

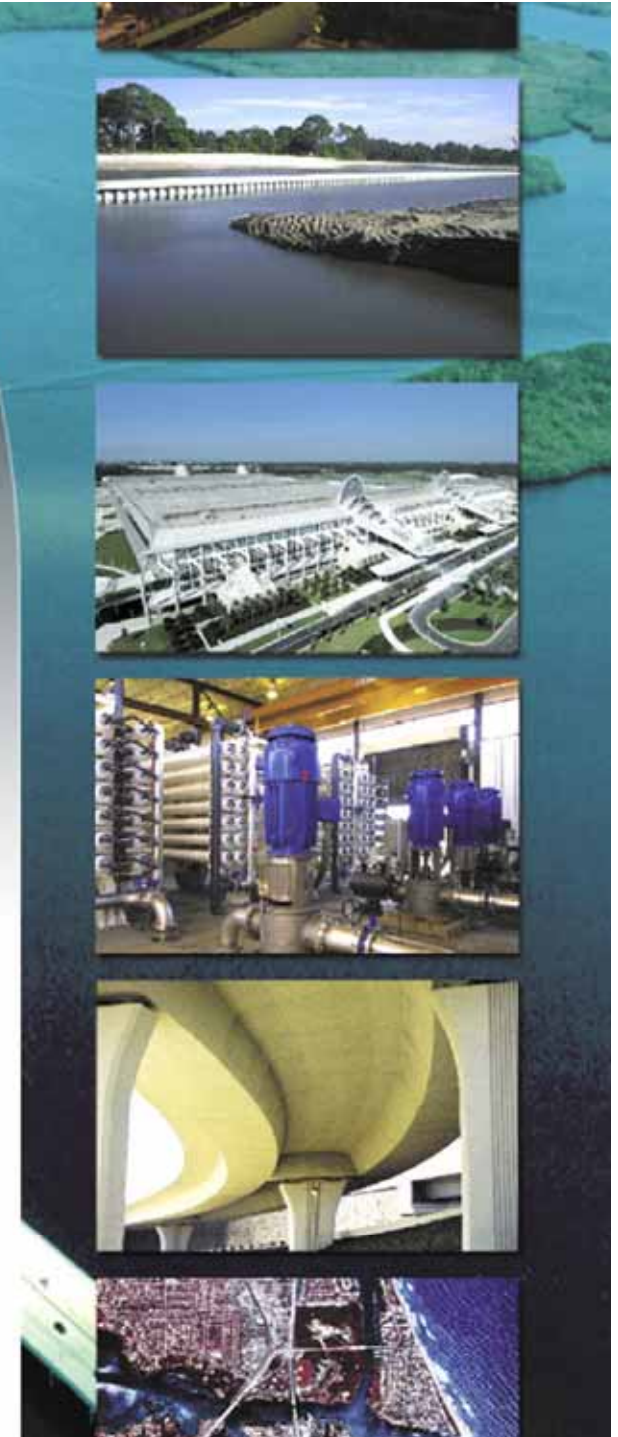
ENGINEERING...  
It's Practically Amazing.

Consultants'  
Competitive  
Negotiation Act



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What does **CCNA** mean?

Consultants' Competitive  
Negotiation Act

What does **QBS** mean?

Qualifications-Based Selection of  
professional services



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# Public Procurement Law

- Basic intent – fair and open competition
  - Reduces opportunity and appearance of favoritism
  - Inspires public confidence that contracts are awarded equitably
  
- Uniform procedures and documentation are essential to curb improprieties and ensure ethical process



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# To whom does CCNA apply?

to professional services provided by:

- Engineers
- Surveyors
- Architects
- Landscape Architects



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# Who must use CCNA for procurement?

All Government Agencies, including City, County and State governmental agencies, political subdivisions and school boards and school districts for...

...*studies* where compensation exceeds \$25,000, and in construction where the cost of construction compensation exceeds \$250,000

... *continuing contracts* where, in the case of studies, compensation does not exceed \$200,000 and, in the case of construction, the cost of construction compensation does not exceed \$2 million



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# Continuing Contracts

The law stipulates that consulting firms providing Professional Services under continuing contracts shall not be required to bid against each other.

- On June 7, 2010, the Attorney General's office provided a formal opinion on a Collier County price based procurement process: "nothing in section 287.055 F.S. would extend the authority to negotiate price as a factor in the competitive selection and negotiation process except by using the project-by-project evaluation process mandated in section 287.055, F.S."



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## Why use CCNA for procurement?

