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Geotechnical Advisory Committee (GAC) Meeting Minutes

November 17, 2021

The Division of Professional Licensure Office
1000 Washington Street - Boston, MA 02118

This was a virtual Microsoft Teams meeting.

Roll Call, by GAC Chair:

Chris Erikson, Chair
Scott DiFiore (until 11 a.m.)
John Roma
Michael Oakland
Damian Siebert

☒ present ☐ absent
☒ present ☐ absent
☒ present ☐ absent
☒ present ☐ absent
☒ present ☐ absent

Martin Rodick
Jake McManus
James Christensen
William Solberg
Rob Anderson

☒ present ☐ absent
☐ present ☒ absent
☒ present ☐ absent
☒ present ☐ absent
☒ present ☐ absent

General notes on format of these minutes

- *These minutes represent general points discussed during the meeting. The minutes are **not** intended to be a verbatim account of discussions.*
- *Topics as numbered may\ may not be in the same order as they appear on the meeting agenda.*
- *The meeting agenda is listed as **EXHIBIT A**; others are listed sequentially as addresses during the meeting.*

1. **Review minutes for the GAC October 6, 2021 meeting (EXHIBIT B).**

On a **MOTION** by Chris Erikson, seconded by James Christensen, it was unanimously agreed, by **Roll Call Vote**, to approve the minutes with the following **revision**.

Page 2: Revise paragraph as **identified**. **Ground Improvement**. James Christensen indicated that he discussed the issue with Timothy ~~Segal Siegel~~ of ~~ASCE~~ **Dan Brown Associates Engineering, Chair of the Ground Improvement with DFI**. Mr. ~~Segal Siegel~~ specified that work is on-going with regard to code requirements for ground improvement, but he thinks it will be 5 – 10 years before provisions are approved for inclusion in the international codes. Currently, no other states have attempted to draft code requirements. Mr. ~~Segal Siegel~~ thought it was a good idea for the GAC to address the matter. In doing so, he suggested that requirements be broadly defined and include such things as:

Page 2: Change the spelling of GAC Chair's name in 2 places from ~~Erickson~~ to Erikson.

2. **Discuss proposed amendments and new content of 2021 IBC, Chapter 18, for inclusion in the Tenth Edition of the Massachusetts Building Code (780 CMR).**



Ground Improvement. Chairman Erikson, along with members Damian Siebert and Martin Rodick presented the following language for discussion regarding ground improvement.

Ground improvement shall be defined as a system that uses aggregates, concrete, grout, or other mixture of cementitious materials and/or aggregates, to create elements in the ground upon which conventional foundation units such as footings, slabs, or mats are supported.

This section is intended to provide requirements for the design and construction of ground improvement systems.

Use of ground improvement for foundation support shall be designed by a Professional Engineer registered in the Commonwealth of Massachusetts and include the following:

- a. Design and evaluation of a seismic event on the system
- b. Compatibility with the structural foundation system
- c. Load transfer pad
- d. Special inspections in accordance with the intent of Chapter 17
- e. Allowable stresses for ground improvement elements that are consistent with the materials listed in Table 1810.3.2.6
- f. Effect of and potential for downdrag on the ground improvement elements
- g. Restriction of ungrouted elements and additional requirements for systems installed through organic soils
- h. Minimum number of elements to establish stability at isolated and strip footing locations

Committee members along with Les Chernauskas, P.E., who attended the meeting as a guest, discussed the proposed language at length. Chairman Erikson indicated that, since the matter is not currently addressed in the I-Codes, the proposal is only mean to provide guiderails to engineers. A short sampling of comments\concerns by other committee members and guests are provided below in no particular order.

Damian Siebert and Mike Oakland were concerned that the definition may not be sufficient and Damian was further concerned that ground improvements that transfer a certain percentage of load must be designed as a pile foundation resulting in a significant change in code requirements. Mike relayed concerns regarding the Mullins Center @ UMASS Amherst from years back.

Scott DiFiore was concerned that ground improvement is a large topic with ripple effects for the industry and suggested caution to take baby-steps towards establishing requirements.

John Roma related concerns relating to the Boston College Reservoir Dorm project of years ago.

James Christensen shared information presented by former Geotechnical Advisory Committee (GAC) member, David Shields, regarding ground improvement.

Chairman Erikson and Martin Rodick, via chat, suggested including language for performance of a load testing program that demonstrates adequate element and/or system performance appropriate for the ground improvement system.

Les Chernauskas indicated that it is a broad topic that currently is not being considered by the Deep Foundations Institute (DFI) and language will not be included in the I-Codes for quite some time.

Following discussion, committee members agreed that the matter requires further review, refinement and input from the industry. Consequently, Chairman Erikson asked members to contact industry professionals who may be willing to participate in crafting language via an open meeting. Members agreed to meet again on via TEAMS on December 1st @ 10 a.m. to further review.

3. **Discuss: Matters not reasonably anticipated 2 business days in advance of meeting.**

None.

4. **Approve: Adjourning the meeting.**

On a **MOTION** by Chris Erikson seconded by James Christensen, **by Roll Call Vote**, it was unanimously agreed to adjourn the meeting @ approximately 12:03 pm.

Exhibits.

- A. Meeting Agenda
- B. October 6, 2021 GAC Draft Meeting Minutes.
- C. International Building Code (IBC), Chapter 18 January Draft (*modified as a **WORD** document for clarity*).
- D. Proposed Ground Improvement Language.