

# ENGINEERING GEOLOGY

## SUBPART A - GEOLOGIC SITE INVESTIGATIONS

NE531.03

§NE531.03 Minimum requirements.

(b) Table 1 illustrates Nebraska policy on geologic site investigations by program. Where possible, several sites will be grouped in each contract. This will allow the contractor to operate more efficiently and hold contract administration to a minimum.

For contract drilling, the lead time between reconnaissance and design will be two years to allow time for contract preparation and site investigations. Sites to be investigated will be selected from the structure schedule and progress chart. The field engineer will be responsible for providing the necessary topographic maps (SCS-35A) and centerline sections (SCS-35B) for structures to be investigated.

An SCS geologist will be responsible for contract preparation and serve as government representative on all SCS contracts. For professional services contracts, he will make onsite visits as necessary and review and approve the reports, logs, and geologic illustrations submitted by the contractor. For equipment rental contracts, he will perform the investigation, insure compliance with contract specifications, and certify work completed.

Table 1. SCS policy on geologic investigations by program

Procedure	Special project	01	04	06	08	11
SCS geologist will conduct a site reconnaissance	Yes	Yes	Yes	Yes	Yes	Yes
SCS will contract for detailed geologic investigation	No	No.	Yes	Yes	Yes-	Yes
Sponsors will contract for detailed geologic investigation	Yes	Yes				
Sponsors will hire drilling equipment; SCS will furnish geologists*	Yes	Yes				
SCS can rent drilling equipment and do detailed geologic investigations**	No	No	Yes	Yes	Yes	Yes

\*SCS will furnish a geologist only when the workload is such that it is feasible and will not adversely affect our geologists' schedules.

\*\*This alternative will be used where advantageous to SCS because of complex geologic conditions, insufficient time to advertise and negotiate a contract, or where only a small amount of drilling is needed. It will be used on a limited basis.

## §NE531.04 Site selection.

Sediment storage computations, floodplain damage studies, and gully and streambank erosion studies will be done by a geologist as required.

Field examination of all proposed Group I and complex Group II structure sites will be done by a geologist who will prepare a report on Form SCS-ENG-375. The geologist will assist in the final site selection of all Group I and complex Group II structures and will make recommendations for additional investigation.

For multiple-purpose structures, sufficient subsurface investigations will be conducted to evaluate the water-holding capability of the reservoir. Some subsurface investigation may be required for structures on unusually large drainage areas or where adverse geologic conditions may affect the safety and proper functioning of the structure. Additional drilling needs will be analyzed on a site-by-site basis.

## §NE531.05 Preliminary investigations

(a) All group I and II structures, as defined in Chapter 5 of the National Engineering Handbook, Section 8, will receive a preliminary geologic investigation (reconnaissance). For Group I sites and sites in Group II which will require a detailed investigation, the reconnaissance will be for the purpose of determining the amount of contract drilling necessary.

For Group II sites not requiring a detailed investigation, the reconnaissance will be in sufficient detail to provide geologic information adequate for final design. The geologic report will be prepared on Form SCS-ENG-375, "Preliminary Geologic Investigation of Dam Sites".

Group III structures will be the responsibility of the project or area engineer. The use of investigation report Form SCS-ENG-375 will be required on all major structures and is encouraged on all sites. Sites with adverse geologic features will be investigated by the geologist on request.

Use of backhoe or other power equipment to resolve geologic problems for some Group II and Group III sites will be encouraged.

## §NE531.06 Detailed investigations.

On Group I and complex Group II sites, the geologist and the design engineer (or other engineer designated by the state conservation engineer) will review the geologic investigation, preferably on site, before the field work is started and again before the drill rig leaves the site. They will discuss the adequacy of the investigation, location of principal and emergency spillways, availability and use of borrow materials, and determine horizons to be sampled.