



NEW OPTIONS FOR SHORING

Introduction

Standard shoring allows the Contractor to construct temporary shoring without the need for design and review. This TB expands the definition of standard temporary shoring to include fabric walls and proprietary Mechanically Stabilized Earth walls (MSE). It also gives the Contractor more choices regarding type and placement of portable concrete barriers (PCB). Providing the Contractor with more options will allow greater operational flexibility and should reduce costs and construction time.

Background and Definition

Currently NCDOT only has a Standard Temporary Shoring Detail for sheet piling and H piles with timber lagging cantilever type shoring. Other shoring types have been designed on a site-specific basis and submitted for review (contractor designed shoring). The type and placement of PCB has also been defined in the plans.

Twelve additional plan sheets for the standard temporary MSE walls and a revised Temporary Shoring Special Provision are available to include additional standard shoring options. Also, in addition to standard anchored and unanchored PCB, a new option in lieu of an anchored PCB called an Oregon Tall F-Shape Concrete Barrier is available.

While the number of standard shoring options has increased, the procedure for choosing and approving the use of standard shoring is essentially unchanged. In locations and field

conditions where standard shoring is applicable and not restricted by the plans, the Contractor chooses between various shoring options, completes the appropriate selection form, and submits the form to the Resident Engineer for approval. The Contractor will also choose between various PCB options. Upon approval, the Contractor can begin construction of standard shoring without the need for further review.

Audience

Project Inspectors, Construction Engineers, Project Engineers, Design Engineers

Discussion

The new Standard Temporary MSE Wall Details include five options with a range of reinforcement and facing types. The wall options complement the existing standard temporary shoring by allowing for the use of standardized shoring in fill sections as well as cut sections. The temporary fabric walls use generic components while the remaining wall options use many non-interchangeable and sometimes proprietary components.

The Standard Shoring consists of the following sheets:

Standard Temporary Shoring Details (1 sheet):

Sheet 1. Shows sheet piling and H piles with timber lagging cantilever type shoring.

These details are similar to the existing Standard Shoring Details.

*Standard Temporary MSE Wall Details
(12 sheets):*

Sheet 1. Shows typical sections and notes applicable to all temporary MSE walls. Also shows information about 5 wall options.

Sheet 2 & 3. Shows reinforcement requirements for each wall option. Sheet 2 is for English units and sheet 3 is for metric units.

Sheet 4. Shows temporary fabric wall details, similar to temporary fabric walls currently designed by NCDOT.

Sheet 5. Shows Hilfiker Temporary Wall details.

Sheet 6. Shows SierraScape Temporary Wall details. Vendor for this wall option is Tensar Earth Technologies, Inc.

Sheet 7, 8 & 9. Shows Retained Earth Temporary Wall details. Vendor for this wall option is The Reinforced Earth Company.

Sheet 10, 11 & 12. Shows Terratrel Temporary Wall details. Vendor for this wall option is the Reinforced Earth Company.

The Portable Concrete Barriers at Temporary Shoring Locations Detail shows the PCB options and requirements for placement.

The Temporary Shoring Special Provision has been revised to allow for temporary MSE walls and PCB options. The PCB is the Contractor's option based on the temporary shoring type and design, clear distance available and fixed distances in front of the barrier and between the edge of pavement and the wall face. If the available clear distance is less than what is required for an anchored PCB or Oregon barrier, a temporary MSE wall is not allowed and shoring designed for traffic impact or standard temporary shoring with traffic impact is required.

Comments

TBs are not and should not be viewed as substitutes for special provisions, specifications, details or standards. They should be viewed as complimentary only to them.

Keywords

Shoring
Temporary Shoring
Mechanically Stabilized Earth Walls (MSE)

Standard Details

For temporary shoring details and selection forms see the Geotechnical Engineering Unit website at

<http://www.ncdot.org/doh/preconstruct/highway/geotech/formprovdet/>

Specifications or Special Provision

For the Temporary Shoring Special Provision see the Project Services Website at <http://www.ncdot.org/doh/preconstruct/ps/word/SP11R02.doc>.

Filing and Disposition of TB

TB-2008-2 should be filed in the TB notebook behind the Division 11 tab.

Supersedes Dates

None for this TB.

Obtain more Information

Contact the Geotechnical Engineering Unit at (919) 250-4088 OR Contact the Project Services Unit at (919) 250-4128.

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