PE

ENGINEERING ETHICS & PROFESSIONAL RESPONSIBILITY

1 CEH

ETHICS

BuilderCE

PROFESSIONAL ENGINEERING CONTINUING EDUCATION

Engineering Ethics & Professional Responsibility

Public Trust, Independent Judgment & Defensible Decisions

Self-Paced Course Study Guide



Illustrative engineering teamwork. This image provides context and is not evidence from a named case.

COURSE	CREDIT	INSTRUCTOR
ENG-002	1 CEH / PDH · Professional Ethics	James Barber, P.E.

Protect the public. Practice within competence. Communicate truthfully. Disclose conflicts. Document defensible decisions.

Superior Learning, LLC d/b/a BuilderCE

Course overview

Professional engineering carries public trust because decisions can affect life safety, health, property, infrastructure, and the environment. Ethical judgment helps determine what work to accept, how to state conclusions, what interests to disclose, and when to protect people or escalate a concern.

This course combines national professional-ethics frameworks with six documented investigations, disciplinary or court records, and clearly identified hypothetical applications. Each real case separates recorded facts and outcomes from the course's professional-duty analysis. Case summaries teach selected decisions; they do not reproduce a complete legal or technical case history.

The NSPE Code of Ethics and the August 2026 NCEES Model Rules provide the principal framework. Model rules do not automatically constitute Florida law. Governing statutes, adopted Board rules, contracts, and technical standards control specific obligations.

Learning objectives

1. Identify the principal ethical duties commonly imposed on professional engineers.
2. Explain why protection of public health, safety, and welfare takes priority when professional duties conflict.
3. Recognize ethical issues involving competence, truthful communication, conflicts of interest, confidentiality, and professional integrity.
4. Distinguish duties owed to the public, clients and employers, and other engineering professionals.
5. Apply a structured ethical decision-making process to common engineering-practice scenarios.

Five-module instructional plan

MOD.	FOCUS	MINUTES
1	Professional Ethics Framework	10
2	Public Welfare, Competence & Truthful Professional Communication	15
3	Clients, Employers, Conflicts of Interest & Confidentiality	15
4	Professional Integrity & Accountability	10
5	Applied Ethical Decision-Making	10

Completing the course

Read all modules in this course and study the case examples and practical guidance. No separate module acknowledgement is required. When you have finished reading, select Continue at the bottom of the BuilderCE lesson page to begin the 10-question final examination. If you are reading the PDF, return to that webpage first. A score of at least 70% is required to pass. Retakes are permitted.

The 60-minute allocation is an instructional plan. Individual reading and application time may vary.

Case finder & study tools

Use the linked cases to revisit a specific decision. Each case separates the documented record from the professional duty analysis and practical guidance.

DOCUMENTED CASE	DECISION TO RECOGNIZE	MOD.
FIU pedestrian bridge	Protect people while serious distress is unresolved.	1
John P. Stoppi, P.E.	Certify only facts supported by a qualified inspection.	2
Raimey v. Wright	Preserve observations and report limitations.	2
Michael Clinesmith	Keep procurement judgment independent.	3
Big Dig ceiling collapse	Get safety information to those who can act.	3
Wang Laboratories v. Toshiba	Screen confidential prior engagements.	5

How to work through a case

Read the record. Identify what happened, what the engineer knew and what the source actually found.

State the duty. Connect the facts to public welfare, competence, truthful communication, independence or confidentiality.

Choose an action. Explain what should happen first, who needs to act and what evidence is needed.

Check the outcome. Separate the documented outcome from the course's practical guidance.

> **Practice point.** A court ruling, disciplinary order and accident investigation answer different questions. Preserve those distinctions when using a case to support an engineering decision.

Quick navigation

Florida professional-practice context

Engineer's ethics checklist

Principal references

MODULE 1 | 10 MINUTES

Professional Ethics Framework

Read the case examples and practical guidance.

1.1 Ethics begins where professional discretion begins

Many engineering decisions are controlled by explicit requirements: a code prescribes a load, a specification defines an acceptance criterion, a contract assigns responsibility, or a licensing rule restricts a particular act. Yet professional practice also contains situations in which the governing text does not provide a complete answer. The engineer may have incomplete information, competing obligations, uncertain consequences, schedule pressure, or a client preference that is technically possible but professionally questionable. Ethics is the discipline used to make those decisions without reducing professional judgment to convenience or personal preference.

A useful distinction is between compliance and ethics. Compliance asks whether an action satisfies an applicable requirement. Ethical judgment asks whether the action is professionally defensible in light of duties, facts, consequences, and the engineer's role. The two overlap, but they are not identical. A decision can be technically lawful yet still involve an undisclosed conflict, a misleading omission, inadequate competence, or an avoidable public risk. Conversely, an engineer may face an ethical duty to raise a concern even before a clear violation has occurred.

Compliance

Applicable statutes, rules, contracts, criteria, and defined procedures.

Ethical judgment

Duties, uncertainty, consequences, affected people, and independent judgment.

A defensible decision must satisfy applicable requirements and withstand professional scrutiny.

Figure 1. Compliance and ethical judgment. Compliance establishes minimum obligations; judgment is still needed when a rule does not resolve the decision.

1.2 Professional codes organize recurring duties

The current NSPE Code of Ethics organizes engineering duties around recurring themes: public welfare, competence, objective and truthful statements, faithful service to clients and employers, avoidance of deceptive acts, and honorable professional conduct. The NCEES Model Rules use a similar structure by grouping professional conduct around obligations to the public, employers and clients, and other licensees. These frameworks matter because they provide a common language for issues that otherwise feel personal or situational.

