**PhD Qualifying Exam Procedure**

Engineering of the Built Environment

Department of Civil and Environmental Engineering

Northwestern University

1. Introduction. The Qualifying Exam is one of the major steps necessary for a PhD student to advance to PhD Candidacy, which is one of TGS's required milestones to earn the PhD degree. Admission to the PhD program does not guarantee advancement to Candidacy. In addition to passing the Qualifying Exam, the other standards for advancement to Candidacy are: (1) a 3.5 GPA, (2) passing the English Language Proficiency requirement (international students only), and (3) identifying a research advisor to supervise PhD study and provide financial support. For other details about advancement to Candidacy, consult the PhD Handbook available on the CEE webpage.

2. Timeline. For students entering Northwestern with a MS earned at another university, the Qualifying Exam should be administered after the 4th quarter of study (end of Fall of second academic year). For students entering with only a BS degree, the Qualifying Exam should be administered no later than the end of the 7th quarter of study (end of second academic year), with a preferred target of the 5th quarter of study.

3. Committee. Three faculty members from CEE will comprise the committee – one of which will serve as the chair of the committee. The student's research advisor may serve on the committee but cannot be the chair. The committee is selected by the EBE area coordinator, by taking into account input from the student.

4. Exam Format. In consultation with the committee, the student will schedule the qualifying exam (the CEE program coordinator can assist with logistics). Forty-eight hours before the exam, the committee chair will provide the student with a research problem based on a realistic scenario. The student must prepare a concise research proposal outlining how they would address the problem. While key points for consideration will be provided, students are encouraged to expand beyond them as appropriate. During the one-hour exam, the student will deliver a presentation of no more than 20 minutes summarizing their proposed approach. The presentation should demonstrate how the student has applied the knowledge and methods gained from coursework and other activities to analyze and address the problem. Following the presentation, committee members will engage the student in a discussion focused on assessing their understanding of the problem, the soundness of their reasoning, and their ability to synthesize concepts from their academic and research experience. The exam is closed to the public.

5. Exam Outcomes. (1) "Pass" means the student has satisfied the Qualifying Exam requirement and no further action is needed; occasionally "High Pass" will be awarded for exemplary performance. (2) "Conditional Pass" means additional conditions must be met; these conditions are monitored by the chair and once completed, the Qualifying Exam requirement is satisfied, with an exam retake not required. (3) "Fail" means the student has not satisfied the Qualifying Exam requirement and may be allowed to retake the exam once, preferably after two weeks and no later than one additional quarter. The exam outcome will be communicated to later than a week after the day of the exam.