

FY 2009 RESEARCH PROBLEM STATEMENT

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TITLE

GHE-09-24 Reuse of Asphalt Grindings and Concrete Demolition Debris

PROBLEM (Description of need)

DEQ plans to review the reuse options for two of ODOT's largest debris types – asphalt grindings and painted concrete. DEQ has concerns that asphalt grindings may leach fine particles containing asphalt into streams to be consumed by fish and they are considering management and reuse guidelines that may somewhat restrict ODOT's management options. Similarly, very little data is available regarding the leaching of lead from painted concrete debris, so DEQ has recommended fairly conservative best management practices for concrete reuse until better data is available. In both cases DEQ is willing to work with ODOT but needs more information and defensible data in order to defend more flexible reuse options and management practices. Both waste streams are very significant for ODOT and other local agencies in Oregon, and limitations on their reuse could increase agency costs and liability. In addition, the Governor's sustainability goals encourage reuse and minimizing impacts to natural resources. Such reuse reduces project costs, as well as providing environmental benefits. It avoids the need to purchase virgin materials, reduces transportation of wastes and virgin materials, and minimizes landfill costs. Therefore, there would be significant benefit to ODOT in obtaining enough data to support expanded reuse options for asphalt grindings and concrete debris. DEQ has provided written support for similar research in the past and does want to use this data to support wider reuse options in support of Oregon's sustainability goals, which is to the benefit of both agencies.

PROPOSED RESEARCH, DEVELOPMENT OR TECHNOLOGY TRANSFER ACTIVITY

- Work with DEQ to determine the type of data needed to help expand reuse options.
- Research rules and guidance available in other states regarding reuse options for asphalt grindings and concrete debris.
- Research existing literature and data regarding leachates and run-off from asphalt grindings and concrete debris.
- Conduct laboratory leachate tests on asphalt grindings and concrete debris. Note that some testing has already been performed under the OTIA III program, but only limited data was developed.
- Measure particulate run off and leachate from asphalt grindings and painted concrete debris in test placements, similar to typical fill use. Such sampling may include installation of perforated pipes or other leachate collection systems within test installations of asphalt grindings and concrete debris, with subsequent sample collection during rain events.

BENEFITS

The development of defensible real world data should open up more asphalt and concrete reuse options for construction and maintenance projects; thereby reducing construction costs (or avoiding new costs) and supporting Oregon's sustainability goals.

CONTACT PERSON:

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