Codes are not algorithms. Two duties may apply at the same time. A client is entitled to faithful professional service, but that duty does not authorize the engineer to hide a material safety concern. Confidential information deserves protection, but confidentiality is not interpreted in isolation from public welfare and applicable law. A project manager may be authorized to coordinate an entire project, but coordination authority does not create competence in every specialty. Ethical analysis starts by identifying which duties are engaged and whether one duty sets a boundary on another.



Figure 2. Public welfare sets the boundary. Material public consequences take priority over conflicting professional or commercial interests.

1.3 The public-trust concept

Professional licensure is based on the premise that some engineering decisions can create consequences that members of the public cannot independently evaluate. A building occupant cannot verify structural load paths. A motorist cannot inspect bridge details while traveling. A water customer cannot personally audit every process-control decision. Society therefore relies on qualified professionals, regulatory systems, and documented standards of practice. That reliance creates a public-trust dimension to engineering work even when the immediate contract is private.

Public welfare should not be used as a vague phrase that overrides every disagreement. Ethical reasoning remains proportional and evidence-based. The engineer should identify the specific function, hazard, affected population, uncertainty, and credible consequence. The strongest ethical decisions are technically grounded: they explain why a concern matters and what professional action is appropriate, rather than simply labeling one position “ethical” and another “unethical.”

Real case — FIU pedestrian bridge

What happened and what was known. Before the March 15, 2018 collapse, engineers had observed significant cracking near the bridge’s north-end connection. The engineer of record communicated that the cracking did not present a safety concern. Traffic remained beneath the span. The NTSB later found load and capacity calculation errors, inadequate independent design evaluation, and failures to recognize the cracking’s significance and close the road.

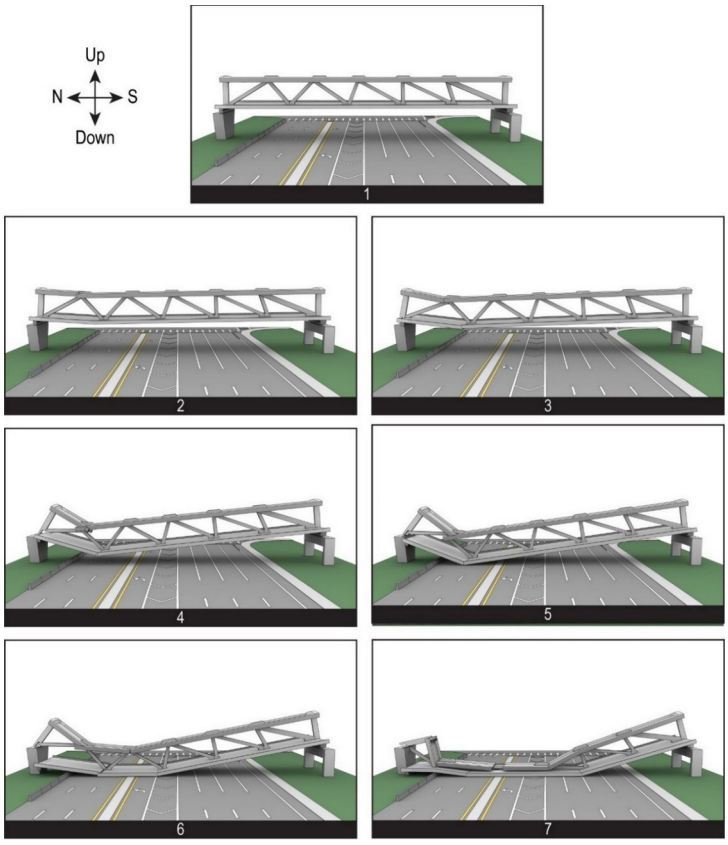
Professional duty and decision. Public-welfare protection required connecting the known distress to competent evaluation and protection of people below. Recording a concern or offering reassurance did not itself control the exposure.

Documented outcome. Six people died in the collapse. The NTSB issued a final investigation report and safety recommendations; those findings are not a criminal verdict or an individual licensing order.

> **Practical takeaway.** Escalate a material unexplained condition and identify interim protection while its mechanism is investigated. The report supports this duty analysis; it does not establish a particular engineer’s motive.

Putting it into practice. Identify the observed condition, uncertainty, people exposed, responsible technical and operational authorities, and interim restrictions requiring their decision. Do not equate an incomplete failure analysis with evidence that continued exposure is acceptable.

Case record: [3] FIU bridge investigation



Case evidence. NTSB reconstruction of the FIU bridge collapse sequence, viewed toward the east. HAR-19/02, Figure 12, printed p. 13. This is an investigative reconstruction. It shows the failure sequence; it does not establish an individual's motive. Source [3]

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MODULE 2 | 15 MINUTES

Public Welfare, Competence & Truthful Professional Communication

Read the case examples and practical guidance.

2.1 Public welfare as the first professional screen

A practical way to apply the public-welfare duty is to make it the first screen for consequential decisions. Before debating contract responsibility, convenience, or cost, ask whether the condition could materially affect safety, health, property, service continuity, or other protected public interests. If the answer is yes, the engineer should ensure that the concern is evaluated by someone with appropriate technical authority and that the decision is documented at a level proportional to consequence.

