supporting earthen material required by SAAS projects;
- C. Soil imported for on-Airport use;
- D. Soil disturbed due to on SAAS property projects; and

- E. Soil that is disturbed in the process of contaminant remediation.
- F. Investigation Derived Waste (IDW)

Implementation of this Soil Management Plan is effective immediately and is intended for use all on-Airport property projects.

1.5 Department Responsibilities

Aviation Environmental Stewardship Division (ESD)

ESD must implement the *Soil Stockpile Plan* with full support from P&D as requested. ESD responsibilities must include:

- Documenting the sources of stockpiled soil;
- Documenting the sources of soil used by the various SAAS projects;
- Assist in the security of any contaminated soil stockpiles;
- Provide technical and regulatory assistance to Project Managers when possible;
- Conducting/oversee due diligence reviews;
- Authorizing importation and exportation of soil as requested;
- Overseeing implementation of protocols for testing and categorizing soil;
- Evaluation and review of field and laboratory test results;
- Approval of off-Airport soil destinations; and
- Reporting to Administering Agencies, as required, on circumstances relating to contaminated soil.

Aviation Planning & Development (P & D) Division

Tasks include:

- Assist with the update of any *Soil Stockpile Plan* site maps;
- Coordinate current and future soil projects with ESD; and
- Review structural properties and quantities of soils needed for planned development projects as well as providing specifications for all soil projects.

2.0 Soil Stockpile Area Requirements

The location of clean soil stockpiles will be **DESIGNATED BY ESD AND P&D. LOCATIONS ARE REFLECTED WITHIN THE SOIL STOCKPILE PLAN (APPENDIX C)**. All soils suspected of contamination must be tested, profiled (characterized) and properly disposed.

2.1 Storm Water Pollution Prevention Plan

Each contractor and/or tenant conducting construction activities will develop, implement and maintain a Storm Water Pollution Prevention Plan (SWP3), if applicable, in accordance with Texas Pollution Discharge Elimination System (TPDES) rules and regulations.

2.2 Erosion Control Measures

Erosion controls (silt fence, rock berms, vegetation, etc...) must be installed and maintained around all stockpile areas. Controls must be inspected by contractor after each rain event. Erosion controls in need of repair/replacement must be corrected within one week. If unaddressed within the one week timeframe, SAAS retains the right to make the required corrections and back charge the contractor for time and material.

2.3 Security

During non-operational hours, or when not staffed, soil stockpile area(s) must be fenced off and entrance/exit gates locked or located within the AOA. Reflective markers must be used for night time vehicle safety.

2.4 Soil segregation

Soil that will be stockpiled on SAAS property will be segregated by project and/or contamination. Additionally, each stockpile must have signage indicating material type, generating date, originating project and contamination status.

2.5 Environmental Contamination

A Limited Phase II Environmental Site Assessment (ESA) will be completed before commissioning and decommissioning any SAAS soils. All stockpile facilities must be constructed using appropriate structural and operational methods to minimize potential environmental contamination (e.g. use of impervious barriers where suspect contaminated soil is stored prior to profiling and disposal).

2.6 Vehicle Maintenance/Fueling

Maintenance and fueling of vehicles and earth moving equipment at stockpile sites must be limited as much as practicable. Reasonable measures should be employed to prevent environmental contamination where such vehicle maintenance activities at the project site are unavoidable.

The trucks used for moving soil between the construction site and any stockpile area must meet all Texas Department of Transportation (TXDOT) rules and regulations. Trucks not meeting these regulations will not be authorized to work.

3.0 Potential Contaminants and Environmental Concerns

Contaminant spills and releases occurring during construction activities must be responded to in a timely and effective manner by the responsible party. Even relatively small hydrocarbon releases are reportable to regulatory agencies when evidenced by sheens on receiving waters of the United States/Texas. SAAS requires immediate reporting of contaminant spills and releases to Airport Communications and immediate action to contain, mitigate and clean up spills and releases to prevent migration to infrastructure discharging to receiving waters and, thereby minimize environmental impact and compounded response costs. SAAS requires preventative maintenance of equipment, at appropriate locations, in order to minimize the potential for preventable spills and releases due to equipment failure. Prevention of spills and releases of oil and oil products may also be required pursuant to Spill Prevention Control and Countermeasures (SPCC) regulations (refer to 40 CFR 112.1). *SPCC Plans* are dependent on oil product storage capacity (ESD can provide guidance upon request).

