


<b>Public Works, Joint Bases Lewis-McChord Environmental Division</b>		
<b>Procedure: GAAF Borrow Source Pit SOP</b>		
<b>Document ID: PWE-712</b>		
<b>Document Owner:</b>  Kyle Greer Solid Waste Program Manager	<b>Approval:</b>  Charles Markham Director, DPW	<b>Revision: 1</b>  <b>Revision Date:</b> 11 MAR 2022
<b>GAAF Borrow Source SOP</b>		<b>Original Date:</b> 14 FEB 2022

**PURPOSE.** To comply with JBLM Environmental Division Borrow Source Pits Plan, 40 CFR Parts 260 to 279, and WAC 173-340A-703. Cost effectively manage borrow source resource. Avoid importing contaminated soil, contaminating ground water and creating future cleanup cost liabilities

**APPLICABILITY.** The GAAF borrow source use is restricted to permit holders only. GAAF Borrow Source Pit Permits are available to construction companies and units.

- Washington Administrative Code (WAC) 222-24-060
- Washington Administrative Code (WAC) 173-340-740
- Washington Administrative Code (WAC) 173-340-900
- Washington Storm Water Manual, 2014
- Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing
- Tacoma Smelter Plume Model Remedies Guidance

**ACRONYMS.**

GAAF– Gray Army Air Field  
