

## **Prequalification Requirements for Mechanically Stabilized Earth (MSE) Walls with Segmental Precast Concrete Panel Facing systems**

For a wall system to be considered on a Mn/DOT project, the wall system must be pre-qualified. The project specifications will list the wall systems that have been pre-qualified and can be considered for bidding. The pre-qualification will be based on conformance of the design method and construction specifications to the current Mn/DOT, AASHTO and FHWA requirements for MSE walls, past construction experience and performance of the system, and the manufacturer's QA/QC plan of the MSE wall system and its components. The pre-qualification of the MSE wall system shall not be regarded as final design acceptance.

Application for pre-qualification shall include a completed technical evaluation report from the Highway Innovative Technology Evaluation Center (HITEC) for compliance with AASHTO requirements for the system and its components. As an alternate to the HITEC review, the manufacturer shall obtain an independent review similar to HITEC review by a MSE wall system expert approved by Mn/DOT. Any changes to the system or its components that occur after the technical evaluation shall be reevaluated by HITEC or a MSE wall system expert approved by Mn/DOT. The application shall contain the following information:

- A. System or component development and year it was commercialized.
- B. System or component supplier organizational structure, specifically engineering and construction support staff.
- C. Laboratory test results conducted to support the system and components performance.
- D. Complete manufacturer Quality Assurance/Quality Control plan of the system and its components including test methods, minimum test requirements, test frequency, and lot size for each product.
- E. Limitations and disadvantages of the system or the components.
- F. List of prior publicly funded projects completed within the past 5 years in climates similar to Minnesota, including contact person, date of construction, addresses, and telephone numbers.
- G. Sample material and construction control specifications showing material type, quality, certifications, field-testing, acceptance and rejection criteria and placement procedure.
- H. A documented field construction manual describing in complete details the sequence of construction steps.
- I. Detailed design calculations and shop drawings for typical applications in accordance with this design memorandum.
- J. A summary of the soil reinforcement design parameters, including long-term tensile and soil interaction properties, for use in the MSEW computer program.

The Bridge Standards Unit, Mn/DOT's Bridge Office, shall review each submittal. The pre-qualified wall systems list will be posted at the following web site under walls:

<http://www.dot.state.mn.us/products/index.html>