Contractors can reduce the possibility of generating contaminated materials by proper management and maintenance of their construction areas (equipment mobilization and staging areas; materials lay-down yards). SAAS requires that Contractors conducting activities at SAT and SSF to properly handle, store, and label construction materials to prevent environmental multi-media contamination (air, soil, and water) to the maximum extent practicable.

The following is intended to be a general reference list of contaminants that could be encountered during construction activities at SAT and SSF:

3.1 Jet A Fuel (Jet A)

Jet A has been used to fuel commercial, cargo and private aircraft at SAT and SSF.

Jet A has a nearly water-white appearance; is a mobile, oily liquid; and has a mild petroleum paraffinic odor typical of kerosene. Jet A has an auto-ignition temperature of 475°F (246°C), a lower boiling point of 320°F (160°C), a flash point of 100°F (38°C), and a specific gravity of 0.81. The Lower Explosive Limit (LEL) is 0.5% and the Upper Explosive Limit (UEL) is 6.0%. The vapor pressure density of Jet A fuel is 5 mm/Hg. Jet A is essentially water insoluble (floats on the surface of water).

3.2 Aviation Gasoline (AvGas)

AvGas is used to fuel piston engine aircraft at SAT and SSF.

AvGas is generally a clear blue liquid with a gasoline hydrocarbon odor. AvGas has a lower boiling point of 158°F (70°C), a flash point of -49°F (-45°C), and a specific gravity of 0.71. The vapor density of AvGas is 4 mm/Hg, the LEL is 0.6% and the UEL is 8.0%. AvGas is essentially insoluble in water.

3.3 Motor Gasoline (MoGas)

MoGas is used to fuel ground service equipment (GSE).

MoGas is a clear colored liquid (typically red-orange) with a pungent petroleum hydrocarbon odor. MoGas has a lower boiling point of 102°F (39°C), a flash point of 35°F (-37°C), and a specific gravity of 0.8. The vapor density of MoGas is 3 to 4 mm/Hg, the LEL is 1.5% and the UEL is 7.6%. MoGas is essentially insoluble in water.

3.4 Low Sulfur Diesel (LSD)

LSD is typically used to fuel construction equipment and therefore, may be encountered during construction activities.

LSD is a pale yellow liquid with a hydrocarbon odor. LSD has a lower boiling point of 349°F (176°C), a flash point of 125°F (52°C), and a specific gravity of 0.84. The vapor pressure of LSD is 0.04 PSIG, the LEL is 0.6% and the UEL is 4.7%. LSD is essentially insoluble in water.

3.5 Solvents

Solvents are primarily used to clean aircraft and vehicle parts. These activities have typically been restricted to maintenance areas in hangars and at maintenance shops

3.6 Aircraft De-icing and Anti-icing Fluid (ADAF)

Both ethylene glycol and propylene glycol are used at SAAS as ADAF. De-icing activities are performed at gates, RONs, ramps and along taxiways. ADAF residuals may be encountered when construction project excavation is conducted proximate to terminal gates due to prior gate deicing practices.

Glycol-based fluids are generally colorless, odorless, viscous, hygroscopic liquids. Aircraft deicing/anti-icing ethylene glycol has a lower boiling point of 383°F (195°C), a flash point of 232°F (111°C), and a specific gravity of 1.1. The vapor density of ethylene glycol is 2.1 mm/Hg, the LEL is 3.2% and the UEL is 15.3%. Ethylene and propylene glycol used for aircraft deicing/anti-icing may have a pungent odor and may have an orange to green appearance (depending on concentration). Both ethylene and propylene glycol are miscible in water (mix readily with water).

