The Ethical Professional Engineer

*Speech given by Dewberry Chairman of the Board Sidney O. Dewberry, PE, LS to the 2005 graduating class of the Civil, Environmental and Infrastructure Engineering Department at George Mason University on May 17, 2005.*

Good afternoon and welcome. Thank you for those kind words of introduction. Thank you to Lloyd Griffiths, Dean of the School of Information Technology & Engineering, and thanks to Dr. Tomasz Arciszewski, chair of the Civil, Environmental and Infrastructure Engineering Department and the rest of the department’s faculty.

I’m going to talk about the hardest part of being an engineer.

It isn’t about finding load tolerances on a bridge, or evaluating a geotechnical report. Those things can be hard but they can be determined through the careful use of math and formulas and all of the other tools you’ve acquired in school and will continue to acquire with experience. You are all bright young people with sharp, analytical minds. Those types of challenges are right up your alley.

No, the hardest part of being an engineer is the stuff that can’t be number crunched, can’t be modeled on the computer, and doesn’t adhere to any formula. I’m talking about the moral and ethical dilemmas you will face in your career.

I trust that those of you graduating today have read at least one code of ethics for engineers. Your parents and friends with you today, however, may not be familiar with the responsibility you take on with your chosen profession. So for you parents and friends, I’m going to read to you the preamble of the National Society of Professional Engineers’ code of ethics:

Engineering is an important and learned profession. As members of this profession, engineers are expected to exhibit the highest standards of honesty and integrity. Engineering has a direct and vital impact on the quality of life for all people. Accordingly, the services provided by engineers require honesty, impartiality, fairness, and equity, and must be dedicated to the protection of the public health, safety, and welfare. Engineers must perform under a standard of professional behavior that requires adherence to the highest principles of ethical conduct.

That’s quite an edict. Parents, your children are “expected to exhibit the highest standards of honesty and integrity.” Your children “must be dedicated to the protection of the public health, safety, and welfare.”

Now, if I were giving this speech at your children’s kindergarten graduation ceremony I’d be telling you to make sure to instill honesty and integrity in them. It is a little late in the game for me to tell you that now, so I’m going to trust that you have all done a good job.
For those of you graduating today, I hope you remember the lessons that you learned at your momma and daddy’s knees. I hope that when you are faced with a difficult decision that you’ll think of your parents and try to imagine how they would react to the course of action you choose. Would they be proud of you? Or, if news of your decision made it to the front page of the local newspaper, would they be ashamed to show themselves to their friends and neighbors?

Many of you, of course, were brought up following a religion, and every religion that I know of addresses issues of right and wrong, good and evil, morality, and ethics. As a youngster, my family and I attended church two and sometimes three times per week and in many sermons and Sunday School classes we read, studied, and memorized many verses from the “Good Book” as it was called. At home around the kitchen table, many of these lessons’ meanings were discussed. Those teachings have been invaluable to me.

**Code of Ethics**

At Dewberry, we have adopted our own code of ethics. We looked at what a number of professional societies have written, as well as some other well-respected engineering firms, and we came up with our own version. I’m going to read to you the list of duties we expect of our engineers and then discuss what they mean in the real world situations you’ll face when you begin your first job.

The Dewberry code of ethics says,

In fulfilling our professional duties, we shall:

- Hold paramount the public's health, safety and welfare
- Perform services only in areas of our competence
- Avoid conflicts of interest
- Act as faithful agents or trustees of our clients' interests
- Avoid improper conduct in the solicitations for assignments
- Act to uphold honor, integrity and the dignity of our professions
- Maintain competence in our profession through continuing education and training
- Respect our community and our environment in all of our endeavors
- Recognize and respect the fiduciary responsibility we have to our colleagues and to Dewberry.

**Hold paramount the public's health, safety and welfare**

The first item in that list is “Hold paramount the public's health, safety and welfare.” Right off the bat we make life real difficult for new engineers. After all, if I hired you to come work for me at Dewberry, it isn’t the “public” who’s going to be signing your paycheck. It’s me. So for me to tell you to “Hold paramount the public's health, safety and welfare” suggests that I expect you to tell me if something Dewberry is doing may harm the general populace.
Now, if it is a big project with a lot of money and prestige riding on it, I’m not going to be thrilled to hear that there’s a problem with it and you may not be thrilled at the prospect of having to tell me. I can get pretty red in the face and holler pretty loud when I’m mad. However, it is your duty to raise that issue. It takes courage and confidence in your position but you must do it. You must do the right thing.

Then it is up to me, or whoever your boss is, to make the final call. When I have a tough decision to make, I go through a detailed exploration of the facts. I list the advantages and disadvantages of each item and apply a value to each. I even weight some of the factors. Even after I add it all up, I may not have a clear answer. I’ll then seek the opinions and recommendations from colleagues and people I respect. In the end I fall back on my guiding principle: Do the right thing. After all, we all know right from wrong.

