

1. Introduction

- 1.1. Introduction
- 1.2. User Instruction

recommended additions (**bold print**) to your reference library.

1.1. Introduction

1.1.1 Background

The Alaska Department of Transportation and Public Facilities (DOT&PF, also referred to as “the Department”) has reviewed and set all design policies and procedures herein. We developed this manual to give hydraulic designers a basic working knowledge of hydrology and hydraulics complete with, in some cases, example problems. All basic design elements are included so that hydraulic designers can design highway drainage with minimal assistance. However, this manual cannot provide guidance on complex hydrologic or hydraulic problems and is no substitute for experience or engineering judgment.

This *Highway Drainage Manual* is based on the Model Drainage Manual written by the AASHTO Task Force on Hydrology and Hydraulics, in cooperation with the FHWA Rural Technical Assistance Program and the Transportation Research Board, National Cooperative Highway Research Program. This manual does not set AASHTO design policy and procedures, but the AASHTO Task Force has incorporated its numerous years of experience into this comprehensive manual to provide guidance on most aspects of highway drainage. Where appropriate, we have given or referenced relevant existing AASHTO guidelines.

1.1.2 Manuals and Computer Programs

We refer to specific computer programs, AASHTO guidelines, manuals, and regulations within this manual. We anticipate hydraulic designers will be knowledgeable in the use of the referenced items. This manual cannot incorporate computer program user manuals or stay up-to-date with these programs and the latest drainage-related federal regulations. Each chapter has been written based on generic design policies. The hydraulic designer and issuing agencies should keep themselves up to date by contacting their local, state, or federal hydrology/hydraulic departments.

1.1.3 References

Where you may need detailed source material, we have given references. The reference section at the end of each chapter includes these source documents and

1.1.4 Updates

The Department plans to issue periodic updates to this manual. Please note the revision date in the footer of each chapter. Visit the DOT&PF publications site at www.dot.state.ak.us/stwddes/dcspubs/manuals.shtml to determine whether more recent revisions are available for download. For questions concerning revisions or downloads, contact:

Statewide Hydraulics Engineer
Alaska Department of Transportation and
Public Facilities
Bridge Section
3132 Channel Drive
Juneau, AK 99801

1.2 User Instruction

This manual has been published to outline the basic principles of hydraulic design as they affect highway drainage problems. This manual is not meant to be a textbook for all aspects of drainage problems, but rather a guide to be used with sound engineering judgment to obtain safe and economical designs.

An economical hydraulic design is not possible without adequate field survey information. Field survey, maintenance, and design personnel should review or become acquainted with the sections pertaining to acquisition of field data.

Though the manual is intended for the broadest possible use, there will be chapters applicable only to certain sections within the Department.