

SANITATION FACILITIES CONSTRUCTION BRANCH GUIDELINES

Office of Environmental Health and Engineering
Navajo Area Indian Health Service
Window Rock, Arizona

CHAPTER 10 - Project Procedures

Section 8: - Design Concept and Construction Plan Development

Guideline No. 10.8

July 2005 (05-12)

Supersedes: G.10.8 (July 2002, and March 23, 1990) Design Concept and Construction Plan Development

Distribution: Standard List plus the NECA and NTUA Engineer Consultants

General

The purpose of this guideline is to establish procedures for the submittal and review of design concepts and construction plan packages prior to construction on P.L. 86-121 projects.

Design Concept Development

Ideally planning projects are funded at a limited level by a Planning Agreement in accordance with DSFC Guidelines. Planning activities assess sanitation facility system capacities and needs, develop water resources, gain archaeological and environmental clearances, generate and submit the right-of-way package, and complete the construction plan package. The operating utility should be kept abreast of planning activities and the concluding design concept. The more complex the project scope, the more the operating utility should be involved in the concept development. Involvement by the utility should be documented.

For various reasons a Planning Agreement may not be executed and a project is fully funded before the completion of the above planning activities. The Field Engineer, generating the Project Summary under these circumstances, consults with the District Engineer in developing the design concept with the concurrence of the operating utility. Written correspondence is encouraged with the utility.

In the development of project documents, the OEHE Area Office and the operating utility review the draft Project Summaries and finalize the design concepts.

Construction Plan Package Development

The Field Engineer develops the construction plan package to include:

1. Construction plans drafted in accordance with DSFC Guidelines,
2. Complete well data for new wells,
3. Proposed control system:
 - a. simple statement of type of control system (e.g., solar radio telemetry),
 - b. copy of standard control schematic with any major changes noted, and

- c. indicate if a phase converter is required,
4. Hydraulic calculations for the water system improvements,
5. Design calculations for lagoons and collection system capacities, and
6. Specifications/shop drawings for non-standard equipment.

Scheduling the development of the construction plan package should consider time requirements for revisions, material take-off, and pre-construction meetings to meet construction schedules.

Development of the package is expensive and time consuming, necessitating expedience and short cuts. Construction drawings are to comply as much as possible with asbuilt requirements described elsewhere in the DSFC Guidelines. Where necessary on non-AutoCAD mylars, the use of neat handwriting in place of mechanically generated lettering should be used. Conserve plan sheet space by placing as many standard details together as possible. Eliminate redundancy in all allowable aspects as it takes additional time create/review and introduces risk of conflict. Embellishment should be held to a minimum.

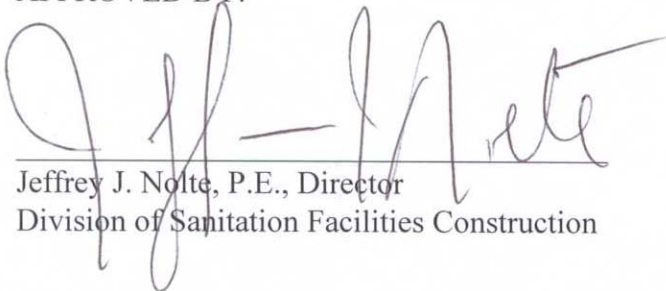
When the use of non-standard designs/materials are proposed, they are to be presented by the Field Engineer to the District Engineer who in turn will discuss the deviation with the NTUA Consultant Engineer, or the respective operating utility. If agreements with the NTUA Consultant Engineer or operating utility can not be reached, the District Engineer will confer with the DSFC Director, who may in turn have discussions with the NTUA Deputy General Manager.

The completed construction plan package is forwarded by the Field Engineer to the District Engineer for review. The District Engineer submits the package per Guideline 11.1 to the future operating utility for a 30-day review period. An additional copy is forwarded to the Area DSFC for transmittal to the NNEPA. Copies of the construction plan package transmittal letters are sent to the Director, DSFC.

The District Engineer, receiving written comments from the NAIHS, the NTUA, the Department of Water Resources, and/or the Chapter, should respond in and indicate whether he concurs or not. Revisions to the package should be completed prior to material take-off.

A pre-construction conference should be scheduled in accordance with the IHS/NECA Specifications, Section GC-03.

APPROVED BY:



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