3.7 Metals

Some metals are evidenced at low concentrations in soils and groundwater at SAT and SSF (referred to as background since naturally occurring). Chromium associated with paint and painting operations, and lead from leaded gasoline may occur at levels above background concentrations. Significant contamination is not usually encountered; either as background or resulting from prior occupancy activities conducted at SAT and SSF. If there is a suspected cause making contamination testing prudent, the suspect media will be tested for the eight RCRA identified metals and the Texas three metals using specified U.S. Environmental Protection Agency (EPA) laboratory protocols. Metals include: antimony, arsenic, barium, beryllium, cadmium, chromium, mercury, nickel, lead, selenium, and silver.

3.8 Battery Acids

Increasing airline use of electric GSE at SAT and SSF has resulted in the establishment of a growing fleet of battery powered GSE and construction of numerous electric vehicle recharging stations. Spills of battery acid from GSE occur occasionally. Battery acid spills may occur on ramps, around charging stations and near maintenance facilities. Acidic conditions may be encountered in excavated soils from these locations.

3.9 Other Construction Components

Other contaminants may be discovered in the course of a project or generated due to methods used during construction. Project generated contaminants can result from boring operations that generate process wastewater or by petroleum contamination generated, for example, by hydraulic leaks from construction equipment. Construction related process wastewater must be properly contained, collected and disposed.

4.0 Management of Soils at Project Sites

This *Soil Management Plan* has been developed as a framework for field determination, classification, transportation, and disposition of excavated soil, free phase product, contaminated dissolved phase groundwater, and vapors that may be encountered during construction projects. This *Soil Management Plan* must be followed by SAAS and contract personnel. Each Project Manager is responsible for administering the *Soil Management Plan* during ongoing pre-construction and construction activities they oversee.

The occasional presence of contaminated media (soil, groundwater, and free phase product) may be encountered from time to time. Information collected from pre-construction investigation activities should be summarized to determine likely locations of contaminants within the construction footprint. Close attention must be paid to excavated soil for contamination. Suspect soils must be stockpiled for subsequent evaluation, treatment, reuse or disposal.

The project *Soil Screening Plan* should reflect the results of pre-construction investigations and any project due diligence review. The *Soil Screening Plan* must be submitted by the construction Project Manager to ESD and P&D for review and concurrence during the construction review process. The *Soil Screening Plan* will identify screening methods and frequencies using the environmental principles discussed in Section 4.1.

CAUTION: When environmental conditions associated with contaminated media are encountered, the contractor is required to ensure compliance with applicable federal, state, and local regulations and is responsible to protect worker health and safety.

In the event excavated or construction pre-screened soil evidences contact with potential contaminants not listed in the *Soil Screening Plan*, construction activities in the affected area must be immediately terminated pending ESD & P&D evaluation of the pending issues.

4.1 Soil Screening & Sampling

As much as possible, soil characterization must be performed prior to soil importation or excavation. The designated Project Manager must observe soil for visual evidence of contamination. Soil samples will be collected as described in the project specific *Soil Screening Plan*. Typically this may involve visual and olfactory soil observations, PID readings, headspace analysis, soil sampling and/or manufacturer documentation.

4.1.1 Screening Methods

Volatile organic compounds (and some semi-volatile organic compounds) may be screened using approved field technology photo-ionization detection (PID) or flame ionization-detection (FID) direct reading instrumentation, as appropriate, to screen for volatile organic compounds (VOCs); immuno-assay tests for semi-volatile; x-ray fluorescence (XRF) for metals (refer to table below). Field analysis alone will not authorize off-Airport disposal options or approval. Field analysis results may be used to

determine the appropriateness of returning clean soil to the excavation; to determine the appropriateness of transporting clean soil to another on-Airport clean soil stockpile; or to decide which suspect soils must be stockpiled and sampled for contamination.