DPW- Directorate of Public Works  
ED- Environmental Division  
IRP– Installation Restoration Program  
JBLM- Joint Base Lewis McChord

**SUPPORTING DOCUMENTS.**

<b>Document ID</b>	<b>Title</b>
Enclosure 1	Borrow Source Area Use Permit

**ENVIRONMENT, HEALTH AND SAFETY.** GAFF borrow source area users will ensure that equipment used within the borrow source area is mechanically sound and operated in a safe manner. Equipment having leaks of any type, including but not limited to hydraulic fluid, cooling fluid, lubricating fluid, fuel, etc., will be immediately removed from service at the site and repaired. All spills of fuels, mechanical fluids, chemicals, etc., onto the ground will be immediately reported to the JBLM Fire Department at telephone number 911. Spill mitigation will be undertaken by the borrow source user under the direction of the JBLM/ED at the sole expense of the borrow source area user. Spills will be mitigated to the extent required to meet JBLM, local, state and federal requirements.

**TRAINING.**

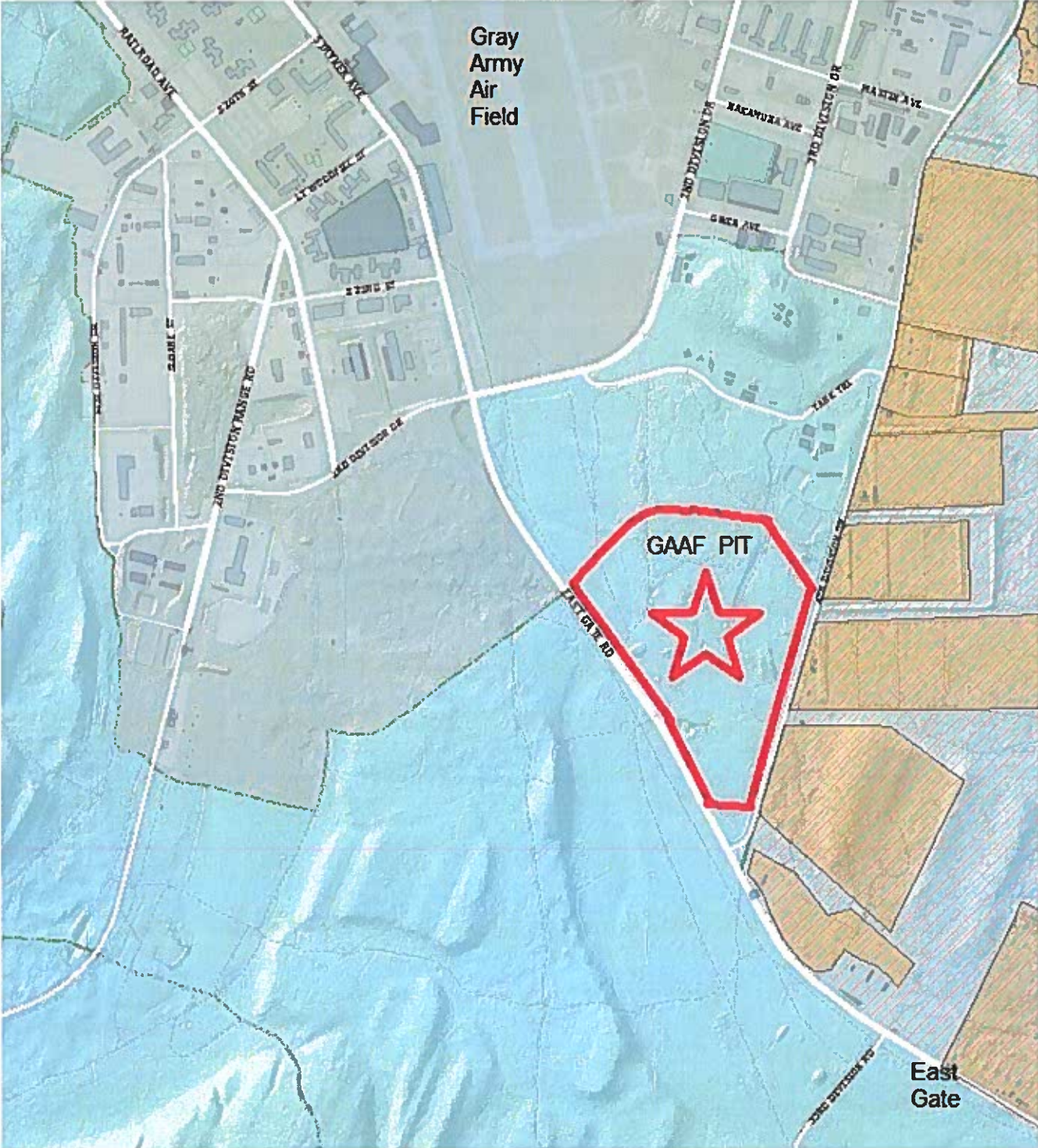
1. Read the GAFF Borrow Source Pit SOP
2. Attend Scheduled Site Visit at GAFF.

