

FINAL

Third Runway Soil Fill Quality Criteria

Introduction

The Port of Seattle has contracted for the placement of approximately 820,000 cubic yards of soil material in 1998 as the first phase construction of the embankment for the new Runway. The Washington Department of Ecology has requested an elaboration of the criteria by which the Port will determine the suitability of fill material to be used on the project.

The Port has established a process that will assure that appropriate material will be placed as fill for the project. The process begins with the significant decision to bring to the project only soil material purchased under legal contract by, or already owned by, the Port rather than to accept material at no cost from various suppliers not under legal contract to the Port. Purchased fill will be brought to the project under contracts that include explicit technical specifications concerning the quality and type of the fill and the certification and monitoring of that quality, measurements and payment specifications that require satisfaction of the technical specifications prior to payment, and liability allocation terms that place non-performing parties at very significant commercial risk.

Criteria, Certification, and Monitoring Process

1. Soil fill material (material) to be delivered to the project site will be derived from the following sources:
 - a. State-certified borrow pits
 - b. Contractor-certified construction sites
 - c. Port-owned property
2. Material derived from state-certified borrow pits and contractor-certified construction sites will be provided by the embankment contractor, subject to contract terms and specifications. Free material will not be accepted, except materials owned by the Port.
3. Contract fill material specifications are as follows, and require certification from a licensed geotechnical engineer, certifying that the submitted material tests are an accurate representation of the material from the source site and that the material is not contaminated.

Fill Borrow Material Types:

	<u>Sieve Size</u>	<u>Payment Passing</u>
Group 1	6"	100
	3"	70-97
	1/2"	50-77
	U.S. No. 4	30-50
	U.S. No. 40	3-15
	U.S. No. 200*	0-5

Group 2	6"	100
	3"	70-97
	¾"	50-85
	U.S. No. 4	30-65
	U.S. No. 40	5-30
	U.S. No. 200*	0-12
Group 3	6"	100
	U.S. No. 4	50-95
	U.S. No. 40	20-60
	U.S. No. 200*	12-35

* The percent passing the number 200 sieve shall be determined based on the fraction of material passing the ¾" sieve.

The maximum particle size allowed for fill borrow material is 6" in any dimension or ¾ of the allowable lift thickness as specified in 152-2.4, whichever is greater. The final gradation shall be continuously well-graded from coarse to fine and shall not vary from the low limit on one sieve to the high limit on an adjacent sieve or vice versa.

Material must be accompanied by test results and certification from a certified testing agency that fill borrow material is below MTCA Method A standards for soil contamination.

Once material sites have been approved and the fill construction operations begin, no additional fill borrow material sites will be considered.

4. State-certified borrow pits are borrow pits tested by the State of Washington to assure material suitability for use by the Washington Department of Transportation for various state construction projects. Contractors will independently certify (through a professional engineer and environmental professional) that materials to be imported to the project from both state-certified and contract-certified sources meet contract soil quality specifications. Contractor certification process shall include a review of the source area geologic conditions and use/operational history, as well as field and/or laboratory testing of source materials to satisfy listed soil quality specifications. The Port and/or contractor will provide for the same environmental professional certification for materials imported from Port properties. Based on the review of site operational history and site observations, the environmental professional will determine an appropriate program of sample analysis for environmental condition certification. The Port will evaluate and accept or reject certification documentation for each proposed source. The Port of Seattle will provide the contractors initial fill submittal to the Department of Ecology. Quarterly updates consisting of quantities and placement will follow.
5. Materials will be transported, delivered and placed at the project site by the contractor per the specifications (i.e., the project does not allow for uncontrolled material deposition). The contractor and consultant services required by the contract are standard services

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provided routinely in normal commercial practice; the selected contractors and consultants will have significant experience and expertise in performing the activities required by the contract, including conducting the activities necessary to certify that the material and the material placement satisfied geotechnical and environmental contract specifications.

6. Independent consulting soil technicians (one representing the contractor, one consulting to the Port) and the Port's construction inspector will observe material delivery and placement. The Port's consultant will monitor the incoming material for source consistency, observing the physical and geotechnical properties of the material to identify any difference that could render the material unsuitable or indicate material supplied from an uncertified source. Material from uncertified sources will not be accepted for the fill. The Port's consultant will conduct in-place soil density tests on the average of once for each 60 truck loads, or about one test per hour, confirming compliance with the specifications.

The process described above will be used for project fill material placed in 1998. Beginning in 1999, the Port may consider use of fill material that meets different geotechnical and /or environmental specifications. If such materials are used, additional and different appropriate certification procedures will be developed. The Department of Ecology shall be notified of any changes to be proposed regarding certification procedures.

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