CE 315 CEE Profession
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Pointing the Finger:
Who is Liable for Injury on a Construction Site?

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Introduction

One of the oldest documented laws concerning injury and structures is that of the Babylonian King Hammurabi. It states: "…if a building collapses killing the owner, then the builder shall be put to death…" (Brannigan, 2005). Luckily, we live in a time where such laws have been deemed unethical. Still, injuries and fatalities do occur during construction, and deserve to be addressed. According to the United States Occupational Safety & Health Administration (OSHA), approximately 780 construction workers were killed on the job in 2013. OSHA also reported that about 4 in 100 workers suffered an injury (OSHA, 2014). The question that rises from this is: who is liable for these injuries and deaths? The responsible parties of a construction project can be numerous. The architectural/engineer team (design team), the owner, contractors, and material fabricators are all potentially liable for incidents on a job site. Due to the complex nature of liability on any given project, ultimate responsibility is best investigated on a case-by-case basis.

There are two principal approaches in addressing hazard and injury, law and ethics. The judicial system regulates safety through regulation, liability, and negligence. Although building codes and regulations have been adopted throughout the country, a code of professional ethics has been used as a "self-regulatory" method of safety. Civil engineers have ethical obligations to the public, which are outlined by the American Society of Engineers (ASCE). The adherence to a code of ethics is one of the defining aspects of a "professional." Doctors adhere to the Hippocratic *Oath* of "do no harm" and attorneys have responsibilities to both their client and the public. But unlike other professions, engineers design and these designs are typically built by the engineer's clients. The client of an engineer is not in the same position of that of a doctor or

attorney. Injuries do not often happen to the client but to members of the public (Brannigan, 2005).

The client is often the owner and/or contractor of a project. Owners are the principle stakeholders of the project team and are likely protected from liability in the form of contract. Depending on the type of project delivery, the responsible party for an injury caused during construction can be the contractor, the design team, or both. Engineers are normally responsible for the actual design effort (plans and specifications), site observation, shop drawing approval, and responses to requests for information. The Engineer of Record (EOR) is the registered, licensed professional responsible for the design and whose seal appears on the design documents. The contractor (s) responsibilities include means and methods of construction, value engineering, and in most types of project delivery, safety.

Engineer Liability: Design Failure

Injury caused by design failure holds the EOR as the responsible party. Design failure can occur from negligence directly related to the engineer working on the project. A source of failure may stem from explicit carelessness, such as an obvious design flaw in an original design. Reviews of plans and designs are maintained to avoid such mistakes. Another source may be an inadvertent blunder. Engineers are prone to accept the work of other professionals and engineers at face value. Quite often components of a design are "borrowed" from pre-existing designs. These borrowed designs may not fit the same criteria of the project at hand. It is the responsibility of the engineer to review and confirm that the pre-existing component will satisfy the need of the design. An engineer can utilize a component of design that they are not familiar with. This decision is a direct violation of the engineer's ethical duty. The ASCE code of ethics

states that civil engineers “shall perform services only in areas of their competence” (ASCE, 2010).

Design failure will also occur if the designer does not taking both extrinsic (earthquake, wind, loading) and intrinsic (fire load, catastrophe) issues into account (Brannigan, 2005). Some projects may be revised due to change orders made by the owner and/or design team. It is the responsibility of the EOR to approve all designs arising from change orders. Once these changes are approved, the liability of the design resides with the engineer. Requests for information may be made throughout the design and build phase of a project. An engineer’s failure to communicate could create situations that neglect to “hold paramount” the safety of the public.

Contractor Liability: Safety

The means and methods of construction are managed by the contractor. The contactor is liable for incidents caused by the construction process. Engineering elements can be implemented into these activities, such as the modification of plans to solve construction difficulties. The design team and/or EOR is responsible for reviewing and approving these adjustments. The decision to employ value engineering post-design is made by the contractor. This process furnishes a more efficient alternative design and allows the contractor to keep a portion of savings. The design team and/or EOR is restricted from engaging in this redesign unless explicitly stated in the contract. To do so would breach the ASCE code of ethics that states: “Engineers shall not accept compensation ... for services on the same project…unless the circumstances are fully disclosed to and agreed to...” (ASCE, 2010).

Under some circumstances there is a contractor in charge of safety whose sole duty is to ensure the health and safety practices at the project site. Gross negligence by a construction worker can lead to an injury event.

Summary and Conclusions

Injury and fatality are delicate and serious subjects that need to be managed accordingly. The liability for accidents on a construction site is composed of many variables. There are many situations and conditions that need to be addressed before accountability can be placed. Albeit engineering strives for optimization and efficiency, no amount of capital or time is equal to human wellbeing. The design process is a combination of law, ethics, and engineering (Brannigan, 2005). The reality is that not everything is applied perfectly in practice. It is the responsibility of all parties involved to ensure that best practices are used in a project. Engineers can employ construction hazard prevention through design. Contractors can provide a safe workspace for their employees by setting and enforcing standards and offering training. Communication and mutual assent with all involved parties is essential to provide a safe and effective workspace.

References

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Grading for draft paper	**Total possible points**	**Points**
Spelling, punctuation: misspelled words (Use spell-check), improper punctuation	3	
Grammar: incorrect or poor grammar (Use Word's Grammar check – but do not always believe it. Have a friend read it for word flow. Read the material aloud.)	3	
Content: well-organized material, clear, concise writing style	9	
References (used 2 references from a Journal or other acceptable source, proper reference format) and format (paper meets format guidelines for margins, line spacing, title page, paragraphs, headings and length)	2	
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Grading for final paper	**Total possible points**	**Points**
Format: paper meets format guidelines for margins, line spacing, title page, paragraphs, headings and length	5	
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Grammar: incorrect or poor grammar (Use Word's Grammar check – but do not always believe it. Have a friend read it for word flow. Read the material aloud.)	6	
Content: well-organized material, clear, concise writing style	25	
References: used 2 references from a Journal or other acceptable source including the ASCE Code of Ethics, proper reference format,	9	
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