



POTOMAC
CROSSING
CONSULTANTS

a joint venture of
Parsons Brinckerhoff
URS
Rummel, Klepper & Kahl

MEMORANDUM

Lessons Learned Review Comments

MA-1A Ground Improvement

Date: December 16, 2004

From: Paul B. Martin, Sr.

No.	Issue	Lesson Learned
1.	Hundreds of thousands of cubic yards of material was hauled to this site from scores of different sources. It was not feasible to take before and after cross sections of all of these sources so payment had to be based on truck load counts. The MSHA specs did not have a good specification for accurate measurement of materials by truck load count (85% of truck volume). Had it not been for the partnering effort of the contractor to agree to a fair method of truck load measurements, borrow quantities would have been very difficult to properly measure and pay for. The project ended up needing to randomly perform strike off measurements on trucks, and applying the average percent filled from those strikeoffs to an entire pay periods number of trucks, and then subtracting 15% for shrinkage.	Contracts with substantial amounts of borrow material need to have the specifications for number of sources and method of measurement scrutinized to ensure they are workable and do not add an excessive amount to the inspection costs.
2.	Some of the paneling and straps for the MSE wall were damaged before installation. The special provisions did not state any approved method for repair nor that repair was not permitted.	Include explicit instructions about field repair of MSE wall components and field galvanizing for future contracts.
3.	Bald Eagles moved their nest from a different nearby site to a tree about 100 ft from the jobsite after construction had begun and clearing and grubbing had taken place. They did not seem to be disturbed	The lesson learned is that construction activities do not necessarily affect bald eagles in a negative way so any preconceived notions that construction must be located to avoid eagle nests should

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	by the construction and had 2 successful years of breeding and raising eaglets in this location while construction was progressing.	be reconsidered to see what the specific effects of that construction would be.
4.	There was no provision for safety railing to be placed upon completion of an MSE wall which had a vertical drop of over 40 feet.	MSE walls with a vertical face which are over 10 ft. in height should have provisions for safety railing included.
5.	Instrumentation was placed within rip rap slope areas. Inspectors had to walk along the rip rap to read these instruments which was dangerous	Suitable foot paths should be included for areas where pedestrian traffic along rip rap slopes is anticipated.
6.	Special provisions for haul road maintenance included items for hours of motor grader use but not for any rollers. Rollers are needed to compact graded areas to properly maintain the roadways.	On contracts where haul road maintenance is broken into hourly charges for pieces of equipment, make sure that compaction equipment is included.
7.	MSE Walls 1, 4, 5, & 10 were tall walls and had an accident or vandalism occurred to damage their panels or straps at some of the lower levels, they would have been very expensive to repair. They were very vulnerable to damage as an ordinary pair of bolt cutters could have cut almost all of the straps used in their construction. No measures were taken to prevent damage to these vital elements.	When designing or constructing wire face MSE walls, measures should be taken to protect straps and panels at pedestrian reachable levels such as larger diameter strap pieces or temporary protective covers.

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