This does not require an engineer to predict every imaginable failure. Professional ethics does not demand certainty where engineering itself contains uncertainty. It does require the engineer to avoid suppressing material information merely because the information is inconvenient. When uncertainty is important to the decision, the uncertainty should be communicated. When additional analysis is required, the limits of the current conclusion should be explicit.

2.2 Competence is task-specific

Competence should be evaluated against the specific technical task, not only the engineer's job title or years of experience. A licensed engineer may be highly competent in one area and unqualified in

another. Likewise, an engineer can manage a multidisciplinary project without personally performing every specialty calculation, provided qualified professionals are responsible for the technical segments that require their expertise.

Ethical competence includes recognizing limits early enough to change the plan. The options are broader than “do it” or “refuse.” An engineer may obtain specialist review, narrow the scope of the opinion, collect additional data, work under appropriate supervision, or disclose limitations and recommend another professional. The unethical risk arises when authority, schedule, or reputation pressures the engineer to imply expertise that the engineer does not possess.

1 DEFINE	Identify the specific technical decision or task being assigned.
2 ASSESS	Match education and experience to the task and its consequences.
3 SUPPORT	Identify qualified assistance, specialist evaluation, or collaboration to close the gap.
4 DECIDE	Proceed within competence, limit the scope, seek help, or decline.

Figure 3. Competence is specific to the task. Define the task, assess qualification, obtain specialist support, and proceed within an appropriate scope.

2.3 Responsible charge and professional signatures

A professional signature, seal, certification, or approval communicates more than authorship. It signals professional responsibility within the limits defined by the governing jurisdiction and document. Ethical practice requires the engineer to understand what the signature represents, what work was performed under the engineer’s direction or control, what assumptions are embedded in the document, and whether the engineer is competent to accept that responsibility.

A recurring problem is “administrative signing,” where a senior engineer is asked to sign because a document needs a licensed name rather than because the engineer actually exercised responsible professional judgment. The ethical response is to establish sufficient technical involvement or route the work to the qualified professional. A signature should never be used to cure a process in which the underlying responsibility was absent.

Real case — A certification without an inspection basis

What happened and what was known. The FBPE summary describes a signed and sealed letter certifying inspected work as compliant. Neither John P. Stoppi, P.E., nor a qualified person under his responsible charge had visited the site or inspected that work.

Professional duty and decision. A certification must accurately represent what was inspected and the basis for accepting professional responsibility. A seal cannot supply missing observations.

Documented outcome. A February 2018 final order imposed a reprimand, a $1,000 fine, costs, and education requirements. The published summary is limited; it does not supply a complete project record.

> **Practical takeaway.** Before signing, confirm both the technical basis and the involvement that the certification represents.

Putting it into practice. Arrange and document the needed qualified inspection or issue only a different, accurately limited statement supported by the available evidence. Do not certify an event that did not occur.

Case record: [4] John P. Stoppi, P.E.

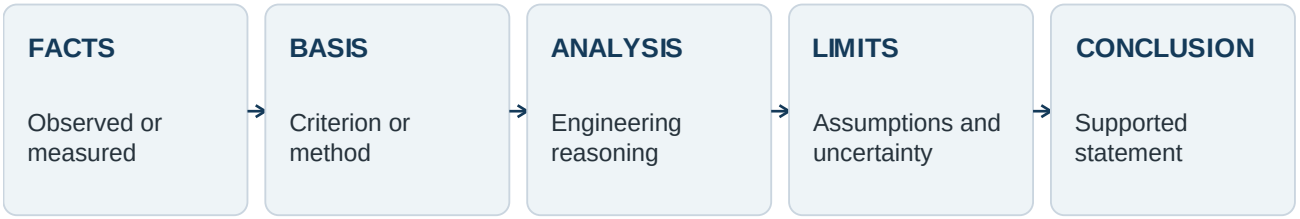
Hypothetical application — The unfamiliar specialty calculation

A project lead is asked to sign a specialty analysis prepared by a subcontractor. The lead understands the project but cannot independently evaluate several specialty assumptions. Coordination responsibility does not establish specialty competence. Obtain qualified specialty support, divide technical responsibility clearly, or limit the certification as the governing framework permits.

2.4 Objective and truthful professional communication

Engineering communication is ethical when it allows the recipient to understand the technical conclusion at the level needed for the decision. Truthfulness therefore involves more than avoiding fabricated data. A report can be misleading if it selectively presents favorable results, omits a material limitation, blurs the distinction between observed fact and professional opinion, or states a conclusion more strongly than the evidence supports.

A defensible technical statement should make the evidence chain visible. Identify what was observed or measured; the standard, criterion or method used; the analysis or judgment connecting the evidence to the conclusion; the assumptions and uncertainties that remain; and the conclusions that the evidence does and does not support. This clarity is especially important in forensic reports, condition assessments, cost estimates, schedule opinions, risk analyses, expert testimony and certifications.



Keep observations, assumptions, and professional opinions distinguishable.

Figure 4. Make the evidence chain visible. Preserve the path from observations and assumptions through analysis to a bounded conclusion.

2.5 Material omissions can be as misleading as false statements

Engineers often communicate to decision-makers who will not read every calculation. Summaries, executive conclusions, presentation slides, and certifications therefore carry disproportionate weight. The engineer should identify information whose omission would change the reasonable interpretation of the conclusion. Examples include an unverified assumption, a limited inspection scope, a test result outside the expected range, a known conflict between drawings, an excluded alternative, or a major uncertainty in a cost or schedule estimate.

