

Hydraulic Analysis Erosion and Drift



BACKGROUND

MCD may request that the potential for and impact of erosion and drift accumulation be evaluated as part of the hydraulic analysis. If analyses are required, models are to be certified by a Professional Engineer and submitted along with a hydraulics report.

EROSION AND DRIFT

Erosion Analysis

If proposed project could result in high flow velocities, eddies, swirling, or concentrated flow that would cause erosion to the levee, additional erosion analysis may be required.

- A hydraulic analysis using HEC-RAS, or other approved hydraulic model should determine the potential for high velocities and shear stress along levee embankments.
- The guidelines of USACE EM 1110-2-1601 should be reviewed to determine scour resistance of embankment materials.
- Temporary construction activities, such as cofferdams, should be evaluated for their potential to cause erosion along embankments.
- If analyses indicate erosion potential, embankment armoring must be provided.

Drift Analysis

If proposed project could result in drift accumulation that would cause rise in the water surface elevation or erosion to the levee, additional analysis may be required

- A drift analysis using HEC-RAS Pier Debris Option or other approved methods may be required.
- If an analysis demonstrates that the drift accumulation will raise the OPF water surface profile, the proposed use must be modified to meet the OPF criteria for flood protection.
- If an analysis demonstrates that the drift accumulation may cause eddies, swirling and concentrated flow that may result in embankment erosion, mitigation measures are necessary.

QUESTIONS

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