

CHAPTER 1

GENERAL

1-1. Purpose.

This manual describes the procedure for selecting sites for military facilities in arctic and subarctic regions.

1-2. Scope.

The procedure is applicable to both Army and Air Force facilities.

1-3. References.

Appendix A contains a list of references used in this document.

1-4. Introduction.

The importance of the proper selection of a construction site in arctic and subarctic regions cannot be over-emphasized. The type of data to be collected for the selection of a site is essentially the same as that used for engineering design in temperate regions, but more detailed information is essential. It is not feasible to prescribe the detailed information required for a given site selection problem as each project requires judgment in the development of an adequate program of investigation and analysis; therefore, only the basic principles and considerations are included here. In addition, operational requirements of the future using agency, or other similar considerations beyond the scope of this manual, may impose unusual and unforeseeable requirements. Observations made in arctic and subarctic regions of North America form the basis for this manual, and while local details may vary considerably, the basic concepts presented are generally applicable.

1-5. Personnel.

Personnel used in site selection and development should be cognizant of engineering problems peculiar to arctic and subarctic regions and be familiar with airphoto interpretation. To ensure that the best possible site is selected and that the greatest amount of accurate and detailed information is obtained, the combined effort of a number of specialists is essential. Interpretation of aerial imagery and photography requires trained, experienced interpreters. These specialists should be allowed to participate in the field verification program to enhance their understanding of the terrain patterns that they mapped on the air-photos. For an important installation, personnel should include the airphoto analyst who has worked on the project, a coordinator who is a civil engineer familiar with the immediate and ultimate uses of the installation, a geotechnical engineer, a civil engineer (hydrologist), a geologist, and an ecologist. For ground and subsurface surveys and for collection of data for design purposes, the following should be available, in addition to those listed above: a survey crew and party chief, a drill crew and foreman, and a local guide. Frequently, crews will be required to go into the field with preliminary soils maps and airphotos as the only means of orientation. In undeveloped regions where readily identified cultural objects, such as roads, structures, and cleared areas are absent; field crews should be able to identify landforms on the ground and on airphotos to aid in their interpretation.