**PROCESS/PROCEDURE STEPS.**

Responsible	Step	Action
Government PM	1	Requests Pit use from Pit Manager
IRP	2	IRP to determine if testing is necessary
Government PM	3	Coordinate GAFF site visit with Pit Manager [EHCC1]
Pit Manager	4	Assign area to dump soils
Pit Manager	5	Permit issued by Pit Manager
Construction Co.	6	Pile Soils
Construction Co.	7	Cover soil with 6 mil plastic and secure with sand bags
Certifies Site Assessor	8	Sample piles
Government COR	9	Submit lab results to IRP
IRP	10	Directs acceptance <del>refor</del> [EHCC2] disapproval of soil sample concentrations
Construction Co.	11	Levels piles or disposes soil off post
<i>End of Activity</i>		

**FACILITY DESCRIPTION**

The Borrow Source areas are located on JBLM Main, South of the GAAF Airfield.



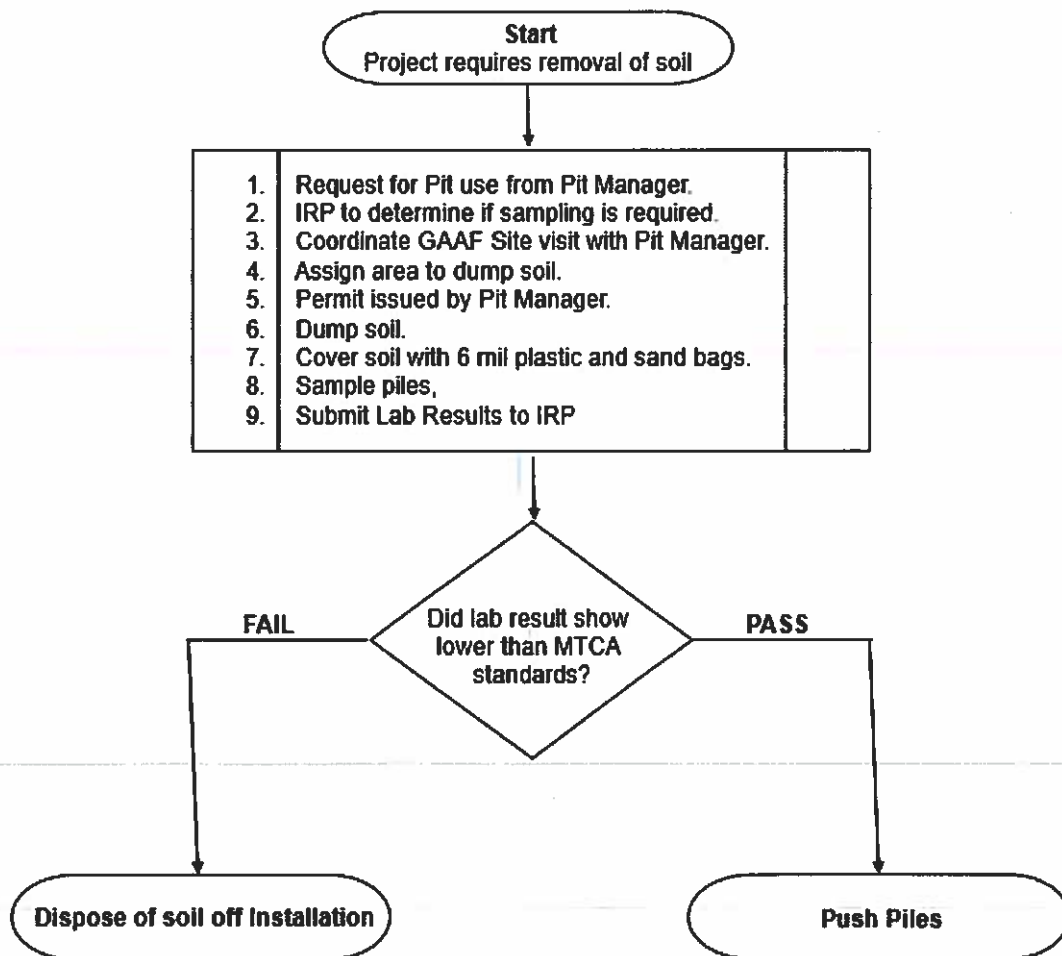
### Hours of Operation

The GAAF Borrow Source Pit is open daily. The use of the GAAF Borrow Source Pit must be authorized prior to entry by Permit.

### Roles and Responsibilities:

<b>COR – Oversees contract</b>
<b>Government Project Manager – Is the mediator between the Pit Manager and Contractor</b>
<b>Pit Manager – Issues Site Permit</b>
<b>Installation Restoration Program (IRP)– Provides maps of contaminated areas on the installation</b>
<b>IRP – Determines (concur/non-concur) if testing is required</b>
<b>IRP – Reviews and approves Sample Plans, Lab results, and determines if soils can be deposited</b>

Flow Chart. Request for GAAF Borrow Source Pit Use



## **Terms of Use:**

GAAF borrow source use is restricted to permit holders only. Permits expire after 30 days, permit holders can request 30 day extensions. All other use is considered illegal dumping and subject to prosecution. PW-ED approves when soils can be leveled. Permit holders agree that all soils must be leveled after delivery or on a weekly basis if use is granted on an extended basis. Permit holders can deposit soils only if permitted by DPW/ED and only at agreed to locations and must agree to follow the agreed procedures. DPW/ED has designated a pit manager. Upon permit approval for use of the pits the Pit Manager will initiate an initial preconstruction site visit with the Government PM and Contractor. Outbound permit holder may only remove soils from predetermined locations leaving removal sites level after use. No open pits that may pose a safety hazard are allowed. Inbound permit holders are required to push piles as discussed in the site visit during the permit process.

Soils that designate as higher than MTCA levels are considered hazardous and must be removed within 90 days of testing results.

## **Obtaining a Permit**

A written *GAAF Borrow Source Pit Use Permit* form (Enclosure 1) for the use of a JBLM borrow source area will be generated by the Pit Manager, submitted to Government PM and then returned to the Pit Manager for final review, approval and permit authorization by the Pit Manager and Environmental Review.

Upon authorization, a copy of the signed authorization form must be in the possession of the individual truck driver(s) and accompany each load delivered to or issued from the borrow source area in use.