This principle also applies to visual communication. A graph can be numerically accurate yet misleading if axes, scales, time windows, or excluded data create an impression the underlying evidence does not support. A photograph may document a condition but not prove dimension, material property, or internal state. Ethical communication means helping the recipient understand what the evidence can and cannot establish.

2.6 Changing a conclusion when the facts change

A conclusion should change when better evidence materially changes its basis. Explain the new evidence, the reason for the change, and its effect on the decision. An evidence-based correction strengthens credibility; substituting a preferred conclusion without a new technical basis does not. Section 4.2 addresses the response when the change reveals a material error.

Real case — Unsupported changes to an engineering report

What happened and what was known. In Raimey v. Wright, the court examined a flood-loss engineering report changed through an internal evaluation. Changes removed limitations concerning

inaccessible areas and substituted observations without another site inspection. The opinion shifted from storm-related damage to deterioration.

Professional duty and decision. Technical evaluation may legitimately correct an opinion, but it must preserve observation limits and identify the evidence supporting a change. Editing cannot transform an unobserved condition into an observation.

Documented outcome. The district court affirmed discovery and sanctions rulings against the insurer and its counsel. This was a civil litigation ruling, not a criminal conviction or a PE licensing penalty.

> **Practical takeaway.** Retain the original report, identify each material change, and document its evidentiary basis. New evidence may justify a new opinion; a preferred result alone does not.

Putting it into practice. Preserve the access limitation, obtain appropriate evidence if needed, and distinguish a supported inference from a site observation. Record who made and supported the change.

Case record: [5] Raimey v. Wright National Flood Insurance Co.

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MODULE 3 | 15 MINUTES

Clients, Employers, Conflicts of Interest & Confidentiality

Read the case examples and practical guidance.

3.1 Faithful service does not mean surrendered judgment

Professional codes commonly describe engineers as faithful agents or trustees for clients and employers. In practice, this means diligence, loyalty within the professional relationship, protection of legitimate confidential information, avoidance of self-dealing, and clear communication. It does not mean that the client or employer owns the engineer's professional judgment. The engineer remains responsible for statements, certifications, technical decisions, and conduct within the engineer's role.

This distinction becomes important under pressure. A client may prefer a lower-cost alternative, an employer may want a faster schedule, or a public agency may favor a particular policy outcome. The engineer can and should consider those objectives. The ethical limit is reached when the requested action requires the engineer to misstate technical facts, practice outside competence, conceal a material public risk, or endorse work the engineer cannot professionally support.

3.2 Conflicts of interest begin with influence

A conflict of interest exists when another interest can influence, or reasonably appear to influence, independent professional judgment. The interest may be financial, relational, organizational, political, or personal. It may involve current compensation, future work, ownership, gifts, family relationships, public/private roles, or competing duties to multiple clients. Because conflicts affect trust, the appearance of influence can matter even when the engineer believes personal judgment is unchanged.

Disclosure is the most common first control because it allows affected parties to evaluate the situation. Disclosure alone may not be enough. The conflict may require consent, role separation, independent review, recusal, termination of an outside interest, or declining the assignment. The appropriate control depends on significance, governing rules, contract terms, and whether independent judgment can realistically be preserved.

Financial interests

Pay, gifts, ownership, or vendor benefits

Relationships

Family ties or close business relationships

Professional roles

Divided duties or overlapping project roles

Future benefits

Prospective work or personal advantage

Figure 5. Four common sources of conflict. Consider actual influence and the appearance of influence to an informed observer.

Real case — Hidden vendor payments and procurement judgment

What happened and what was known. DOJ reported that engineer Michael Clinesmith steered gage subcontracts to a vendor, secretly performed vendor work, and approved bids that included money destined for him. He also supplied internal budget information. He knew about the personal payments while representing the bids to his employer as fair and reasonable.

Professional duty and decision. Faithful service, independence, truthful procurement advice, and protection of employer information were implicated. A hidden financial stake is incompatible with an apparently independent recommendation.

Documented outcome. Following an October 2025 fraud conviction, he was sentenced in February 2026 to 29 months in prison. DOJ reported more than $1.2 million in kickbacks over about 15 years.

> **Practical takeaway.** Disclose relevant interests before an affected decision and determine whether the arrangement must end or the decision-maker must recuse. Disclosure cannot legalize a prohibited payment.

Putting it into practice. Product quality does not remove the engineer's personal financial incentive or justify misuse of budget information. Independent selection and applicable procurement controls remain necessary.

Case record: [6] Michael Clinesmith prosecution

3.3 Gifts, incentives, and procurement decisions

Gifts and hospitality are difficult because context matters. A modest item offered after a project may have a different significance from a valuable benefit offered while an engineer is evaluating competing products. Ethical analysis should ask whether the benefit could influence selection, whether it violates organizational policy, whether it would be uncomfortable to disclose, and whether a reasonable outside observer would question the engineer's independence.

The safest professional systems reduce ambiguity before decisions arise. Firms can establish gift limits, approval rules, procurement separation, disclosure forms, and restrictions for employees involved in public contracting or vendor selection. Engineers should follow those controls and should not treat the absence of a criminal bribery threshold as permission for conduct that compromises professional independence.

Hypothetical application — A conference trip during selection

A competing supplier offers the evaluating engineer an expensive conference trip with recreation. The engineer believes the product is technically strong. The ongoing selection and personal benefit still call

independence into question. Disclose the offer, apply employer and procurement restrictions, and decline or restructure participation if required. Disclosure alone does not authorize a prohibited benefit.

