Review of Working Drawings for Proprietary Earth Retaining Systems

Current bridge design practice allows the contractor the option of selecting a State designed earth retaining structure which is completely detailed on the contract plans or a preapproved proprietary earth retaining system which is listed in the special provisions.

Acceptance of a proprietary system requires the submittal of complete working drawings for review and approval, and one set of corrected matte finish drafting film or good quality vellum reproducibles of the working drawings within 3 weeks of final working drawing approval.

- Procedure

  Applicable instructions under the "Procedure" section of Memo to Designers 11-1, *Review of Working Drawings Prestressed Concrete*, will apply to the review of working drawings for proprietary systems with the following modifications:

  The distribution of the initial four sets of working drawings by the Documents Unit is as follows:

  Two sets to the Structure Representative, one set of which the Structure Representative will send to the District Resident Engineer or District Project Engineer. One set to the Earth Retaining Systems technical specialist for review, comment and forwarding to the Design Section. One set to the Design Section.

  The distribution of any subsequent submittal prior to approval is as follows:

  One set to the Structure Representative and remaining sets to the Design Section.

  For each submittal of working drawings, except the submittal finally approved, the Design Section should retain one set. The Documents Unit will retain in the job file one set of the approved working drawings.

- Guide for Checking Working Drawings

  The working drawings for the proprietary system should be checked from the perspective that the drawings have sufficient detail to construct the system at the correct location; have adequate dimensions; use the appropriate materials; take into account all items of contract work that may be affected by its construction; and conform to the preapproved design and details.

Supersedes Memo to Designers 5-16 dated April 1987

The following items are pertinent to checking a proprietary system:

1. Review the Contract Plans and Specifications thoroughly.

2. The design and details information for the proprietary system can be obtained from the Earth Retaining Systems technical specialist. This information should be returned as soon as the review of each submittal is completed.

3. The Structure Representative and the District Project Engineer should be contacted early in the review of the initial submittal to determine if any changes have been made, or are pending, in the contract work that will affect the requirements of the proprietary system. The Structure Representative should be reminded that Design will check the working drawings for structural adequacy and construction sequences that affect the design. Items that affect traffic, excavation and safety should be evaluated by Construction, keeping in mind that temporary shoring may be required to construct the proprietary system and satisfy all contract requirements.

4. The special provisions require the contractor to verify existing ground elevations. If existing conditions indicate that the horizontal and vertical limits of the State-designed wall need to be revised, if built, a Contract Change Order will be required.

5. Contract items that affect the proprietary system, such as railings, sign structures, electroliers, utilities, approach slabs and connections to other structures, require special details to be included on the working drawings. Details of these items have not been preapproved and may require the submission of design calculations with the working drawings.

6. Most of the proprietary systems incorporate materials that are not covered in the Special Provisions, such as systems using soil reinforcement. The working drawings should indicate the ASTM designation and/or the particular grade of all material not otherwise covered in the specifications. This information is necessary for the Division of New Technology, Materials and Research to inspect and release the proper material and for the Structure Representative to accept at the job site.

7. The Special Provisions may require physical testing of portions of the proprietary system as a condition of acceptance. When such a test is specified, obtain the test results from the Structure Representative and evaluate whether or not they are acceptable.

8. The Special Provisions may include requirements that modify the preapproved design and details. A common example of this is the base width requirement which may be revised for external stability considerations. The Earth Retaining Systems technical

specialist should be consulted if there is any question of interpretation of the preapproved design and detail information.

9. Proprietary systems using metallic soil reinforcement require the installation of inspection wires or strips. Inspection wire locations should be shown on the working drawings.

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