

**ACI COMMITTEE 336 -
FOOTING, MATS AND DRILLED PIERS**
Spring 2012 Convention – Dallas, TX
Sunday, March 18, 2012
1:00 – 5:00 P.M.
353 AERIAL QUEEN

1. Introductions

- 1.1. Sign-in sheet
- 1.2. Introductions

2. Administrative Items

- 2.1. Additions or changes to agenda?
- 2.2. Meeting will adjourn at or before 5:00 p.m.

3. Approval of Minutes

- 3.1. Fall 2011, Cincinnati, OH

4. Membership Roster Update

- 4.1. Current roster – 17 voting members (40% = 7, 50% = 9), 15 consulting/associate/subcommittee
- 4.2. Changes to membership

5. Status of Current Documents

- 5.1. 336.1R – Specification for Drilled Piers
 - 5.1.1. Inquiry received and answered:

"Inquiry: ACI 336.1-01 (Specification for the Construction of Drilled Piers) Section 2.5 states that "Sand-Cement grout suitable to fill annular voids outside permanent casings shall be provided and placed in a manner acceptable to the Owner's Representative Geotechnical Engineer."

How is this sand-cement grout actually installed between the outer casing and any voids that may be present outside of the casing and the soil? Is a thin pipe shoved down the side of the casing and pressure injected? Or some other means?? I need clarification on how this operation is actually performed."

Response: Grout to fill the annulus between a permanent casing and the surrounding subgrade can be placed in several different ways; the appropriate method(s) depend on ground conditions, depth of annulus, relative diameters of the casing and the excavation, grout properties, and the design intent for the grout. The properties of the grout will have a significant influence on the placement method selected, as a fluid neat cement grout can be placed in a small diameter conduit more easily than a highly viscous sand-cement grout. These variables are the reasons that the specification does not dictate how the grout must be placed (although the issue is addressed in the Optional Requirements Checklist, items 2.5 and 3.6.5). If the grout is to be a critical part of the load-resisting system, the designer must include provisions in the project specifications to ensure that the grout placement and properties will perform acceptably. Some methods of grout placement that have been used successfully in the past include: pumping through a thin pipe placed in the annulus, gravity placement using a tremie placed in the annulus, gravity placement using a chute or 'elephant trunk', and pumping through one or more pipes embedded through the drilled pier. It is important to remember that 336.1 is a reference specification; as with any specification for foundations or other geotechnical application, it is critical that the designer tailor the project specifications to the site-specific requirements.

- 5.1.2. Subcommittee members (A. Ramme, B. Oliver, L. Schuler) held teleconference 22 November 2011 to review proposed changes. Additional revisions provided by E. Ulrich.
- 5.1.3. Subcommittee to prepare draft for initial ballot.
- 5.1.4. Subcommittee to collect notes during drafting for inclusion in Optional Checklist, a separate guide, or a future revision of 336.3R.
- 5.2. 336.2R – Suggested Analysis and Design Procedures for Combined Footings and Mats
 - 5.2.1. Subcommittee organized through ACI, website up, drafts posted.
 - 5.2.2. First ballot closed 18 November 2011

5.2.2.1. Balloted Outline, Chapters 1 and 3

5.2.2.2. Ballot results:

Preliminary Voting Summary:

There are 16 committee members eligible to vote.

Passage of an item requires resolution of any negative votes. Passage of an item also requires that the number of affirmative votes be at least that given by the 1/2 and 2/3 rules. Please refer to the ACI Technical Committee Manual for additional information on balloting procedures.

Item #	Affirmative	Affirmative with Comments	Negative	Abstain	Not Returned	The 1/2 Rule	The 2/3 Rule
1	8		1	1	6	Item Meets	Item Meets
2	6	1	2	1	6	Item Does Not Meet	Item Meets
3	6		3	1	6	Item Does Not Meet	Item Meets

5.2.3. Subcommittee reports and working session under item 8

5.3. 336.3R – Design and Construction of Drilled Piers

5.3.1. Memo to IBC on Cracking Moment Equation – Ballot results:

Preliminary Voting Summary:

There are 16 committee members eligible to vote.

Item #	Affirmative	Affirmative with Comments	Negative	Abstain	Not Returned	The 1/2 Rule	The 2/3 Rule
1	5	1	2	2	6	Item Does Not Meet	Item Meets

5.3.2. Memo to IBC on Cracking Moment Equation – resolve comments and rebalot

5.3.3. Document final editing

5.3.3.1.D. Hartman delivered re-drafted figures

5.3.3.2.L. Schulze delivered revised units and equations

5.3.4. TAC Submission schedule and strategy

5.4. 336.4R – Alternative Method for the Analysis and Design of Footings using Load and Resistance Factors

5.4.1. Maintain on hold until completion of 336.2R.

5.4.2. Consider technical session on LRFD of foundations:

LRFD is a general interest topic, there has been some passionate discussion on this committee and ASCE Retaining Walls committee. AASHTO mandatory documents are in place for federally funded projects. Session would probably need to focus on casually interested audience members and pros/cons, rather than detailed topics. Begin work now for session in 12 months?

6. TAC Updates

Activity	TAC Summer Meeting	ACI Fall Convention
	Gleneden Beach, OR	Toronto, Ontario, Canada
	July 10-13, 2012	October 21-25, 2012
Final 30-day letter ballot issued	March 6, 2012	June 15, 2012
Committee-approved document submitted to staff for editorial review	April 10, 2012	July 20, 2012
Document submitted to TAC and external reviewers	June 5, 2012	September 14, 2012
TAC Review Group conference calls	July 3-5, 2012	October 10-12, 2012
TAC meeting	July 10-13, 2012	October 19-21, 2012

Standardization Process and Public Discussion for *Concrete Terminology*

Definitions on the *Concrete Terminology (CT)* Web page are added, revised, or withdrawn when approved by TAC, usually through actions related to the document review process.

ASTM policy requires ASTM standards to only reference other standards, so for the *CT* to be referenced in ASTM standards, the *CT* needs to go through ACI standardization. The Standards Board released the *CT* for public discussion, which opened on July 1, 2010.

During the 2010 fall meeting, TAC agreed that the *CT* will go through the standardization process once a year after this initial standardization. The *CT* Task Group is currently drafting responses to over 1,200 comments received during public discussion... the task group expects to be finished by the 2012 spring meeting.

Reorganization of ACI 318

At the 2011 summer meeting, TAC Secretary Falconer reported that the last scheduled ballot for 318 is schedule for January 2012. TAC Secretary Falconer reported that the 318 submittal to TAC will be pushed a back a year. The code will likely come out in 2014.

7. Action Items

8. Working Session: 336.2R

- 8.1. Subcommittee progress report (Bill Brant)
- 8.2. Subcommittee progress report (Rudy Frizzi)
- 8.3. Working session
 - 8.3.1. Use outline to capture ongoing revisions, notes, and references
 - 8.3.2. Revisions to Chapter 1
 - 8.3.2.1. Include design examples in document?
 - 8.3.3. Revisions to Chapter 3
 - 8.3.3.1. Reference ASCE 7 and ACI 318/follow IBC, or include Alternate Design Method?
 - 8.3.3.2. High-level review of changes
 - 8.3.4. Break into subgroups?
 - 8.3.4.1. Chapter revision subgroups per outline
 - 8.3.4.2. Piled raft subcommittee

9. Open Discussion of Current Issues in Construction (Footings, Mats, or Drilled Piers)

10. Future Agenda Items

11. Adjourn (5:00 p.m.)