3.4 Confidential information is a professional obligation with boundaries

Engineers routinely receive nonpublic information: proprietary designs, pricing, manufacturing methods, security information, client strategy, personnel information, incident data, and confidential communications. Protecting that information supports trust and can be required by contract, policy, law, or professional code. Ethical practice includes limiting access, using information only for authorized purposes, and avoiding casual disclosure in presentations, social media, job interviews, or later competing work.

When confidential information reveals a credible public-welfare concern, assess urgency immediately. Take required protective action and notify the appropriate authority without waiting for completed analysis. Verify facts, limit disclosure to what is needed, and determine applicable professional and legal duties in parallel. Internal escalation and consultation should support timely protection; they must not become reasons to leave people exposed to a serious immediate hazard.

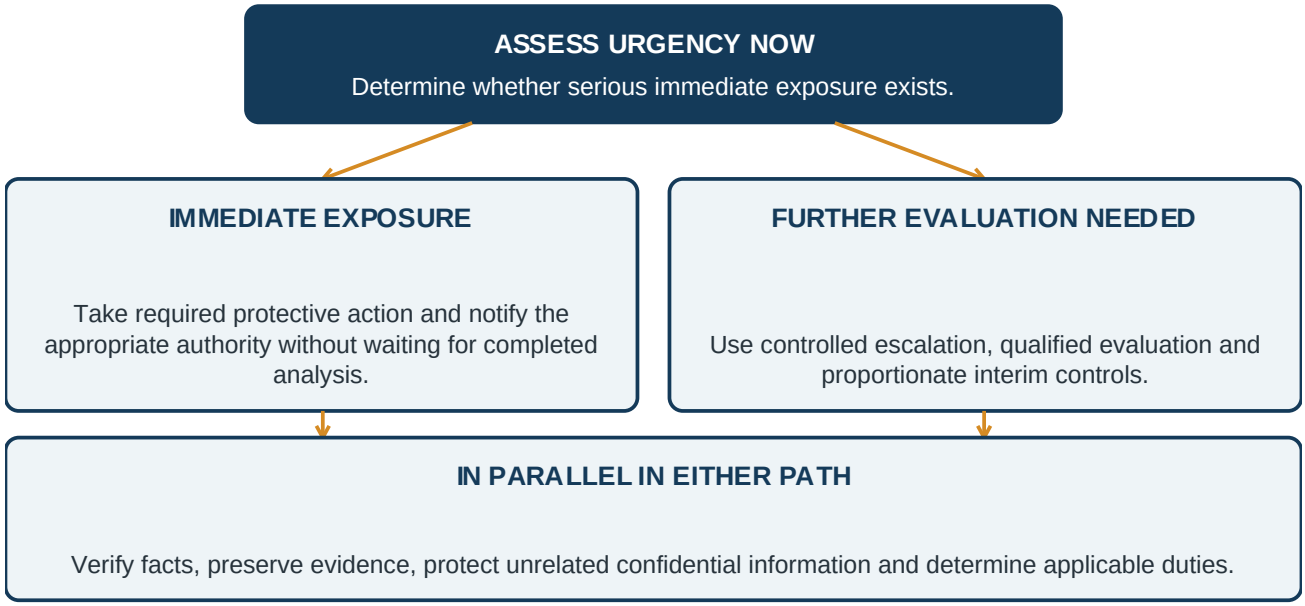

Figure 6. Urgency controls the timing of protection. Consultation and internal process must support required action rather than postpone it.

Real case — Big Dig epoxy anchors and unacted-on information

What happened and what was known. After the July 2006 Boston tunnel ceiling collapse, the NTSB found that epoxy unsuitable for sustained tensile loading had been used. Earlier anchor movement in 1999 and information about epoxy creep had not produced adequate warnings, investigation, and corrective action across the responsible organizations.

Professional duty and decision. Safety information must reach those able to assess and control exposure. A concern recorded within one organization is insufficient if affected decision-makers do not receive or act on it.

Documented outcome. One person died. The NTSB issued findings and recommendations. A later Powers Fasteners resolution included a $16 million civil payment, deferred prosecution, and recall and warning measures. Deferred prosecution is not a manslaughter conviction.



Case evidence. Roof hanger plates pulling away from the westbound D Street portal tunnel roof after the accident. These plates were outside the collapsed eastbound section. NTSB HAR-07/02, Figure 10, printed p. 12. Source [7]

> **Practical takeaway.** Trace the information path as well as the technical defect: identify who knows, who needs to know, and who can protect people. The documented investigation does not establish an NDA conflict.

Putting it into practice. Document recipients, the technical concern, requested evaluation and interim protection, responsible decision authority, and confirmation of action. Sending a message alone does not demonstrate that exposure was controlled.

Case record: [7] Big Dig ceiling collapse investigation; [8] Powers Fasteners resolution

3.5 Escalation should preserve both evidence and role clarity

Escalation should identify the condition, consequence, uncertainty, recommended protection, and person with authority to act. A project engineer may lack authority to close an entire facility, but should promptly alert those who can protect people and meet any applicable notification duty. If a concern is overruled, preserve the technical basis and determine what further action is required. Consult qualified technical, legal, or regulatory resources when the question exceeds your role; urgent protection should proceed as required while that consultation occurs.