## **Analysis and/or Research to Determine Soil/Aggregate Contamination**

Soil/aggregate material excavation from construction and utility projects must be uncontaminated to be considered acceptable for placement in GAAF borrow source pit. Washington Administrative Code (WAC) 222-24-060

Soils from undisturbed or undeveloped property on JBLM will be more likely to be uncontaminated unless determined otherwise by research of historical land use records. The Environmental IRP may be contacted for map overlays to identify known contamination sites. Soils from developed sites and particularly sites with prior uses that would indicate the possibility of soil contamination (fueling stations, motor pools, vehicle washing/maintenance areas, or known spill or contaminated sites). To make this determination, the site shall be sampled and analyzed by a certified site assessor at the contractor's expense in the case that ED and ESD agree. The site assessor's analysis shall be sent to the Government COR and Pit Manager. The Government COR will contact ED to review the report. After review of the site assessor's report, ED determines the material suitable, ED will notify the Government COR ~~to approve and allow the contractor to bring~~ the status of the material as to weather/whether<sup>[EHCC3]</sup> or not it is eligible to stockpile in the Pit.

## **Most Desirable to Least Desirable Sampling Locations:**

The most desirable testing location is at the project site, in-situ. This will facilitate a timely result in determining if the soil is acceptable to be deposited into the GAAF Borrow Source Pit or needed to be disposed off-installation.

The least desirable option is to test the soil at the GAAF Pit.

Under no circumstances will untested soils be stored at the GAAF Borrow Source Pit and then reused on the project at a later date.

**NOTE:** In general, project stockpiled at the GAAF Borrow Source Pit should have a guarantee that there is sufficient funding available or a contract mechanism that can be implemented for removal of soil within 90-days upon discovery of soil testing above MTCA limits.

**Field Sampling and Site Assessor Requirement**

Soil testing for inbound soils to GAAF Borrow Source Pit:

- IRP must concur/non-concur when soils must be sampled. Undeveloped areas with no known prior use and no known Installation Restoration Program listed sites. Do not test. Testing is required for the following:
- Areas with visual staining or olfactory signs of petroleum impacts, and known Installation Restoration Program listed sites. Testing required.
- Soil from developed sites and particularly sites with prior uses that would indicate the possibility of soil contamination (fueling stations, motor pools, maintenance areas, vehicle washing, or known spill or contaminated sites). Goes to A/E design. Soil testing required.
- Testing must be witnessed onsite by a Department of Ecology Registered Site Assessor, a qualified person as stated in WAC 173-360A-0930(3), who will witness testing and provide a report describing sampling methodology, interpretation of results against screening criteria, along with the soil testing results.

**Table 1. Samples for PCS Soil WAC 173-340-740**

Number of Samples Deeded to Adequately Characterize Stockpiled Soil	
Cubic Yards of Soil	Number of Samples Needed for Chemical Analysis
0-100	3
101-500	5
501-1000	7
1001-2000	10
>2000	10+1 for each additional 500 cubic yards

**Table 2. Samples for In-situ Testing WAC 173-340-900**

Number of Samples Needed To Adequately Characterize Stockpiled Soil		
Cubic Yards of Soil	Number of Composite Samples (DU Arsenic >100 ppm)	Number of Composite Samples (DU Arsenic <100 ppm)
<500	2	2
500-999	4	4
1000-4,999	8	6
5000-9,999	14	10
10,000-19,999	20	14
≥20,000	20+1 per 4,000 cubic yards	14+1 per 5,000 cubic yards

**Table 3: Sampling Analytics WAC 173-340-900**

Analytics	Analytical Methods
<b>UNKNOWN PETROLEUM CONTAMINATED SEDIMENTS</b>	
TPH-D and TPH-HO	Method NWTPH-Dx
Total Naphthalene	EPA Method SW846-8270C
Total cPAHs	EPA Method SW846-8270C
TPH-G	Method NWTPH-G
Benzene	EPA Method SW846-8021 or 8260B
Toluene	EPA Method SW846-8021 or 8260B
Ethylbenzene	EPA Method SW846-8021 or 8260B
Total Xylenes	EPA Method SW846-8021 or 8260B
Arsenic, Barium, Cadmium, Chromium (total), Copper, Lead, Mercury, Selenium, Silver & Zinc	EPA Method SW846-6000/7000 series

**Site Assessment**

To perform or directly supervise soil sampling requires certification in site assessment, a service provider must be certified as having sufficient education and experience by:

- (a) The International Code Council (Washington State Site Assessment –U7);
- (b) Another nationally or internationally recognized association approved by the department that provides a qualifying examination;
- (c) Passing another qualifying examination approved by the department; or
- (d) Being licensed as a Professional Engineer or Hydro-Geologist in Washington State under Chapter 18.43 or 18.220 RCW and being able to demonstrate competence in site assessment by means of examination, experience, or education.