- It's the LAW since 1973...
- The Owner selects the best-qualified firm
- Promotes team approach between Owner and Design professional
- Encourages technological innovation



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- The Owner is not limited to the low bidder
- CCNA process safeguards the public against abuses of the low-bid system
- Provides life-cycle savings and total “least cost” for a project



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# Lowest Engineering Cost vs. Lowest Project Life Cycle Cost:

- A design team's project approach changes when the design professional's fee becomes a major criterion
- The lowest priced design effort may lead to inferior project performance with attendant higher construction or operating costs



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“Price has no meaning except in terms of  
the quality of the product.”

~ Dr. W. Edwards Deming



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## During fee negotiations, cost-cutting measures may include:

- Use less experienced personnel and evaluating fewer alternatives
- Develop plans with minimal details
- Select systems that are easiest to design, as opposed to those that are most cost-effective for the Owner long-term
- Reduced Quality Assurance review



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## History

- 1972 – The Federal “Brooks” Law signed
  - Codified into federal law the qualifications-based selection process for A/E services
  
- 1973 – became Florida Law
  
- 1984 - Competition in Contracting Act



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## Engineering Services...

- Are professional services; not commodities
- Engineers provide:
  - Technical Expertise*
  - Innovation*
  - Latest Technology*
  - High Degree of Professional Competence*
  - Intellectual Capital*



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If your engineering solicitation language is similar to the following, then the RFP/RFQ likely violates the CCNA (Section 287.055, Chapter 287, Title 19 Florida Statute):

“Billing Rates ~ Include a copy of the most current billing rates for individuals who may be assigned to this project.”

“Fee proposal is worth 5 points in your evaluation.”

*con't...*



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"Request for engineering services hourly rate."

"Lump sum price."

"Balance and reasonableness of proposed unit pricing / professional hourly rates."

"Cost or Pricing"

More information concerning QBS and CCNA can be found at <http://www.fleng.org/FICE/images/CCNABrochure.pdf> or by calling the Florida Engineering Society at (850) 224-7121



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# Why not use low-bid?

To those not familiar with our industry,  
low-bid may seem logical



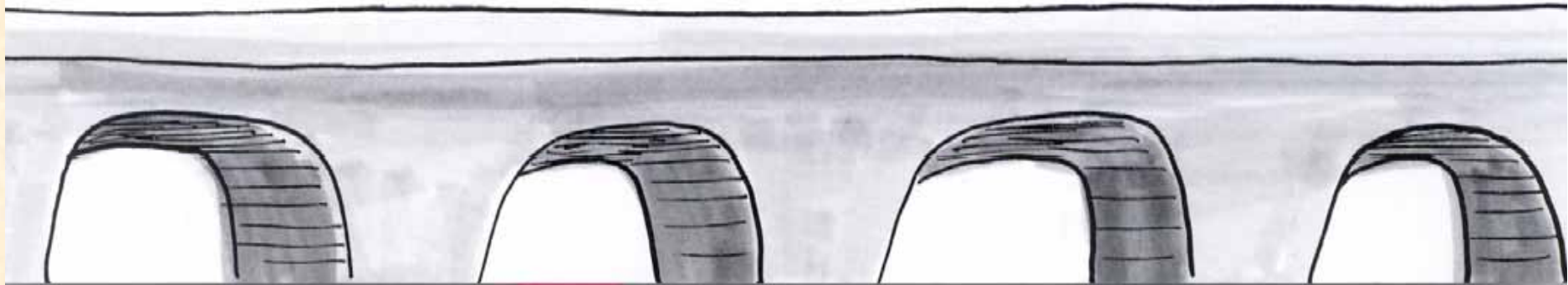
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**CHARGE!**





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THE BRIDGE IS OURS!





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# The Reality of Bidding...

Low-bidding *frequently* leads to inferior results and can actually increase overall project costs



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The cost of A/E services is typically less than 1% of the project life-cycle costs.





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Choose quality first and *then* decide if you can afford it...

Everyday decisions are based on this principal:



**\$500 vs \$110,000**



**\$25,000**





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# What Does the Owner Really Want?

- Lowest Construction Cost
- Lowest A/E Cost
- Lowest Life-Cycle Cost
- ✓ Best Value



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# What is Qualifications Based Selection (QBS)?

- A nationally endorsed procedure, *and Florida Law*, for selecting and retaining design professionals (architects and engineers) who provide the best value to the owner in terms of quality and total project cost.
- A competitive procurement approach that emphasizes quality attributes.



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## Who Uses QBS?

- Local, state and federal governmental agencies that procure A/E services
- Private industry
- Other public and private institutions
- Design professionals when hiring other design professionals
- Other users of services/products who place quality first ("the doctor example")



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## Who Endorses QBS?