Hypothetical variation — Confidential component information

Imagine that an engineer receives similar defect information under a client confidentiality agreement. This confidentiality condition is added for teaching; it is not a finding about an NDA in the Big Dig case. Assess seriousness, immediacy, and installations affected. Arrange required protection and notification, involve appropriate client authorities, seek qualified guidance, and limit disclosure to what the duties require.

3.6 Multiple clients and divided loyalties

Engineering firms often serve multiple parties on related matters. A consultant may advise an owner while also pursuing work from a contractor. A public employee may have outside practice. An engineer may be asked to review work prepared by a former employer or to act as an expert in a dispute involving a prior project. The ethical analysis should identify whether confidential information, financial interests, prior commitments, or role expectations create divided loyalty.

The most important discipline is early identification. Conflicts discovered after a major decision are harder to cure. Engagement screening, disclosure procedures, conflict checks, and clear scope

definitions reduce the chance that technical work will later be challenged because the engineer's independence was unclear.

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MODULE 4 | 10 MINUTES

Professional Integrity & Accountability

Read the case examples and practical guidance.

4.1 Avoid deceptive acts and inflated qualifications

Deceptive conduct is broader than intentional fraud. Professional materials should not exaggerate qualifications, imply responsibility for work performed by others, selectively describe project experience in a misleading way, or use a credential to create an impression that is not accurate. Résumés, proposals, expert profiles, marketing pages, project sheets, and public statements are all professional communications.

Credit should follow actual contribution. Engineers should acknowledge the work of colleagues and should not appropriate designs, analyses, or written material in ways inconsistent with professional and legal obligations. Team-based engineering does not eliminate individual accountability; it makes clear attribution and technical responsibility more important.

4.2 Acknowledge and correct material errors

Every engineering organization needs a professional way to handle mistakes. The worst error-management systems make disclosure personally dangerous, which encourages delay and concealment. A stronger culture separates responsible accountability from punitive reflex. Engineers are expected to identify material errors, assess consequences, notify affected decision-makers, control ongoing risk, correct the technical record, and verify that the correction has been implemented.

The ethical question is often timing. An engineer may want to investigate fully before notifying anyone. That may be reasonable for a minor issue, but it can be inappropriate when delay leaves others exposed to a material risk. The response should be proportional: communicate enough to control the consequence while continuing the technical investigation. Later, update the record as evidence develops.

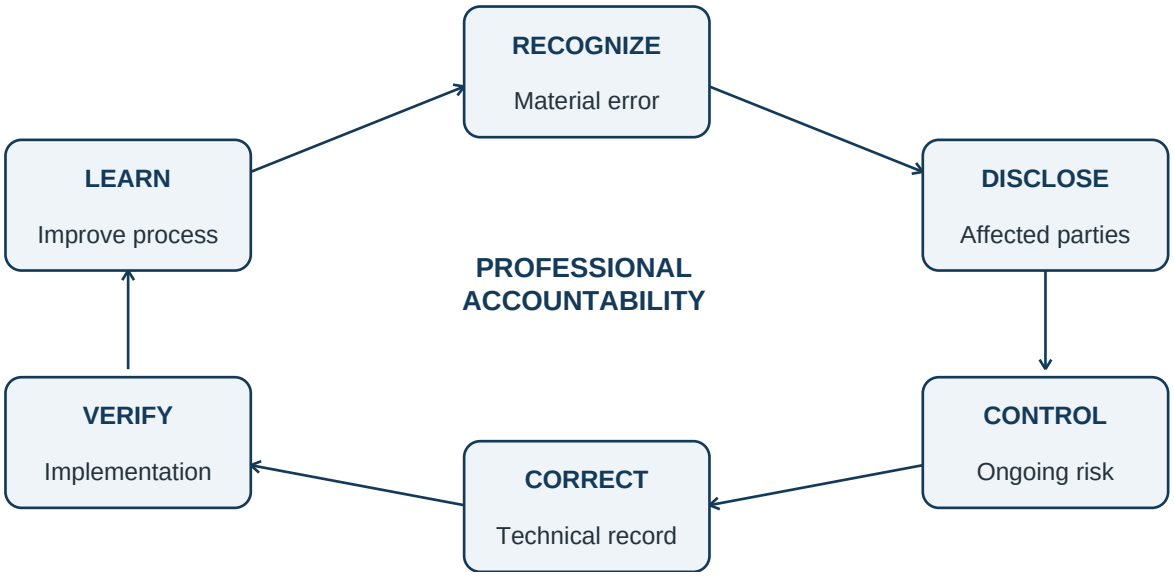

Figure 7. Close the accountability loop. Recognize, disclose, control, correct, verify, and learn.

4.3 Documentation is part of professional conduct

Keep a factual, usable record of the evidence, reasoning, authority, action, and follow-up. Preserve original work and identify revisions so another qualified professional can reconstruct the decision. Avoid speculative blame, inflammatory language, or legal conclusions outside your role. The six-step framework in Module 5 gives a practical structure for that record.

4.4 Responding to suspected unethical or unlawful conduct

Professional codes may require engineers to report certain violations or cooperate with appropriate authorities, while statutes and licensing rules define jurisdiction-specific disciplinary obligations. The engineer should distinguish suspicion from established fact and should use appropriate organizational and professional channels. Evidence should be preserved, conflicts should be disclosed, and the engineer should avoid retaliatory or knowingly false allegations.

