# Engineering and Surveying Ethics: The Basics

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## Engineering and Surveying Ethics

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## Engineering and Surveying Ethics

**Overview of Session**

1. Discussion of Ethical Obligations
2. Engineering/Surveying Ethics Exercises



## Engineering and Surveying Ethics

- *"Among the universal ethical values are honesty, integrity, promise-keeping, fidelity, fairness, respect for others, responsible citizenship, pursuit of excellence and accountability."*
  - Michael Josephson



## Engineering and Surveying Ethics

- **Black and White Areas – Easy**
  - Right vs. Wrong
- **Gray Areas – Tougher**
  - Right vs. Right
  - Lesser of the Evils/Dilemma
- **Other Factors**
  - Time/Money
  - Family
  - Career
  - Reputation



## Engineering and Surveying Ethics

- **Why Study Engineering/Surveying Ethics?**
  - To Understand the Standards Governing What is Acceptable Behavior in Professional Practice
- **Why Practice Engineering/Surveying Ethically?**
  - Personal Injury/Property Damage/Financial Harm
  - Disciplinary Action
  - Impact on Reputation, Employer, Clients, Profession
  - Possible Loss of Job, Business, etc.

## Engineering and Surveying Ethics

- *"All products of technology present some potential dangers, and thus engineering is an inherently risky activity…Engineering should be viewed as an experimental process. It is not, of course, an experiment conducted solely in a laboratory under controlled conditions. Rather, it is an experiment on a social scale involving human subjects"*
  - Martin and Schinziger, Ethics in Engineering



## Engineering and Surveying Ethics

- **Engineering Ethics**:
  - Among the Most Important Issues Facing the U.S. Engineering Profession - NAE
  - Role of Media and Appearances/Perceptions
  - Engineering/Surveying as Profession
  - Growing Public Expectation of Engineers: "Perfection" vs. "Reasonableness"



## Engineering and Surveying Ethics

- **Ethics Resource Center - 2009**
  - The Economic Crisis Continues to Create Doubt Among Employees and the Workforce in General…
  - Global Recession Has Resulted In Major Organizational Changes Such As Layoffs and Restructuring…
  - Consumer Confidence is Down…
  - Levels of Anxiety And Stress Are Up…
  - Little Signs of Optimism…



## Engineering and Surveying Ethics

- **Ethics Resource Center – 2009**

-This turmoil has generated serious implications for the ethics and compliance function…

- 20% increase in observations of misconduct from the second half of 2008…

- 5% decline in frontline employee perceptions of senior management's commitment to integrity…

- 10% increase in the number of disengaged employees from one in ten to one in five, causing a decline in company wide productivity of up to 5%...



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- **Ethics Resource Center - 2009**
  - Corruption Perception Index (CPI)
  - Corruption: A Growing Problem in Emerging Markets – Procurement Rules
  - Supply-Side Corruption is a Serious Problem…
  - …But Demand-Side Corruption is a Much Bigger Problem than Originally Thought



## Engineering and Surveying Ethics

- **Professional Codes of Ethics**
  - A code of professional ethics results when a field organizes itself into a profession. The resulting code is central to advising those professionals how to conduct themselves, to judge their conduct and to understand the profession.

## Engineering and Surveying Ethics

- Hierarchy of Ethical Obligations
- Primary: Ethical Obligations to the Public
- Secondary: Ethical Obligations to Employer or Client
- Tertiary: Ethical Obligations to Other Professionals and Other Parties



## Engineering and Surveying Ethics

- Three Basic Ethical Obligations – (1) Public, (2) Employer/Client and (3) Other Professionals...
  - Never Mutually Exclusive - Reciprocal
  - Not A "Zero Sum Game"
  - All Need To Be Considered At All Times
  - Should Be Complementary to Integrated With One Another To The Fullest Extent Possible
  - Ethical Integration = Professional Integrity