**Perform services only in areas of our competence**

The second duty is to “Perform services only in areas of our competence.” This one is self-explanatory but it reminds of a story:

One day a group of engineers got together and decided that man had come a long way and no longer needed God. They picked one engineer to go and tell Him that they were done with Him. The engineer walked up to God and said, "God, we've decided that we no longer need You. We're to the point that we can clone people and do many miraculous things, so why don't You just go on and get lost."

God listened patiently to the man, and after the engineer was done talking, God said, "Very well! How about this? Let's have a man-making contest."

The man replied, "Okay, great!" But God added, "Now we're going to do this just like I did back in the old days with Adam." The engineer said, "Sure, no problem." He bent down and grabbed himself a handful of dirt. God looked at him and said, "No, no, no. Go get your own dirt!"

That’s a good example of an engineer trying to perform beyond his area of competence.

**Avoid conflicts of interest**

The third and fourth duties are related: “Avoid conflicts of interest” and “Act as faithful agents or trustees of our clients’ interests.” We can’t faithfully serve our clients if we have a conflicting interest influencing our decisions. This can get tricky when you are working for a large firm with many clients spread across multiple disciplines.

Let’s say you are doing an environmental impact study for a road widening for a state department of transportation. In the back of your mind you may be thinking that you’d sure like to get the engineering contract for that road widening but, if you allow it, that greedy thought could influence the results of your environmental impact study. That
cannot happen. The environmental impact study must be done irrespective of what work may come later.

These two duties may also rub up against the first duty to “Hold paramount the public's health, safety and welfare.” It may be in our client’s interest to cut corners on a design to save money, but it would jeopardize the common good. In those cases, you need to have a long, hard talk with your client and, if he or she won’t budge, resign from the project.

Avoid improper conduct in the solicitations for assignments

“Avoid improper conduct in the solicitations for assignments” is the fifth duty. This is a nice way of saying don’t give or accept bribes. The bribes to watch out for are the ones that straddle the line: gifts, dinners, trips, tickets to events, campaign donations and “you scratch my back and I’ll scratch yours” types of behavior. There is definitely a gray area, which is why most public entities have very strict and detailed rules about what government officials can and can’t accept. That said, it is a truism in our business that relationships are what win contracts, which is why we push our project managers and business unit managers to introduce themselves to the decision makers well in advance of a request for proposal being issued. We want them to gain the decision makers’ confidence, charm them, woo them, and otherwise get them eating out of their hand. But they have to do that without resorting to any improper conduct.

Narrow Escape

I had a narrow escape with absolute disaster about 40 years ago, that if not avoided would have destroyed my life, family’s life, and my employees’ lives.

We were doing a lot of land development work (and still are) and we had a major client from whom we were getting a lot of contracts. For many of the projects, the client would ask his lawyers, accountant, architect, and engineer if they would like to leave a portion of their fee in the project as a small, junior partner. In the end, they would get their fee and a portion of the profits.

I always refused while some of the other professionals would participate. I felt my firm could not honestly perform the services in a professional manner if we had a real vested interest in the project other than fair and competitive fees for our services.

Then, this huge project came along, which, if the property could be rezoned to the highest use, would result in an enormous profit. I was offered a 5 percent ownership position. I was sorely tempted because at that time my family and I were living on a tight budget. This 5 percent position gave me no voting rights or access to any inside information on management decisions; all of the decision making would have been left to the managing partner. The lawyer and the accounting firm agreed to invest but I said no with much reluctance.

To make a long and sordid story short, the managing partner bribed some of the members of the Board of Supervisors to get them to vote favorably on the rezoning request. He was
found out and he and several of the supervisors spent a long time in the clinker. Though the accountant claimed to have no knowledge of the bribery, he was sent to jail for 6 month, his family was disgraced, his firm ceased to exist, and he died soon after completing his prison sentence. My firm was never implicated in any way, although we had performed routine engineering and surveying services and collected thousands of dollars in fees for honest work.

Obviously, influence peddling is a steep and slippery slope and you don’t want to go there. Beyond that, this case has no clear cut lesson about ethical conduct; there are many examples of an engineer legally investing in a project where he is also the engineer of record. Personally, I would never be an investor unless I had full access to all decision making, which I did not in this case. Had I been privy to the discussions and learned of the bribery, I would not have hesitated to turn them in to the Commonwealth attorney even though that would have ended a very lucrative relationship with this client.

International Corruption
Inappropriate activity is even more prevalent in other countries. According to Transparency International, “Surveys repeatedly reveal corruption to be greater in construction than in any other sector of the economy.” Transparency International has estimated that 10% of construction activity worldwide is lost to all forms of bribery and corruption. That is 10% of $3 trillion – a horrible waste of money especially for developing countries trying to expand their infrastructures. The American Society of Civil Engineers is leading a global effort to engage individual engineers in the fight to reduce corruption in the engineering and construction industry. I encourage you to learn more about this effort and to make a personal commitment to maintaining the highest professional conduct.

