

VERZA

DEPARTMENT OF THE ARMY  
SOUTH PACIFIC DIVISION, CORPS OF ENGINEERS  
630 Sansome Street, Room 720  
San Francisco, California 94111-2206

SPDED-G

SPD REGULATION  
NO. 1110-1-2

15 August 1986

Engineering and Design  
ENGINEERING CONSIDERATIONS AND INSTRUCTIONS  
FOR FIELD PERSONNEL

1. Purpose. The purpose of the regulation is to provide guidance on the preparation and dissemination of "Engineering Considerations and Instructions for Field Personnel."
2. Applicability. This regulation is applicable to the Civil Works and Military programs in the Sacramento, Los Angeles and San Francisco Districts and is for immediate implementation. "Engineering Considerations and Instructions for Field Personnel" will be prepared for all Civil Works projects and for Military projects with construction contracts over \$500,000. The preparation of a report for Military projects under \$500,000 will be at the discretion of the designer.
3. Reference.
  - a. EP 415-1-261 (Construction Inspector's Guide)
  - b. ER 1110-1-8 (Required Visits to Construction Sites by Design Personnel).
4. Background. The "Engineering Considerations and Instructions to Field Personnel" is an extension of design into the construction phase of the project and is an important document in which relevant design concepts, assumptions, details, environmental commitments and instructions are transmitted to field personnel. The concise, accurate, clear, and detailed presentation of the designers' considerations and instructions provide needed design information to field personnel. The report establishes a basis for communication and coordination between design and construction personnel which is essential for the successful completion of a project in accordance with design, specification, funding and schedule requirements.
5. General. To assure that construction personnel are informed of design intent and special concerns, the designers will prepare "Engineering Considerations and Instructions for Field Personnel." The report will be funded and scheduled concurrently with plans and specifications and will include:
  - a. References. The applicable sections of EP 415-1-261, EM's, ER's, Division regulations and District policy documents and construction quality control manuals should be referenced to cover the general aspects of design,

\*This Regulation supersedes SPD R 1110-1-2, 1 March 1986.

Reproduced at Government Expense

QA and QC testing, inspection and interfacing between construction and engineering personnel. In many cases the information contained in these references will be sufficient to cover several of the following items for projects without unusual design or construction features.

b. Key Design Personnel. A list of key design personnel to provide technical assistance during construction will be provided. The list will consist of the name, design specialty and telephone number.

c. Site Visitation. A site visitation schedule by design and design review personnel in accordance with ER 1110-1-8 and SPD supplement will be presented. The designers are responsible for identifying the critical construction stages and the number of days advance notification required from the field. Construction personnel will be responsible for notifying the designers when a critical construction stage is approaching. If the complexity or uniqueness of the project requires a preconstruction meeting between the Resident Engineer and the designers, and if designers participation in prefinal inspection is necessary, it should be included in the schedule.

d. Design Considerations. Critical design concepts, assumptions and details will be presented in sufficient detail to enable construction personnel to identify and properly inspect critical construction items. They may be grouped or classified by discipline to facilitate distribution and use by field personnel. The intent of the information is to enable construction personnel to identify and understand critical design parameters used and notify designers of field conditions different from design assumptions.

e. Procedures for Changes or Modifications. The District policy and procedures addressing changes or modifications should be outlined in sufficient detail to ensure the prompt and proper notification, investigation, review and approval by designers prior to the initiation of any design changes. The discussion should clearly define the designers and Engineering Division involvement and impact on environmental commitments when differing site conditions are encountered.

f. Specification Considerations. To enable construction personnel to properly inspect critical items, critical product and performance specifications will be explained and described in the report and will include:

- (1) Explanations of testing requirements and results.
- (2) Submittal requirements for shop drawings, test results, and level of review required.
- (3) Level of participation required for inspection of specific features, witnessing tests or construction procedures, etc.

The explanation, where applicable, should include the effects of noncompliance on engineering properties, design and expected performance. Deviations and tolerances from the specification requirements, where allowed by design, will be discussed. The report should not be a reiteration of specification requirements.

g. Quality Assurance (QA). Guidance by the designer will be provided to ensure an adequate quality assurance testing program. The guidance will include minimum quality assurance testing frequency for critical items. The guidance should stress that QA is not limited to inspection, testing and approval of materials or construction end products, but includes observations and recording of construction procedures appropriate to achieving design intent. It should also state that the ultimate purpose of QA is to confirm that field conditions are compatible with design assumptions.

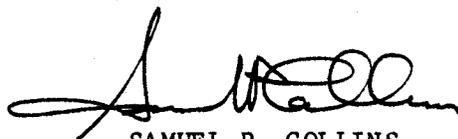
h. Contractor Quality Control (CQC). Guidance will be provided by the designer on the type of tests and minimum frequency of testing for the CQC plan. Submission of a CQC plan for review by District Engineering Division prior to approval by Resident Engineer should be on an exception basis only. Those projects with truly unique requirements may be submitted for comment to District Engineering Division only after coordination with District Construction-Operations Division.

6. Report Submittal Requirements. Normally, formal submittal and review will not be required for "Engineering Considerations and Instructions for Field Personnel" if the information provided is available in approved design documents and plans and specifications. Report submittal for at least one level of review and approval will be required for reports containing any of the following types of information:

- a. Design information not presented in the design documents or plans and specifications.
- b. Schedule of site visits involving SPD and/or HQ USACE personnel.
- c. Instructions and considerations involving a test program (e.g., test fills, test piles, etc.).
- d. Acceptable deviations and tolerances from specification requirements.
- e. Quality assurance test program or requirements.
- f. Unique design or construction features.
- g. Changes affecting environmental commitments.

A draft report will be submitted for review with prefinal plans and specifications. The final report will be formally transmitted by the District Engineering Division to the District Construction-Operations Division, and five copies will be transmitted to Engineering and Construction-Operations Divisions in SPD.

FOR THE COMMANDER:



SAMUEL P. COLLINS  
Colonel, Corps of Engineers  
Deputy Commander

DISTRIBUTION:  
SPD-1