Only trained personnel must conduct direct reading instrumentation excavated soil screening; calibrate direct reading instruments, deploy recommended instrument manufacturer's methods, or use analytical kits of any kind. Daily calibration, using recommended instrument manufacturer's methods or analytical kit requirements must be completed and recorded for submission to ESD prior to project close-out.

Field methods must be documented; retained in project management files and submitted to ESD. Should screening method results exceed limits outlined, work is to be stopped and ESD and/or P&D immediately contacted.

Potential Contaminant	Analytical Field Test Method
Jet A Fuel	PID, FID, Immunoassay Kit, Portable GC
Aviation Gas	PID, FID, Immunoassay Kit, Portable GC
Vehicle Gas	PID, FID, Immunoassay Kit, Portable GC
Diesel Fuel	PID, FID, Immunoassay Kit, Portable GC
Solvents	Portable GC, Immunoassay Kit, Electron Capture GC
Aircraft Deicing Fluids	Colorimetric Kit
Metals	X-Ray fluorescence
Pesticides/PCBs	Portable GC, Immunoassay Kit
Hydraulic Fluids	PID, FID, Immunoassay Kit, Portable GC

*PID - Photo Ionization Detector

*FID - Flame Ionization Detector

*GC - Gas Chromatograph

4.1.2 Soil Sampling

Soil must not be imported or exported without a completed SMP authorization (see attached form) issued/approve by ESD and/or P&D. A *Soil Screening Plan* must be prepared and followed for all projects. At a minimum, soils should be analyzed for the following:

Chemical of Concern (COC)	Test Method
Total Petroleum Hydrocarbon (TPH)	TX1005
Benzene, Toluene, Xylene and Ethylbenzene (BTEX)	8021 or 8260
Polycyclic Aromatic Hydrocarbons (PAH) ⁴	8310 or 8270
Metals (RCRA-8) plus Antimony, Beryllium and Nickel	200.7

⁴ - TPH testing will be used to screen for PAHs using method TCEQ-1005. If the laboratory reports any detection of hydrocarbons in the carbon range greater than nC12, then the sample with the highest

concentration of hydrocarbons in the > nC12 range must be analyzed for PAHs. The PAH results will be compared to the PAH results listed above.

See Appendix B for the acceptable concentrations of Chemicals of Concern (COCs).

4.1.3 Sampling Frequencies

Project Type	Frequency
Soil Importation	One (1) composite sample per 1,000 cubic yards (or less)*. Additional visual screening of imported soil is required at a minimum of one (1) per every five (5) trucks*.
Soil Exportation (initial screening)	One (1) composite sample per 1,000 cubic yards
Soil Exportation (off site disposal)	One (1) composite sample per 50 cubic yards (the requirements of the disposal facility may be substituted for the above composite sampling frequency).

* - This sampling frequency may be relaxed based upon demonstration of minimal likelihood of encountering contamination and/or documentation provided by soil supplier.

4.1.4 Confirmation Sampling

Project specific soil sampling requires the collection of soil samples from sidewalls and the finished grade bottom of excavations where contaminated media was encountered. This will allow determination of the levels of potential contaminants that may remain in the area. ESD may also require confirmation sample(s) to verify that contamination is no longer present in the construction footprint should results of field screening and laboratory results of excavated soils sampled so indicate.

Typically, excavated soil with no evidence of contamination from pre-construction investigations, no visual or olfactory evidence of contamination, and no elevated PID readings (less than 20 parts per million (ppm)) may be deemed clean soil and will not require additional analytical testing or laboratory sampling. Clean soil, upon ESD's approval, may be directly transported to the clean soil stockpile area for subsequent reuse. If a Project Manager anticipates off-Airport disposal or reuse, an SMP authorization must be obtained from ESD and/or P&D.

Excavated soil evidencing contamination from pre-construction investigations; visual or olfactory screening; direct reading instrumentation hits above 20 ppm; or other approved field screening methods must be stockpiled for further evaluation. Excavated soils suspected of contamination must be segregated at the project site from clean soil based on field screening and placed on and covered with vapor barriers (e.g. visqueen). Once segregated, the material must be sampled, profiled and disposed.

