

Appendix F

Mobile-Bed Model Review Documentation

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Mobile Bed Model Review Documentation

This model was developed by Dr. John Shelley (sedimentation specialist at the Kansas City District) with significant involvement by Dr. Stanford Gibson (sedimentation specialist and developer of the HEC-RAS sediment software at the Hydrologic Engineering Center). Early in the modeling process the model was reviewed by Mr. Tony Thomas, one of the most experienced 1D sedimentation modelers in the United States and the developer of the HEC-6 and HEC-6T modeling programs. HEC-6 and HEC-6T form the basis for the HEC-RAS sediment modeling program which was used in this study. In addition, an early version of the model was released for review and comment to the stakeholder group. Two outside sediment transport experts were also hired by Holliday Sand and Gravel to provide feedback on the model. The model was then reviewed by an agency technical review (ATR) team including Mr. Mike Alexander, Dr. Paul Boyd, and Mr. Dan Pridal--USACE experts in hydraulic and sediment modeling. An independent external peer review (IEPR) of the mobile-bed model was conducted by Dr. David Jaffe. Addressing comments and suggestions from experienced reviewers improved the model calibration and lead to a high-quality modeling tool.

The Missouri River Bed Degradation Economic Benefits Model was reviewed and approved for use by the HQUASCE Model Certification Panel. In accordance with EC 1105-2-412, the Panel determined that the model and model documentation are sufficient to approve the model for use on the Missouri River Bed Degradation study.