TEMPORARY SHORING
MEMORANDUM TO: Highway Design Branch Unit Head

FROM: Art McNutt, P.E.
Deputy Highway Design Engineer

SUBJECT: Temporary Shoring

The purpose of this memorandum is to assign and clarify the responsibilities and roles related to temporary shoring. The Geotechnical Engineering Unit has completed new standard special provisions, criteria, and details for temporary shoring. These items are attached for your reference and will be provided for each project by the Geotechnical Engineering Unit as necessary. These guidelines address three types of shoring and do not address temporary shoring for railroads. Structure design will continue the responsibility for railroad shoring as structures.

The provisions outline temporary shoring as required to maintain traffic and for other reasons as shown on the plans or determined by the engineer. Examples of other reasons might include shoring or protection against failures of embankments or overpasses (with no traffic) for stability or to remove existing structures. As long as the hassle, the temporary shoring provisions does not apply to not does not the Department pay for shoring for OSHA reasons or construction permits.

Each type of temporary shoring with a procedure is listed below. The unit primarily responsible for identifying and coordinating the shoring is also listed below. However, all units should be involved in the identification of the temporary shoring.

**Roadway Shoring and Maintenance of Traffic (FMOC)**

1. One month before Road Design Field Inspection (RDFI), Traffic Control may initiate a meeting to discuss the temporary shoring with roadway, Geotechnical, and Traffic Engineering. If there are changes issues, it is necessary to Traffic Control for any temporary shoring recommendations from the Geotechnical Engineering Unit.

2. Traffic Control will determine the starting times, days, and end dates with feedback and criteria between reference line and shoring. These meetings will occur depending on shoring and provide the information to the Geotechnical Engineering Unit.

Click on letter to obtain copy.
Procedures

1. Determine the need for possible shoring.
2. Set up a meeting if deemed necessary with applicable parties.
3. Show and call out location(s) on your Traffic Control Plans.
4. Request an investigation and determination from Geo-Tech at the location(s) indicated on your plans.
5. Place the result of the Geo-Tech investigation on your plans.
6. Add PCB at Temporary Shoring Locations detail to plans.
7. Include a quantity for PCB including crash cushions in the final project estimate. (Advise Roadway Design of any temporary pavement needs associated with the PCB placement).
8. Include Temporary Shoring and Temporary Pavement total quantities on the Final Submittal letter.
Determine the need for possible shoring:

- **Roadway Shoring for MOT** -
  Shoring required to maintain traffic is defined as shoring necessary to provide lateral support to the side of an excavation or embankment parallel to an open travelway when a theoretical 2:1 (H:V) slope from the bottom of the excavation or embankment intersects the existing ground line closer than 5 ft (1.5m) from the edge of pavement of the open travelway.

- Geo-Tech will ascertain average heights for your calculations.
Example:

Edge of Pavement of Open Travel way

2:1 or steeper

< 5’

Edge of Pavement of Open Travel way

< 5’

2:1 or steeper

OR
1 Determine the need for possible shoring:

- **Structure Shoring for MOT** -
  During construction of a culvert or bridge.

- Both WZTC and Structure Design will coordinate and ascertain the limits and heights.
Setup a Meeting:

- If deemed necessary establish a meeting to discuss the need for shoring and the locations for same.
- Invite personnel from:
  - Roadway Design
  - Structure Design
  - Geo-tech
  - Hydraulics
  - Division as applicable.
Procedures

1. Determine the need for possible shoring.
2. Set up a meeting if deemed necessary with applicable parties.
3. Show and call out location(s) on your Traffic Control Plans.
Click on image to obtain an example copy
Example Section:

Click on image to obtain an example copy
Procedures

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Request investigation from Geo-Tech:

Attention WZTCU personnel:
Letter can be found in the form letter database.

Click on the letter to obtain an example copy.
Procedures

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Example Letter and Notes from Geo-Tech:

Click on letter to obtain an example copy.
Individual Quantities are called out on the plan views at each related shoring location.

All specific notes and soil parameters are to be placed on each individual sheet depicting the shoring or on a separate sheet entitled Temporary Shoring Notes.

Refer to the temporary shoring locations in your phasing.

IMPORTANT !!
“See Next Sheets”
Click on image to obtain an example copy
The Geotechnical Unit is **solely responsible** for sealing the TCP sheets that have temporary shoring notes and parameters **only**. (See Previous Sheet)

During plan development, the WZTCU Designer should send the Full Sized original sheet(s) to the Geotechnical Design Engineer to be sealed and sent back to us to include in the Traffic Control Plans.
For TC plan sheets that depict the temporary shoring locations together with the notes and soil parameters provided by Geo-tech, include the following note:

“The temporary shoring notes shown on this sheet were provided through a sealed document from the Geotechnical Engineering Unit. The document was submitted to the WZTCU on (date) and sealed by a Professional Engineer, (name), license # (xxxxxx)”.
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5. Place the result of Geo-Tech investigation on your plans.
6. Add PCB at Temporary Shoring Locations detail to plans. (See next sheet)
PCB at Temporary Shoring Locations Detail:
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7. Include a quantity for PCB including crash cushions in the final project estimate. (Advise Roadway Design of any temporary pavement needs associated with the PCB placement).
8. Include Temporary Shoring and Temporary Pavement total quantities on the Final Submittal letter. (See the next slide for an example copy).
Final Submittal Example Letter:

Attention WZTCU personnel:
Letter can be found in the form letter database.

Click on letter to obtain an example copy.