

CHAPTER 1
INTRODUCTION

1-1. Purpose. This manual provides guidance and information concerning seepage analysis and control for dams.

1-2. Applicability. The provisions of this manual are applicable to all HQUSACE/OCE elements and field operating activities (FOA) having responsibility for seepage analysis and control for dams.

1-3 References. Appendix A contains a list of Government and non-Government references pertaining to this manual. Each reference is identified in the text by either the designated publication number or by author and date. Reference to cited material in tables and figures is identified throughout the manual by superscripted numbers (item 1, 2, etc.) that correspond to similarly numbered items in Appendix A.

1-4. Objective and Scope. The objective of this manual is to provide a guide for seepage analysis and control for dams.

1-5. General Considerations. All earth and rock-fill dams are subject to seepage through the embankment, foundation, and abutments. Concrete gravity and arch dams are subject to seepage through the foundation and abutments. Seepage control is necessary to prevent excessive uplift pressures, sloughing of the downstream slope, piping through the embankment and foundation, and erosion of material by loss into open joints in the foundation and abutments. The purpose of the project, i.e., long-term storage, flood control, etc., may impose limitations on the allowable quantity of seepage (Sowers 1977).