4.2 Excavated Soils

As much as possible, soil characterization must be performed prior to soil excavation. The designated Project Manager must observe unexcavated and excavated soil for visual evidence of contamination. Excavated soil samples will be collected as described in the project specific *Soil Screening Plan*. Typically this will involve visual and olfactory soil observations, PID readings, headspace analysis, and sampling.

4.3 Imported Soils

Screening of imported materials prior to entering Airport property or a project site is acceptable for material such as rocks and pea gravel. Soil screening results that exceed pre-established contamination levels **will not** be brought onto SAAS property without the expressed authorization of ESD and/or P&D. If no levels are pre-established this will be the detection limit of any contamination subject to the materials screening protocols. Field notes for the screening will be collected and submitted to ESD and/or P&D.

4.3.1 Ready-to-Plant, Mulch and Topsoil

Ready-to-Plant, Mulch and Professional Topsoil will be addressed on a case by case basis. These soils are generally contract spec soils that will be mixed per the required specifications. The P&D Division should approve the spec and source before the contractor brings the soil on to the airport.

4.3.2 Material Used for Concrete

Soil importation for production of concrete is necessitated by the scope and scale of some SAAS Airport capital development projects. It is important to conduct imported concrete production materials screening to prevent distribution of imported materials that may have been previously contaminated. Given that materials used to produce concrete are typically manufactured products, ESD anticipates that screening will be less rigorous than suspect soils. The Project Manager will be responsible to document imported soils screening consistent with ESD and/or P&D approved project specific soil screening prior to accepting imported soils used for the on-Airport production of concrete.

4.4 Suspected Contaminated Material

When field-screening results indicate levels above the action threshold (**20 ppm**), the material will be stockpiled onsite and placed on and covered with a vapor barrier. The Project Manager will contact ESD and/or P&D and notify them that soil sampling is required. While awaiting results from the laboratory, the soils will remain in this hold status until a determination is made for final disposition. If laboratory analysis results indicate that the soil is clean, the soil may be moved to a clean stockpile for reuse. If laboratory results indicate there is contamination; but contaminate concentrations are below the standards set in Appendix B, this soil may be subsequently transported for reuse at appropriate projects. When results indicate levels of contamination too high for reuse, this material will be designated for profiling and disposal.

4.5 Soil Disposition/Transportation

Project Managers are responsible for transporting soils to and from the project site. Imported materials and materials generated by on-Airport projects destined for off-airport disposition will proceed only after express authorization by ESD and/or P&D. Project Managers will assure that any soil that will be stockpiled at Airport stockpile reuse areas will be free of trash, debris, rubbish, or construction rubble. Haul trucks will be required to follow designated haul routes (specified in *Soil Screening Plan*) from the excavation area to the soil stockpile area(s).

Soil must not be exported without a completed SMP Authorization Form approved issued by ESD and/or P&D. Soil screening must be conducted on all exported materials pursuant to the approved *Soil Screening Plan* prior to leaving Airport Property. The soil screening plan must reflect the anticipated contaminants in the soil to be exported and the results of the due diligence review of the off-site facility. Detailed records must permanently be maintained documenting sample test results, soil source location, soil destination, the due diligence review, and all other relevant data.

THE PROJECT MANAGER WILL COMPLETE AND SUBMIT A SMP AUTHORIZATION FORM TO ESD AND/OR P&D FOR APPROVAL (See Appendix D). THIS SHOULD BE INCLUDED IN THE INITIAL PLAN REVIEW PROCESS.

The contractor is solely responsible for Health and Safety measures required for safe transportation of the excavated materials to the designated destination on or off-Airport.

The Project Manager will record the following information for all materials received at any SAAS stockpile area:

- Date/Time
- Project name and ESD and/or P&D authorization approval
- Truck number and size
- Truckloads of material received
- Type of material received
- Truck Tickets

The following additional information will be recorded for confirmed and suspected contaminated materials:

- Description of material
- Parameters analyzed
- Material ID Number (given by Project Manager)
- Sampling results
- Disposal location
- Date removed
- Truck Tickets

4.6 Soil Sampling and Classifications

Final characterization of excavated soils will result in one of three soil classifications. The following sections summarize the designation criteria associated with each classification. A brief discussion of each classification is presented for guidance.