- The American Council of Engineering Companies (ACEC)
- The American Public Works Association
- The American Bar Association in their model municipal code.
- The American Institute of Architects
- The National Society of Professional Engineers
- Numerous Engineering Technical Societies such as the American Society of Civil Engineers, etc.



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# Why select based on qualifications?

- Each project requires a unique approach
- Selecting the design professional with the appropriate knowledge, skill, reputation, past performance and technical competence assures a *successful quality project*



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# Qualifications-Based Selection (QBS): The Process

- Selecting a Design Firm
  - An owner identifies the general scope of work and develops a selection schedule.
  - The owner issues a request for qualifications.
  - The owner evaluates statements of qualifications.
  - The owner determines a short-list of qualified firms to interview.
  - The owner conducts interviews and ranks the firms.



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## QBS: The Process

### ■ Negotiating a Contract

- The owner invites the top-ranked firm to assist in defining a detailed scope of work.
- The design firm develops and submits to the owner a detailed fee proposal, based on the agreed upon scope of work.
- If the proposed fee is not acceptable, the owner and designer work to modify the scope, schedule and budget to determine if an agreement on fee can be achieved.



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## QBS: The Process

- If an agreement cannot be reached with the top-ranked firm, negotiations are ended and new ones begin with the next most qualified firm.
- An agreement covering the above is executed.
- Firms involved in the selection process are given post-selection feedback.



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## Why QBS?

- Life Cycle Cost Considerations
- Team Building
- Technology/Innovation
- Reduced Changes
- Flexible Contract Approaches
- Competition Among Best Performers; Not Low Bidders



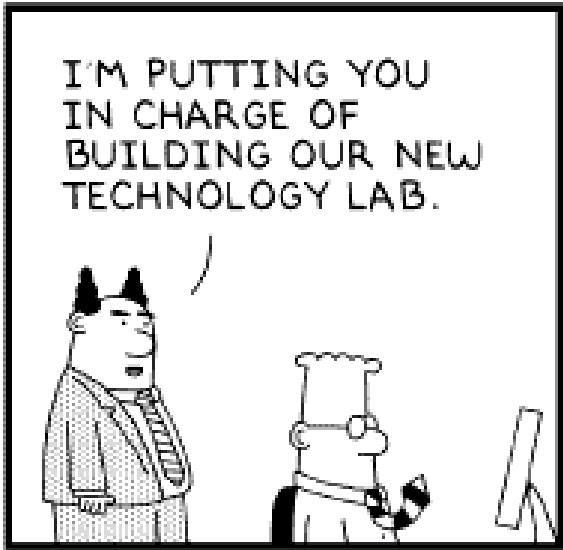
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I'M PUTTING YOU  
IN CHARGE OF  
BUILDING OUR NEW  
TECHNOLOGY LAB.



PICK THE CONTRACTOR  
WITH THE LOWEST BID.  
I DON'T FORESEE ANY  
PROBLEMS WITH THAT  
STRATEGY.



SO, YOUR BID SAYS  
YOU'LL DO THE JOB  
FOR "...A CHANCE  
TO GNAW ON WOOD."



TOO HIGH?



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## Questions...

*Why not ask for prices from 3 qualified firms?*

Each firm will offer a price based on its own interpretation of the scope and not necessarily that of the owner. Each price therefore, represents a unique and unilateral scope.

Since most equally qualified firms have similar labor costs, overhead and profit structures, they will cut scope first to be price competitive.



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## Questions...

*Does QBS encourage competition?*

Absolutely. The A/E will make a serious investment in preparing qualifications packages and the interview process at minimal expense to the Owner. This investment will also ensure that the A/E – Owner negotiations are successful.



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## Questions...

*Does QBS result in higher A/E fees?*

Not when you consider the final project costs. Fee bidding or 2-envelope bidding (technical and price proposals) may offer a lower initial price but the "savings" is lost in change orders and time delays.



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## Questions...

*How does the owner know that he is getting a fair price in the negotiation?*

Client satisfaction ranks second only to the A/E's public safety professional responsibility. A reputation of inflated fees without commensurate high quality (value) is a sure formula for losing clients. If the owner cannot be convinced that the fees are fair, he does not have to buy the A/E's services.



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# Common Misconceptions

“QBS eliminates price as a selection criteria”

*False.* Price is a factor! Price becomes a factor only after the most qualified firm has been identified and a detailed scope of work has been jointly developed by the owner and design professional.



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# Common Misconceptions

“QBS is a waste of taxpayer money”

*False.* In fact, low-bid is more expensive because it leads to increased change orders and high project maintenance costs. Furthermore, QBS ensures the public gets a high quality and safe design.



