Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001

Consultant Design			
Action	Info		Initial Attach
		Date 12/4/06	
		Routing	
	✓	Bureau Chief	
		Consultant plans Eng	
	✓	Design Supervisor	
		CTEP Engineer	
	✓	ALL ENGINEERING STAFF	
	✓	ALL DESIGN CONSULTANTS	
	✓	File	

Memorandum

To: Distribution

From: Paul Ferry, P.E.
Highways Engineer

Date: November 27, 2006

Subject: Embankment-in-Place

Currently the criteria for using the item Embankment-in-Place is when the contract has less than 25,000 cubic yards (20 000 cubic meters) of embankment and the embankment quantity exceeds the excavation quantity. In addition to this requirement, Embankment-in-Place may now also be used in the following situation:

> When the embankment quantity exceeds the excavation quantity and the embankment quantity is between 25,000 and 75,000 cubic yards (20 000 and 60 000 cubic meters),

This use of Embankment-in-Place will be made on a case-by-case basis and should be a topic of discussion at the Plan-in-Hand. Some of the following factors should be considered in the decision to use Embankment-in-Place.

- The embankment greatly exceeds the excavation.
- There are a limited number of inspectors available on smaller projects such as culvert installation or smaller bridge projects.
- Is the use of Embankment-in-Place putting too much risk on the contractor – recognizing that Embankment-in-Place typically costs two to three times more per cubic yard as Unclassified Excavation?
- Does the project include other types of materials such as special borrow in the top 2 feet of the subgrade that would require different methods of measurement, possibly from the same source?
- Is the mass diagram providing any useful information regarding the movement of earthwork?

The use of Embankment-in-Place must not replace good design practices and the evaluation of in-situ soils and other grading considerations.

If you have questions concerning this, please contact Paul Ferry at 444-6244.