**Equipment Use Restrictions**

Equipment brought into the GAAF Borrow Source Pit for exaction and processing of materials will be set up in such a manner as to prevent damage or contamination to the environment and to minimize disturbance to the borrow source and adjacent areas.

**Management of Pile that Fail Screening Requirements**

Soil that is awaiting testing should be held on the construction site. This is the first priority. If screened above MTCA testing levels then the soil must be disposed off-installation within 90 days of testing results.

Soil that MUST be moved to the GAAF Pit to avoid project cancellation must be moved, with permit, to the allotted place within the GAAF pit. The pile must be covered with minimum 6 mil visqueen plastic and sandbagged to keep the plastic in place. The pile must be maintained, in accordance with, the 2014 Storm Water Manual. Details will vary depending on project duration and amount of soils deposited. These details will be discussed and assigned on condition of permit during the site visit portion of the permit process.

Testing results for levels below MTCA must be pushed into the depression or made flat and level as directed by the Pit Manager on a case, by case, basis.

Testing results for levels above MTCA must be removed from the GAAF pit to a disposal site off the installation within 90 days of the testing date.

### **Environmental Restrictions**

GAAF Borrow Source Pit users will ensure that equipment used within the borrow source area is mechanically sound and operated in a safe manner. Equipment having leaks of any type, including, but not limited to, hydraulic fluid, cooling fluid, lubricating fluid, fuel, etc., will be immediately removed from service at the site and repaired. All spills of fuels, mechanical fluids, chemicals, etc. onto the ground will be immediately reported to the JBLM Fire Department at telephone number 911. Spill mitigation will be undertaken by the borrow source user under the direction of JBLM DPW/ED at the sole expense of the borrow source permit holder.

### **Site Disturbance**

Disturbance of the GAAF Borrow Source Pit, access roads, and adjacent areas will be minimized during the operations required to place and issue soil/aggregate materials. No vegetation will be disrobed or removed without the express approval of JBLM DPW. All excavated depressions will have side slopes no steeper than 1.5Horizontal to1.0Vertical, will be no deeper than 4-feet from the established borrow source area floor surface or to the groundwater table, whichever is less.

### **Debris and Trash Management**

Incidental organic debris (less than 10%) may be placed with soil/aggregate in GAAF borrow source pits. Under no circumstances will debris or trash be left within a borrow source area or on adjacent property at the end of the use period. Under no circumstances will debris or trash be buried within a borrow source area or at any other location on JBLM. Borrow Source users will maintain the area in a clean and orderly condition throughout the period of use.

### **Storm Water Control**

As per the 2014 Ecology Storm water Management Manual; the restoration, soil stockpiling and filling of existing borrow source areas on JBLM must take into account storm water management Best Management Practices (BMP) to prevent erosion and sediment discharge onto adjacent properties or into any receiving waterways. To accomplish the applicable Storm Water Best Management Practices (BMP) for the restoration and stockpiling of soil in borrow source areas, the following measures shall be taken by permit holder;

- Untested soils will be covered with plastic sheeting 6 mil in thickness.
- Limit vehicle access and exit to one route, if possible.
- Stabilize access points with a pad of quarry spalls, crushed rock, or other equivalent



BMPs, to minimize tracking of sediment onto public roads.

- If sediment is tracked off site, clean the affected roadway thoroughly at the end of each day, or more frequently as necessary (for example, during wet weather). Remove sediment from roads by shoveling, sweeping, wash down, or pick up and transport the sediment to an approved disposal area.
- Conduct Street washing only after sediment is removed in accordance with the above bullet.
- Protect properties and waterways downstream of borrow source areas from erosion and the associated discharge of turbid waters due to increases in the velocity and peak volumetric flow rate of storm water runoff from the borrow source area sites.
- Conduct maintenance, fueling, and repair of heavy equipment and vehicles using spill prevention and control measures. Report and clean contaminated surfaces immediately following any spill incident.
- As needed, design, install, and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants.

Minimize sediment discharges from the site by the accumulation and infiltration of runoff on-site.

### **Borrow Source Pit Maintenance**

#### **Illegal Items**

The following items are prohibited from the pits and cannot be deposited in GAAF borrow source pits;

(a) Vegetative debris including grass, shrubs or wood.