4.6.1 Unregulated Soil

Unregulated soil is soil evidencing no detectable levels of potential contaminants of concern. Unregulated soil may be reused on-Airport, as the Planning and Development Division deems necessary.

4.6.2 Impacted Soil

Impacted soils exhibiting analytical results below established maximum concentration levels for each COC analyte may be reused on-Airport only. Reuse locations must meet TRRP requirements restricting reuse in projects with finished grade impervious surfaces and where no human exposure pathways will occur (e.g.: under pavement or other impervious cover as allowed by regulation). ESD and/or P&D concurrence with reuse of impacted soils for designated projects is required.

4.6.3 Contaminated Soil

Contaminated soils are soils exhibiting analytical results above established RCRA levels for any COC analyte. Contaminated soils will be profiled and properly disposed.

4.7 Sample Documentation

Samples collected from the soil stockpiles, or confirmation samples collected from excavation sidewalls and finished grade will be identified using a four-part system. The sample identification system will consist of the following:

- A location designator based on the SAAS Airport's Emergency Grid System;
- A matrix identifier;
- A sample number; and
- Depth of sample collection (where applicable).

The first portion of the sample identifier will identify the soil origination utilizing the SAAS Airport Emergency Grid System as described above. Therefore, analytical results from the soil stockpiles can be traced to locations on the airport property where the soil was excavated.

The second portion of the sample identifier will identify the sample as a soil sample (SS) collected at the source, groundwater (GW), or stockpile (SP) sample.

During excavation, soil samples will be numbered within each grid location (i.e., in subsequent grid locations, sample numbers will start over). The depth at which the sample was obtained will be noted as the final portion of the sample identifier.

For example, the tenth sample obtained in the 4GA grid square from an excavation at a depth of 2 feet would be labeled:

4GA – SS-10 (2)

Stockpile samples will be numbered according to the soil source location. For example, a sample obtained from stockpiled soil whose source is the 4GA grid square at a depth of approximately 5 feet would be labeled:

4GA – SP – 1(5)

A sample log and sampling map will be created to document all samples collected. The sample log will contain the sample identification number, sample matrix, date and time collected, location description, number of jars, analyses requested, PID readings (if any), and relevant notes. The sampling map will be a drawing that will identify the location of each sample taken, the location of the project in relation to other onsite activities, a north arrow and any other requested information.

Proper chain-of-custody documentation will be maintained for all samples sent to the laboratory using the appropriate Chain-of-Custody form.

5.0 Management of soil stockpile areas

The Project Manager must manage the *Stockpile Screening Plan* that will guide day to day operation and handling of soil and soil stockpiles.

5.1 Soil Classification Management

ESD and/or P&D will review the *Soil Screening Plan* for each project and determine if soil is eligible for direct shipment to a clean soil stockpile area. This determination will be communicated to the Project Manager. Please refer to Section 4.5 for proper soil stockpiling recordkeeping requirements.

5.1.1 Unregulated Soil

If the soil is determined to be uncontaminated and has been approved for storage at the Airport's Buckhorn site the Project Manager (or his designee) will unlock the site (Buckhorn) at the scheduled time and remain on site until delivery is complete. The area will be re-secured when not supervised. The Project Manager (or his designee) will inspect loads to verify that they are debris free and properly authorized. Trucks with construction debris will be returned to the project site for debris removal. Soils transported to a clean soil stockpile area will be segregated by project.

5.1.2 Impacted Soil

Impacted soils exhibiting analytical results below established maximum concentration levels for each COC analyte may be reused on-Airport only. Stockpile storage locations must be approved by ESD and/or P&D.

5.1.3 Contaminated Soil

Contaminated soils are soils exhibiting analytical results above established RCRA levels for any COC analyte. Contaminated soils must be properly profiled and disposed of at an approved ESD and/or P&D facility. Long term stockpiling of contaminated soil on Airport property is prohibited.

