

2.1.3 *Dredged Material Movement.* Dredged sediment placed at CLA-1 would be subject to any lake-bottom currents. The placed sediment would behave in a manner similar to the adjacent and surrounding lake bottom sediments; deeper depths of the open lake placement areas would serve to allay the potential for sediment erosion, resuspension and movement. Dredged sediment movement following active open lake placement would not occur because the bottom shear stress at CLA-1 are too small to erode and resuspend the bedded sediment, even under severe storm conditions. The potential for erosion/resuspension of placed sediment during typical hydrodynamic conditions, as well as severe storm events, was evaluated through a Long-Term Fate (LTFATE) modeling study (Schroeder and Hayter 2014a,b). Based on the modeling study, no significant resuspension/erosion of placed sediment was predicted to occur, even during severe storms. During strong storm events, bed shear stresses would only be predicted to approach the critical shear stress for the thin veneer of fine clay and silt particles which would constitute the sediment surface. This sediment layer would only be a few millimeters (up to a centimeter) thick and consist of fine sediment which was re-suspended in the water column during placement activities and subsequently settled out. These sediments would be characteristic of the “fluff” material common to the sediment surface in deeper areas of Lake Erie, which is similarly subject to potential resuspension. Resuspension of these sediments would represent about 1% of the dredged sediment placed, with the bulk of the placed sediment predicted to remain stable at the placement site. Bed shear stresses produced during storms do not exceed critical shear stresses for significant erosion of placed sediments.

Ohio EPA submitted an alternative analysis (Hawley 2015) which challenged the conclusions of Schroeder and Hayter (2014a,b). Review of this analysis by the U.S. Army Engineer Research and Development Center (USAERDC) indicated substantial flaws and confirmed the previous modeling results (Schroeder and Hayter 2016). Hawley (2015) did not evaluate net erosion of placed sediments, did not consider sedimentation at the placement site and did not consider the physical characteristics of dredged sediments with regard to resuspension potential. Because Hawley (2015) did not consider these factors, the results of his analysis do not change the conclusion that dredged sediment placed at CLA-1 would exhibit no net migration on the lake bottom.