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# Common Misconceptions

"QBS takes longer"

*False.* QBS fosters teamwork between the client and engineering and facilitates construction, leading to faster project delivery



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## QBS Case Study #1

An owner has asked you and 2 other engineers for a price proposal for a business park site plan. Your work will include permitting and stormwater management.

You have determined that the site is suitable for an innovative bio-filtration stormwater management facility. This innovative design may allow more parking and office floor space when compared to a conventional stormwater management basin. The design and permitting effort (scope) for the innovative design, however, is about 1.5 times the cost of the conventional basin design.



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## QBS Case Study #1

Your choices are:

1. Call the owner and ask to explain the opportunities of innovative design in the hope that he will accept your higher price.
2. Ask the owner to tell the other engineers to base their fee on the bio-filtration design so that everyone's fees are comparable.
3. Give the owner 2 fees, one for the conventional design and one for the innovative design and let him decide.
4. Base your fee on the conventional design so your fee is low - and hope you get the job.



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## QBS Case Study #1

**Who Chose Option #1?** (Call the owner to explain the opportunities of innovative design...hope he accepts your higher price.)

- The owner says that it is a great idea. So you give him your higher fee based on the innovative approach.
- But the owner calls a week later to thank you for your effort but he just had to take the engineer whose fees were 65% less than yours. But he will invite you to bid next time.



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# QBS Case Study #1

**Who Chose Option #2** (Owner tells other engineers to base their fee on the bio-filtration design.)

- The owner says, fine. Just write a scope so he can hand it to the other engineers.
- One of the other engineers calls you to ask what a bio-filtration facility is.
- The owner calls a week later and says that he chose the engineer whose price was 65% lower than yours. Without telling you, he thinks that you price gouge and will not call you again.
- The selected engineer later talks the owner out of the risky bio-something design and goes ahead and designs the big ugly hole. Yes, he was the one with the low fee.



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# QBS Case Study #1

**Who Chose Option #3** (Give the owner 2 fees, one for the conventional design and one for the innovative design.

- The owner calls and says that he really likes the innovative option but the low conventional design fee looks really tempting. Even though you were not the lowest fee among the three engineers, he would be happy to give you the job if you would go with the innovative option for the conventional option fee. If you can't, he will have to go with the lowest fee of one of the other engineers.



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# QBS Case Study #1

**Who Chose Option #4** (Base your fee on the conventional design so your fee is low)

- Congratulations, you got the job. Your price was 65% lower than the next engineer. This client thinks you're a great guy.
- Three months later your multiplier is 1.4 and the project is behind schedule. You and the owner are barely speaking since you have submitted 7 change orders for out-of-scope work. The owner says, "How can this be? You said that this is a conventional design! Don't you know your own business!"



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## QBS Case Study #1 – Moral of the Story

- When price is on the table it trumps other considerations, even quality and innovation. In many cases, however, the difference in quality outweighs the apparent savings in fees when considering the life cycle costs.
- Had the owner used QBS he would have worked with the innovative engineer to develop a layout that would have generated more rentable office space and a higher rate of return on his development investment.



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## Case Study #2

Three engineers were invited to submit technical and price proposals for a wastewater treatment plant upgrade project. The price proposals and technical scores were:

\$ 349,000	88
\$ 388,000	85
\$ 325,000	84

You are the Director of Public Works and have to recommend a firm for the project. Here are your choices:

- Choose the firm with the highest ranked technical proposal for \$349,000.
- Choose the firm with the low price.



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## Case Study #2

Who Chose Option #1 (the firm with the highest ranked technical proposal for \$349,000.)

After you have notified the winning firm, the President of the County Council calls and asks you to attend the next Council meeting to explain why you agreed to pay an additional \$24,000 when the technical scores of “equally qualified firms” were so close.



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## Case Study #2

### Who Chose Option #2 (the firm with the low price.)

You have made the Council and the County Procurement Agent happy.

At the 50% submission, you realize that an important item of scope was not included in your Request of Proposal or in the A/E's original fee. To be fair you ask the A/E for a change order. It amounts to \$30,000.

The County Council President calls and asks you to explain why you didn't select the most qualified firm who "would have known about this" and would have charged \$6,000 less considering the change order that you now ask for.



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## Case Study #2 - Moral of the Story

When the owner writes the scope without the A/E's input, he is exposed to a greater risk of change orders.

When multiple prices are on the table, the owner is not in control; the price is.

Had the Director used QBS, he would have been able to identify contingencies and have a contract means to handle them. He would also have been able to tell the Council that the procurement method he used is widely endorsed by governmental and professional organizations.