All contaminated soils stockpiled will be placed on an impervious material and covered with an impervious material.

Construction materials not for immediate use must be stockpiled in designated areas. Other materials may be stored at approved locations proximate to the work area provided however that the piles are no greater than 18" in height. Higher piles may be permitted only during working hours and in such quantity that they may be reduced in height to 18" maximum within thirty (30) minutes of notification."

Soils stationed at Buckhorn will be placed in windrows no more than six feet in height. Soils will be segregated and records maintained by the Project Manager

to identify soil sources, soil types and contamination test results.

5.2 Maintenance of Soil Stockpiles.

Stockpiles must be maintained in a manner to minimize wildlife attractants. All requirements of Section 2.0 must be met.

6.0 Data Management

6.1 Field Documentation

Quantities of excavated/imported soils, soil types, PID readings, trucking data, etc. must be documented by the Project Manager in a daily logbook, by photo-documentation and/or by use of electronic record keeping.

6.2 Soil Tracking

The sources of excavated soils must be tracked and maintained along with sampling, analytical, and disposal records. SAAS Airport's Emergency Grid System will be utilized to aid in tracking excavated soil sources. SAAS Airport's Emergency Grid System is laid out such that north-south grid lines are labeled numerically beginning with the number 1 and east-west grid lines are labeled alphabetically from A to S. Each grid square is 1,000' by 1,000'. Each grid square is further sectioned by 4 smaller squares (500' by 500') that are labeled with a letter designation (e.g.: a location can therefore be designated as 4GA, which denotes a particular area 500' by 500'). If the Emergency Grid System is not utilized for soil stockpile tracking then an alternate method must be approved by ESD and/or P&D.

As part of the *Stockpile Management Plan*, it is also necessary to track the final disposition of all soil. See the *Stockpile Management Plan* and Section 4.5 for additional tracking information.

6.3 Sample Documentation

Samples collected from the soil stockpiles, or confirmation samples collected from excavation sidewalls and finished grade will be identified using a four-part system. The sample identification system will consist of the following:

- A location designator based on the SAAS Airport's Emergency Grid System;
- A matrix identifier;
- A sample number; and
- Depth of sample collection (where applicable).

A sample log and sampling map will be created to document all samples collected. The sample log will contain the sample identification number, sample matrix, date and time collected, location description, number of jars, analysis requested, PID readings (if any), and relevant notes. The sampling map will be a drawing that will identify the location of each sample taken, the location of the project in relation to other onsite activities, a north arrow and any other requested information.

Proper chain-of-custody documentation will be maintained for all samples sent to the laboratory using the appropriate Chain-of-Custody form.

See Section 4.0 for more sampling information.

6.4 Project Database

A database will be created and maintained by ESD and/or P&D. This database will include "trip tickets", laboratory analytical results, excavation dates, stockpile numbers, and stockpile locations.

7.0 REPORTING

7.1 Emergency Notifications

In the event of an environmental emergency, the following notifications must be made immediately:

- SAT/SSF Communications Center – (210) 207-3433
- Operations 202 – (210) 413-4928
- Operations 210 – (210) 207-3590
- Operations – (210) 207-3540
- Environmental Stewardship Manager – (210) 207-3402
- SAAS Environmental Stewardship Division – (210) 207-3518
- Planning & Development – (210) 207-3519
- San Antonio Fire/Police Department – 911
- SAT Fire/Rescue – (210) 207-3473

7.2 Reports – Project Manager

Weekly Status Reports

A Weekly Status Report will be prepared during construction activities describing the field activities conducted that week and summarize the total amount of soil excavated/imported and specify quantities of soil stockpiled and suspected of contamination.

Post-Construction Report

As a pre-requisite to project closeout, the Project Manager will verify all previously submitted information/reports are correct and up to date. Any missing information such as truck tickets, soil analysis and/or disposal manifests will be submitted to ESD and/or P&D.