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- Seven Overarching Principles Impacting Each Obligation
  1. Protecting The Public Health, Safety and Welfare
  2. Demonstrating Professional Competence
  3. Maintaining Objectivity/Truthfulness
  4. Addressing Conflict of Interest
  5. Preserving Confidentiality
  6. Receiving and Providing Valuable Consideration
  7. Emerging Areas/Emerging Challenges



## Engineering and Surveying Ethics

1. Protecting The Public Health, Safety and Welfare
   - Conformance with Applicable Standards
   - Approval/Signing and Sealing of Engineering Drawings
   - Responsible Charge/Responsible Control
   - Judgment Overruled
   - Awareness of Safety Violations
   - Awareness of Illegal Practice



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2. Demonstrating Professional Competence
   - Education, Experience, Qualifications
   - Acceptance of Assignment
   - Signing and Sealing of Work
   - Coordination of Work
   - Scope of Practice



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3. Maintaining Objectivity/Truthfulness/Non-Deception
   - Inclusion of All Relevant Information
   - Issuance of Public Statements
   - Disclosure to Interested Parties
   - Expression of Technical Opinions
   - Reviewing Work of Another
   - Sales and Marketing Practice

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4. Addressing Conflicts of Interest
   - Faithful Agent and Trustee
   - Avoid vs. Disclosure
   - "Appearances"
   - Acceptance of Compensation from More Than One Party
   - Serving on Public Bodies
   - Accepting Contracts from Government Bodies
   - Part-Time Engineering/Surveying Work
   - Contingent Fee Arrangements
   - Representing Adversary Interests
   - Consent



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5. Preserving Confidentiality
   - Business or Technical Affairs of Employers/Clients
   - Proprietary Information/Files
   - Arranging for New Employment or Business Opportunities
   - Consent



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6. Receiving and Providing Gifts and Other Valuable Consideration
   - Accepting Consideration from Suppliers for Specifying Product
   - Accepting Commissions/Allowances Directly from Contractors
   - Political Contributions
   - Bribery



## Engineering and Surveying Ethics

7. Emerging Areas/Emerging Challenges
   - Technology
     - Use of Internet and Electronic Practice
   - Sustainable Design/Development
     - Environmental Considerations
   - Alternative Project Delivery
     - Integrated Project Delivery
     - Building Information Modeling
     - Design/Build
   - Other Areas (Global Practice, etc.)



## Engineering and Surveying Ethics

- *"The social responsibility of business is to increase profit within the bounds of the law which is to say, engage in open and free competition, without deception or fraud…"*
  – Milton Friedman



## Engineering and Surveying Ethics

- *"The reputation of a thousand years may be determined by the conduct of one hour"*
  – Japanese proverb

## Engineering and Surveying Ethics

- *"Good people do not need laws to tell them to act responsibly, while bad people will find a way around the laws…"*
  - Plato



## Engineering and Surveying Ethics

- *"Always do the right thing –this will gratify some and astonish the rest…"*
  - Mark Twain



## Engineering and Surveying Ethics

- *"A long habit of not thinking a thing wrong gives it a superficial appearance of being right…"*
  - Thomas Paine



## Engineering and Surveying Ethics

In the past…"It is Not A Problem…"

1. Let's ignore the problem…
2. Let's understate it…
3. Let's minimize our responsibility



## Engineering and Surveying Ethics

Currently, the thinking is… "It is A Problem…"

1. Let's minimize the problem…
2. Let's throw some money at it/pay lip service to it in order to show that we are doing something…



## Engineering and Surveying Ethics

Where we need to get to is…"Let us Solve the Problem…"

1. This would be beneficial to our business…
1. We can contribute more broadly to improve the situation…

## Engineering and Surveying Ethics

- **Internal Mechanisms – "Hotlines"**
  - Attempt to Resolve At Lowest Level/Earliest Point
  - Take Advantage of Internal Procedures
  - Do Not Circumvent
  - Act in Good Faith
  - Maintain Confidentiality
  - Exhaust All Procedures
  - Act Consistently With All Agreements
  - Maintain Good Records/Keep a Log
  - Understand the Implications of Your Actions




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**Questions & Answers**

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