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## Case Study #3

### What the City Wants...

Consultants are requested by a City to submit price proposals for providing complete engineering services for a Water Transmission Line Replacement Project.

The advertisement states that the City wishes to replace 5,000 feet of an existing 8-inch transite line with a new 12-inch asphalt dipped and wrapped steel transmission line. The City has a policy of using steel pipe on all transmissions lines, and the Council has determined that they can afford only a 12-inch diameter line.

The city desires a lump sum "bid" for all of the engineering, including surveying, design, contract administration, and inspection.



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## Case Study #3

### Problems...

If a consultant wants to be competitive, he must first accept the line size must be 12 inches, and the material used must be asphalt dipped and wrapped steel pipe. Several assumptions could cause the engineer to price himself out of the job. For example...

- He includes costs for soil testing for corrosive soils on the route, thus making steel pipe unsuitable.
- He includes costs to evaluate the City's overall water supply and transmission facilities beyond the limits of this project to see if a 12-inch line will fit the long-range needs of the City.
- Several stream crossings are involved in the project - does the engineer assume the responsibility for securing the necessary crossing permits as part of his work.



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## Case Study #3

The City thinks it is getting a valuable product for the least engineering cost. In fact...

- The choice material may be wrong for the type of soil.
- The size of the line may be too small for the long-range needs of the City.
- Additional work (securing stream crossing permits) may have to be done by the City themselves.

These problems are likely to lead to change orders, time delays, higher life-cycle project costs, and contention between the engineer and City.



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## Case Study #3

What if the City had used QBS instead...

- After the selection of the most qualified engineer, the engineer could meet with the City to discuss the various items of work.
- The engineer could explain the various technical elements of the project, and point out potential problems.
- The engineer and City collaborate to develop a detailed scope of work so that both parties are fully aware of what is to be done during the project.
- The engineer and City negotiate a fair and reasonable price based on the scope of work.
- The City receives the best value for its buck.



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## Case Study #4

A community's water main was exposed by winter floods and the City asked for bids. Needing the work, a road and highway firm successfully submitted the lowest bid and proceeded to complete the project design.

Soon after construction, a 'stop work' order was issued by the Dept. of Fish and Wildlife because the City had not obtained a "Dredge and Fill Permit" or a "Stream Crossing Permit". In addition, work in the flowing stream was not allowed for another 6 weeks, after the native salmon had hatched and moved downstream. By contract, Firm XYZ was not responsible for obtaining the necessary permits, having made it the City's responsibility in order to keep their "bid" low.



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## Case Study #4

Claim letters arrived weekly from the contractor, claiming damages for delays. The same contractor had bid and had been awarded other construction work during the late summer and had bid on this job because of the early timing in the construction season.

Whether or not Firm XYZ knew the permits were required did not concern them because they were not responsible for this task.



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## Case Study #4

In the end, the City paid more than double the stream crossing transmission line cost to another contractor whom they hired under forced contract.

Firm XYZ was blamed by the Council members for their failures to point out the seriousness of having the necessary permits and not scheduling the construction during the proper time frame.



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## Case Study #4

If the City had used QBS...

They probably would have selected a firm with experience in water line crossings of streams and would have been familiar with the permitting process and Dept. of Fish and Wildlife in-stream construction regulations.

By working with the consultant to develop a proper scope of work coupled with appropriate fees that were enough to cover some of the "extra services", such as the permitting, instead of simply bidding the design work out, the City would have been able to save time and money in the long run.



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## Similarities of CCNA and QBS:

Both have a basis in law.

- QBS is mandated for Federal Procurement in "The Brooks Act: Federal Government Selection of Architects and Engineers" [a 1972 amendment to the Federal Property and Administrative Service Act of 1949].
- CCNA is addressed under a 1973 State of Florida Law [Sec. 287.055].



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## Similarities of CCNA and QBS:

Both, QBS and CCNA require the evaluation of no fewer than three firms regarding a proposed project or contract.

- The firm deemed most qualified, based on an evaluation of demonstrated competence and professional qualifications is selected.
- Negotiations commence with the most qualified firm. Should the agency be unable to negotiate a satisfactory contract with that firm, negotiations are formally terminated. Negotiations then commence with the second most qualified firm. (This can continue to the third most qualified firm, if deemed necessary).



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## Federal Initiatives

- ACEC secured QBS language in new federal procurement regulations and pending water legislation.
- Ongoing defense of QBS with federal agencies.
- TEA-21 Reauthorization language



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## Resources

# **ACEC's Online QBS Resource Center**

<http://www.acec.org/advocacy/qbs.cfm>