Where the issue could materially affect public welfare, delay can itself become part of the ethical problem. Where the issue is primarily a professional disagreement, escalation should not be used as a weapon. The discipline is to identify the nature of the concern, the evidence supporting it, and the proper authority to address it.

Hypothetical application — Discovering your own design error

After construction begins, an engineer discovers that an earlier calculation omitted a load case. Preliminary checks suggest the design may still be adequate, but further analysis is required. An executive suggests waiting until that analysis is complete before telling the owner.

The engineer should promptly assess whether the uncertainty exposes people or allows affected work to continue. Give affected decision-makers enough information to control that consequence while the analysis proceeds. Preserve the original calculation, obtain qualified evaluation, document the updated basis, correct the record, and verify implementation.

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MODULE 5 | 10 MINUTES

Applied Ethical Decision-Making

Read the case examples and practical guidance.

5.1 A repeatable six-step framework

Ethical dilemmas become more manageable when the engineer separates the decision into steps. First, frame the decision actually being made. Second, identify material facts, unknowns, and assumptions. Third, identify the professional duties, rules, and contractual obligations that apply. Fourth, develop realistic alternatives rather than assuming there are only two choices. Fifth, test the alternatives against public impact, competence, truthfulness, conflict, confidentiality, authority, and consequences. Sixth, act, communicate, document, and define follow-up.

The framework makes reasoning traceable: a later reader can identify the evidence, duties, alternatives, selected action, and conditions that would change the decision. Urgent protective action and required notification may need to occur while facts are still being confirmed.



Figure 8. A structured ethical decision process. Frame the decision, identify facts and duties, develop and test alternatives, then act and follow up.

5.2 Decision review checklist

- Public welfare: Identify the material risk that needs evaluation or immediate protection.
- Competence: Confirm qualification for the task and obtain the necessary specialist support.
- Truthfulness: Make the evidence, uncertainty and limitations clear to the reader.
- Independence: Identify interests that must be disclosed, managed or removed.
- Confidentiality: Identify protected information and any higher duty or required notification.
- Authority: Identify who can make each technical, operational, regulatory or business decision.
- Documentation: Preserve a record that explains what was decided and why.

5.3 Avoid common ethical shortcuts

Several shortcuts repeatedly weaken engineering ethics. One is “everyone does it,” which substitutes local custom for professional duty. Another is “the client asked for it,” which confuses faithful service with surrendered judgment. A third is “there is no rule against it,” which treats compliance as the maximum rather than the minimum. A fourth is “I disclosed it, so the conflict is solved,” which ignores whether the conflict can actually be managed. A fifth is “nothing bad happened,” which judges the quality of the decision only by outcome rather than by the information and professional obligations known at the time.

Outcome bias is especially dangerous. A risky decision that ends well is not automatically a good professional decision, and a carefully reasoned decision that encounters an unforeseeable adverse outcome is not automatically unethical. Ethical review should focus on the information available, the engineer’s competence, the decision process, adherence to applicable duties, and the reasonableness of the response.

CASE	PRIMARY DECISION	FIRST PRACTICAL ACTION
FIU bridge	Protect people despite unresolved distress	Identify exposure and the authority for interim protection.
Stoppi certification	Certify only supported inspection facts	Confirm qualified inspection and the actual certification basis.
Raimey report	Preserve observations and limitations	Trace each changed conclusion to evidence.
Clinesmith payments	Keep procurement judgment independent	Disclose interests; remove prohibited arrangements or recuse.
Big Dig anchors	Get safety information acted on	Connect warnings to responsible decision-makers and follow-up.
Wang expert	Screen confidential prior engagements	Check parties, prior work, and confidentiality before disclosure.

Figure 9. Six cases connect documented evidence with a practical decision. The duty analysis is instructional; each source has a different legal or investigative scope.

5.4 Apply the six steps to the FIU evidence

Return to the known cracking and continued traffic exposure described in Module 1. Work from the information available before the collapse, rather than assuming that the eventual outcome was already known. The following is a teaching application of the documented evidence, not a transcript of a project meeting.

STEP	FIU APPLICATION
1. Frame	Determine whether work and traffic exposure can continue while significant cracking is unresolved.
2. Identify facts	Separate observed cracking and continuing exposure from the unknown mechanism and adequacy.
3. Identify duties	Apply public welfare, competent evaluation, truthful communication, and the authority for protective measures.
4. Develop alternatives	Consider restrictions, qualified independent evaluation, investigation, and any needed stabilization.
5. Test alternatives	Select an action that controls exposure while uncertainty remains. Reassurance alone is not a protective measure.
6. Act and follow up	Promptly reach the responsible authorities, document decisions, and require a technical basis before lifting controls.

5.5 Expert engagements and confidential information

Before accepting an expert engagement, check the parties, prior work, confidentiality expectations, and information already received. Technical competence does not resolve a confidentiality conflict. An intended opinion must have a permissible, independently supportable basis; do not assume that concealing the source of confidential knowledge makes its use acceptable.

Real case — Prior confidential work and expert disqualification

What happened and what was known. In Wang Laboratories v. Toshiba, computer consultant John Balde had received confidential litigation information from Wang before later being retained by a defendant. The court examined whether a confidential relationship reasonably existed and whether relevant confidential information had been shared.

Professional duty and decision. Screen prior engagements and confidential knowledge before accepting work for an adverse party. This is a transferable professional-engagement lesson; the opinion does not identify Balde as a licensed PE.