Act to uphold the honor, integrity and dignity of our professions
The sixth duty is to “Act to uphold the honor, integrity and dignity of our professions.” If you’ve adhered to the previous five duties, you probably have this one in the bag. But I will add a couple of other things.

To me, honor and integrity have to do with keeping your word, meeting your deadlines, standing by your work, and accepting the blame if something goes wrong. Don’t equivocate, don’t try to pass the blame, don’t try to ignore a problem with the hope that it will go away. Dan Bannister, a Dewberry board of directors member, said it very well, “Ethics is at the very heart of integrity; it means: Doing more than the legal thing; it is doing the right thing. Knowing the difference between what you have a right to do, and what is the right thing to do!”

Dignity is also important, and on this point I’m going to show my age a bit. I come from the old school where professionals wore suits and ties every day, clients were referred to as Mr. Smith or Mr. Jones, and business was always conducted with a certain decorum and formality. Nowadays I see a lot of managers wearing open-collared shirts with slacks to client meetings, and everyone is on a first-name basis the second they meet, and so on
and so forth. To me, that diminishes the dignity of our profession but maybe I’m just out of step with the times on this point. Call me old school and we’ll leave it at that.

**Maintain competence through continuing education and training**

“Maintain competence in our profession through continuing education and training” is the seventh duty. Since you have just sweated through your last set of finals you probably don’t want to hear that you need to take more classes, but that’s the way it is. Considering the blazing speed of change in the tools and body of knowledge in the various engineering disciplines, I don’t know how anyone can help but continually seek out professional development opportunities.

We certainly take this very seriously at Dewberry. We have our own Learning Center that provides a wide variety of classes on everything from running effective meetings, to understanding financials, to negotiating contracts, to ethics, to job site safety, to designing steel bridges.

We reimburse employees who pursue college-level courses to advance their careers, as well as those who attend educational seminars or meetings. We pay an employee’s membership fee to a professional organization or society that directly relates to his or her job. We pay the author of a published article or a speaker at a professional or technical meeting a $250 honorarium because we see this as an important part of our employees’ professional development. And for employees receiving their first professional license in engineering, architecture, or surveying or their first professional certification, we give a one-time $1,000 bonus in recognition of their achievement.

**Respect our community and our environment**

The eighth duty is “Respect our community and our environment in all of our endeavors.” This is akin to the first duty to “Hold paramount the public's health, safety and welfare” but it focuses more on being a good neighbor. Speaking once again from my own experience, Dewberry takes its commitment to community very seriously because our business model is based on local offices scattered around the country. Some big architectural/engineering firms have just a few offices but do work all over the place. In my mind, they are sort of like carpetbaggers who come fresh into town and start doing business without knowing anything about the community.

At Dewberry, we only do business where we have put down roots and made a commitment to the area. We are not going to blow into town and blow back out again when a project is done. We are there to stay, and I think that gives us an extra incentive to do excellent work. We want to build and maintain a good reputation so we can enjoy repeat business. And even more importantly, our employees and their families are going to drive on the roads and bridges, live in the housing developments, and attend the schools that we design. They want the best for their families and so they are going to do the best for our clients.
Recognize and respect our fiduciary responsibility

The last duty in our code of ethics is to “Recognize and respect the fiduciary responsibility we have to our colleagues and to Dewberry.” In other words, we need to make a profit. Now, after all of this talk about honor, integrity, commitment to public health and so forth, it may seem rather crass to talk about money. But the fact is, if Dewberry hadn’t been making a profit for the past 49 years, about 1,600 people wouldn’t have jobs today. So our employees have a responsibility to manage our costs carefully. This benefits our clients, who won’t be subject to cost overruns, and it benefits our company, which can make a profit and reinvest that money in buying better computers, opening more offices, and adding more employee benefits.

In closing, I want to say that I recognize that ethics may be a heavy topic for a day that’s meant for celebrating your achievements and basking in the glow of your family and friends’ admiration. Your minds are probably off in a million other places – thinking back on the years at GMU, preparing for sad farewells to classmates, anticipating the start of the job you’ve lined up or the vacation you’ve planned, wondering if your parents will let you live at home for a few months….or years. Your thoughts may be anywhere except focused on me prattling on about ethics and professionalism.

But I’ll tell you what. I’m going to post the text of this speech on Dewberry’s website and a month from now or six months from now or a couple of years from now, when you’re knee-deep in alligators in your first engineering job, I hope you’ll look up this speech because I know you’ll really appreciate it then.

Congratulations and good luck to you all.