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Achieving the Vision Through High Ethical Standards

Ohio Valley Student Conference

2010

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The Vision for Civil Engineering in 2025:

Entrusted by society to create a sustainable world and enhance the global quality of life, civil engineers serve competently, collaboratively, and ethically as master:

- *Planners, designers, constructors, and operators of society's economic and social engine – the built environment;*
- *Stewards of the natural environment and its resources;*
- *Innovators and integrators of ideas and technology across the public, private, and academic sectors;*
- *Managers of risk and uncertainty caused by natural events, accidents, and other threats; and*
- *Leaders in discussions and decisions shaping public environmental and infrastructure policy.*

In the summer of 2006, a lofty bar was set for every practicing and future engineer. A diverse group of accomplished individuals met at the Summit on the Future of Civil Engineering to address the questions arising in the field, namely, what the world will be like in twenty years, and what role civil engineers will play in that "radically transformed world," (ASCE, 2006). Together, these individuals addressed the pressure on civil engineers, the lack of young people in the field, the minimal involvement in policy-making, and other issues that are keeping the profession from moving forward. The group created a futuristic set of goals for the engineering profession, in order to focus the amazing abilities of so many engineers into a single, unified direction. The "Vision," as it's been named, calls engineers to higher standards of ethical practices and competency. It commands greater diversity in the definition of an engineer, and gives professionals and future professionals a set of "stimulating, uplifting, collaborative, and creative experiences" to aspire to (ASCE 2009).

In addition to becoming master planners, designers, constructors, and operators of the built environment, stewards of the environment, innovators and integrators of ideas and technology, managers of risk, and leaders in policy-shaping discussions, the Vision also states that engineers should be knowledgeable about ethical behavior and exhibit attitudes that demonstrate their commitment to ethics.

It seems the goal of the Vision is to heighten the profile of the civil engineer, and extend engineering ties to many areas of the public that they are not normally recognized in. Ethical standards play a surprisingly large role in attaining this Vision and growing within the civil engineering profession.

The first words of the Vision summary are "Entrusted by society…" This implies that engineers must earn their place at the top of the Vision goals. Through every design decision,

civil engineers must keep in mind their audience: the public. The very definition of the civil career is to improve life systems, and every new hospital, roadway, bridge, and dam is a testament to success. With these successes, however, come failure, such as highway bridge collapses or buildings that burn down much too quickly. Sadly, one of these failures can shatter society's trust faster than one hundred safe structures build it. This is the key within the first three words of the Vision. We, as engineers, cannot achieve our goal alone. We must maintain the trust of society through every decision, so that they can support us on our path.

Secondly, before the Vision lists the aspirations for the civil engineer of 2025, it states that civil engineers will "serve competently, collaboratively, and *ethically*…" This once again underlines the role ethics will have in shaping the achievement of this Vision. Not only must engineers be *master* planners, stewards, innovators, managers, and leaders, but we must serve as *ethical* masters of these tasks.

The Summit report from June 2006 notes that "[L]ooking ahead toward the unknown presents considerable risk. Future realities might not be captured and some aspects of the Vision may prove to be a mirage. But the visionary gauntlet has been thrown down…. [Summit participants placed] their signposts for what the civil engineering profession should attain by 2025. The march toward those markers- and the enlightened struggles needed to get there- are only just the beginning. The global civil engineering profession has taken up the challenge." The Vision 2025 grabbed attention in the engineering world and was received enthusiastically. Now that civil engineers and students across the globe have taken up the challenge, the accomplished leaders who set forth the Vision must ensure that their colleagues have the necessary tools to succeed. An important resource is the ASCE Code of Ethics.

This document is written with general language that can be updated as time demands. It's this general language, however, that makes the Code of Ethics the literary Swiss cheese of a binding document. Society is moving toward a very literal attitude when it comes to rule-breaking, that is, if the rules don't expressly forbid an activity, it's acceptable. A single document could not possibly detail each ethical grievance an engineer must avoid. Although the document would be an intimidating one, if even one situation is left out the code is rendered ineffective. The Code of Ethics is certainly a good guide, and as long as it maintains the flexibility needed to stay updated, it shall remain a useful tool. However, the Code of Ethics should not be relied upon as a fail-proof guide for engineers.

Engineers and future engineers need to be prepared for the ethical questions they will face in their ever-changing career world, and a single document cannot accomplish this. The Code of Ethics must be accompanied by encouragement, demonstration, and education on ethical dilemmas.

Ethical practice is best encouraged by example, and proper actions must be positively reinforced. In essence, the reward for a good behavior must equal the value of the sanction for bad behavior. The key is to focus on encouraging proper ethical decisions, rather than punishing improper ones. Ethics education in secondary and post-secondary education is crucial to establishing a proper "moral compass." Most education programs focus heavily on "following the rules," however, actions in the workplace may be legal without being ethical. In these cases, even if legal action does not ensue, a reputation for dishonesty will lower public opinion of *all* engineers, not only the transgressors. For this reason, project-based learning is one of the most effective ways to prepare future engineers through example, demonstration, and reinforcement. Students can read the Code of Ethics, pass a test on it, and still fail to reach for high ethical

standards. The concept of ethics is better demonstrated in work group environments, where students can apply ethical guidelines to their leadership styles and group projects. Seeing successful ethics in action encourages students to use them just as effectively outside the education world.

Practicing engineers are a valuable resource for attaining the prescribed Vision. These engineers have worked in the professional environment and have likely seen good and bad examples of ethical practice. Because of their experience, they are worthwhile candidates for the public policy environment. Involvement in this environment could help to foster the growth of the profession through funding and outreach, as well impact licensing processes and public relationships. This would, however, put engineers under the scrutiny of the public eye, which could accelerate trust development or shatter it entirely depending on the behavior of those attracted to the post.

New technology can also be a useful tool for achieving the Vision for 2025. Likely, our mental pictures of 2025 involve flying cars structures that build themselves, which will be great innovations with none other than engineers standing behind them. There is a darker side to new technology, however, when it is misused. Social networking sites, for example, have exploded in popularity in the last three years, and so has the occurrence of intra-office relationships. There is more danger to adding one's boss as a "friend" than he or she seeing unsavory spring break photos. Future and practicing engineers must take into account what the implications of establishing a personal relationship within the workplace could mean. Even a casual friendship could potentially pressure one to make an unethical decision they wouldn't have made professionally.

If the civil engineer of 2010 wishes to aspire to the vision for the civil engineer of 2025, they must look further than the Code of Ethics and their legal responsibilities. In order to truly earn public trust, the value of an engineer must be proven time and time again without fail. Demonstration and encouragement will go long ways toward achieving status as a master profession. Honest discussions on planning, infrastructure, and natural disasters will reinforce the public's confidence in an engineer's ability to manage risk and make fair decisions. High ethical standards aren't just necessary to fulfill aspects of the Vision; high ethical standards are actually a *goal* of the Vision. After all, holding paramount the safety and welfare of the public is the *only* way to earn the public's trust.

References

ASCE. "Achieving the Vision for Civil Engineering in 2025." (2009). United States of America.

ASCE. "The Vision for Civil Engineering in 2025." (2006). United States of America.

ASCE. "Standards of Professional Conduct for Civil Engineers." (2000). United States of America.