(b) Asphalt, concrete, masonry or brick

Violators are subject to illegal dumping prosecution.

### **Borrow Source Area Slope**

Borrow source area slopes, are defined as the operating or working faces of the borrow source; the surfaces where aggregate/soil material is actually being or has been removed or stockpiled. These working faces are limited as to their maximum height and slope angle. Protection along the upper boundary of borrow source area slopes are required for safety reasons to prevent falls.

#### **Slope Height**

The maximum unbroken slope height in an active borrow source on JBLM will not exceed five (5) feet, measured vertically. Vertical faces must be roped off, restricting access to prevent accidents.

#### **Slope Angle**

Slope shall not exceed a 25 degree angle. For slope heights in excess of 1' vertical foot, the maximum slope angle will be 4' horizontal to 1' vertical, or no greater than a 25 degree rise or fall.

### **Stockpile Geometry**

Aggregate/soil material stockpiles established within the boundaries of JBLM borrow source areas will be constructed and maintained in such a manner so as not to present a safety and health hazard to site workers or visitors and must maintain the quality of the excavated materials for its' intended purpose. Stockpiles will be limited to:

- Height-no stockpiles will exceed the height of the borrow source working face or 5 vertical feet,

whichever is greater;

- Slope Angle- no stockpile will be established with side-slopes steeper than 1:4 or a 25% grade.

- Location- all stockpiles will be located as close as practical to the working face. Stockpiles will be placed so as to not block access to other borrow source faces or roads within the borrow source area, unless otherwise directed.
- Setback Distance from the Working Face- stockpiles will be no closer than 10 feet from any borrow source face as measured from the bottom edge of the stockpile.

### **Closing of Permits**

Permit holders must contact the Pit Manager listed on the permit to close the permit. To close the permits, the permit holder and the Pit Manager will walk the work areas to ensure illegal items have not been deposited, all piles must be spread and the area left with no drop offs, slopes cannot exceed slope angle of 4/1.

Permit holders are responsible to level all piles delivered during permit period. Details will be discussed during the site visit portion of the permit process.

ENCLOSURE 1: GAAF Borrow Source Pit Use Permit

Name of requested JBLM pit. GAAF Borrow Source Pit

Name of company requesting use of JBLM pit. \_\_\_\_\_

Dates of pit use requested (from) \_\_\_\_\_ (to) \_\_\_\_\_

Contract ID Number \_\_\_\_\_

All signatures below are required prior to being granted a permit to dump or remove clean overburden soils into or out of any JBLM borrow pits:

Statement: I the undersigned have sampled and analyzed the clean overburden soil and have concluded that the material meets the requirements stipulated in Enclosure 1.

Signature of the Certified Site Assessor, Printed name of site assessor, Date Signed

Statement: I the undersigned have reviewed the attached site assessor's report and agree – disagree with the site assessor's conclusion to allow the clean overburden soil into the JBLM borrow pit stipulated below.

Signature of PWED reviewer/approver, Printed name of PWED reviewer/approver, Date Signed

Statement: I the undersigned acknowledge that the clean overburden soil is permitted to be brought into the stipulated pit and agree to periodically observe the contractors activities for continuing compliance. I also agree to terminate this agreement for cause if it becomes necessary.

Signature of PW pit manager, Printed name of PW pit manager, Date Signed

Statement: I the undersigned agree to follow the procedures identified below and throughout this permit and to communicate any all deviations of this agreement at once to the JBLM pit manager.

List of required obligations that must be followed to maintain permit compliance

- 1 – Push piles as discussed in the site visit portion of the permit process.
- 2 – Follow all procedures identified in all sections of this permit.
- 3 – Notify the PW Pit Manager of any unauthorized use of the borrow pits observed.
- 4 – Notify the PW Pit Manager of any exceptions to the rules that may be needed for any reason.
- 5 – Notify the PW Pit Manager when use of the pits are no longer needed.

Signature of Contract Principal, Printed name of Contract Principal, Date Signed.

**DOCUMENT REVIEW/REVISION SUMMARY** *(Provide a cumulative summary of revisions made to the document.)*

Original Document Issue Date: 16 DEC 2021		
<b>REVISION NUMBER</b>	<b>DATE OF REVIEW/ REVISION</b>	<b>SUMMARY</b>
1	3 MAR 2022	SOP Review Process for Signature