Documented outcome. The court disqualified the expert. It expressly cautioned that its decision did not suggest that the parties or consultant had acted inappropriately.

> **Practical takeaway.** An engagement can become unusable even without a finding of wrongdoing. Clarify parties, confidentiality, and conflicts before substantive discussions, rather than relying on later intent to remain objective.

Putting it into practice. Identify the parties and prior engagements, screen conflicts, establish the confidentiality relationship, and define the permissible work before receiving substantive protected information.

Case record: [9] Wang Laboratories, Inc. v. Toshiba Corp.

5.6 Fair evaluation of another engineer's work

Return to the report changes in the Raimey case. A technical evaluation should identify the original observation, the limitation or disputed conclusion, the criterion or new evidence supporting a change, and who performed and authorized it. Preserve both the original and revised versions and credit the actual contributors. A later reader should be able to distinguish a correction from an unsupported substitution.

A different but acceptable engineering judgment is not automatically an error or misconduct. Communicate material concerns to the responsible professional through appropriate channels, support criticism with technical evidence, and avoid personal attacks or exaggerated allegations. When a genuine material error remains unresolved, determine the further duties imposed by the governing code and jurisdiction.

Return to study plan & contents

Florida professional-practice context

Florida's renewal requirements include one hour of professional ethics. This course teaches broad professional duties; Florida practice is also governed by Chapter 471, Florida Statutes, adopted FBPE rules, and other applicable law. National codes and model rules should be used together with those requirements. [10–12]

Section 471.033 identifies disciplinary grounds including violations of the engineering statute or Board rules, knowingly false reports or records signed as a licensed engineer, deceptive advertising, and fraud, negligence, incompetence, or misconduct in engineering practice. A historical disciplinary order illustrates a specific record; it does not establish every present-day obligation or penalty. Confirm the current governing text for the decision at issue. [10]

Engineers working across state lines should check the applicable sealing, responsible-charge, reporting, and disciplinary rules for each jurisdiction. The NCEES Model Rules describe a model framework; their publication does not automatically amend a state's law.

PROFESSIONAL ETHICS	CURRENT FLORIDA PRACTICE
Continuing education	Florida renewal requirements include one hour of professional ethics.
Professional discipline	Chapter 471 and adopted Board rules govern enforceable duties and disciplinary grounds.
National frameworks	NSPE and NCEES organize ethical reasoning; confirm which duties the jurisdiction has adopted.
Practice decision	Check the current statute, rule, project role, and technical evidence for the matter at hand.

Figure 10. Apply ethical reasoning with the current governing jurisdictional requirements.

Engineer's ethics checklist

- Put public health, safety, and welfare first in material professional decisions.
- Accept responsibility only within your competence and professional role.
- State conclusions at the strength supported by the evidence and disclose material limitations.
- Disclose interests early and use controls strong enough to preserve independence.
- Protect confidential information while meeting applicable protective and notification duties.
- Represent qualifications, contributions, observations, and technical certainty accurately.
- Acknowledge material errors, control consequences, correct the record, and verify implementation.
- Preserve the reasoning, authority, and follow-up behind difficult decisions.
- Obtain qualified assistance when the technical or legal question exceeds your role.
- Confirm current jurisdictional requirements before relying on a specific legal obligation.

Build these habits into ordinary practice: scope definition, competent evaluation, conflict screening, quality records, change control, escalation, and professional communication.

Principal references

Case records establish the historical facts and documented outcomes summarized here. The practical takeaways and application guidance are instructional analyses. Confirm current rules and professional requirements when applying the material to an actual matter.

[1] NSPE Code of Ethics

Code of Ethics for Engineers, revised July 2019; Fundamental Canons and Rules of Practice.

[2] NCEES Model Rules

Revised August 2026, §240.15, Rules of Professional Conduct. A model framework, subject to adoption and local law.

[3] FIU bridge investigation

NTSB, HAR-19/02, adopted October 22, 2019; accident March 15, 2018. Conclusions and Figure 12, printed p. 13.

[4] John P. Stoppi, P.E.

FBPE disciplinary summary, Case No. 2017020571; final order February 7, 2018.

[5] Raimey v. Wright National Flood Insurance Co.

E.D.N.Y., No. 14-cv-00461, Document 129, December 31, 2014 order, including the engineering-report and discovery findings.

[6] Michael Clinesmith prosecution

U.S. Department of Justice, sentencing announcement, February 20, 2026.

[7] Big Dig ceiling collapse investigation

NTSB, HAR-07/02, accident July 10, 2006; epoxy creep, earlier anchor displacement, and safety-information failures.

[8] Powers Fasteners resolution

U.S. DOT Office of Inspector General, December 17, 2008: civil payment, deferred prosecution, recall, and warning measures.

[9] Wang Laboratories, Inc. v. Toshiba Corp.

762 F. Supp. 1246 (E.D. Va. 1991), May 9, 1991 order on expert disqualification.

[10] Florida engineering statute

2026 Florida Statutes, §471.033, disciplinary grounds.

[11] Florida professional-engineering CE

FBPE, Continuing Education Requirements; one hour of professional ethics within the renewal requirements.

[12] Florida Board rules

Florida Administrative Code, Division 61G15; consult the current adopted text for the duty at issue.

Source verification: November 2026. Historical outcomes are stated as reported in the cited records.

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Study guide complete. Return to the BuilderCE lesson page and select Continue to begin the 10-question final examination. A score of at least 70% is required to pass. Retakes are permitted.