10 Steps to Winning the Construction Game

The Owner’s Guide to Creating Sustainable Facilities

ICCCFO Fall Conference 2012
Sustainability + Savings

• Two sustainability opportunities with excellent ROI:

  1. Owner’s management of design & construction aka “Winning the Construction Game”: 585% (study of 36 projects; 110% min)

  2. Energy efficiency: commissioning & retro-commissioning: 23% & 91% (study of 409 projects)
Winning the Construction Game

You have 6-12 months to plan and design the 50-year life of your facility. You will never get a second chance to get it right.
The Opponent: Complexity

**Technical**
- X

**Organizations**
- X

**People**
- X

**Processes**
- X

**External Forces**

**Systems:**
- Structural
- Mechanical
- Electrical
- Plumbing/FP
- Security
- Voice/Data/Security
- Code requirements
- Sustainable design
- Furniture, fixtures and equipment
- Technology
- Site
The Opponent: Complexity

- Technical
  - Organizations
  - People
  - Processes
  - External Forces

Owner
- Stakeholders
- Funding sources
- Design firms
- Consultants
- Contractors
- Utilities
- Regulatory agencies
- Manufacturers
- Local community
Complexity Often Wins

_U. of I. Sues over Dorm's Big Cost Overrun_

Cost Overruns at Prairie State Energy

**HARTFORD MAGNET SCHOOL CONSTRUCTION COST OVERRUNS**

Jury Gets MetroLink Extension Suit – Damage Suit Against Four Companies

Big Dig Cost Explodes To $22 Billion from Original $2.6 Billion
Definition of “Winning”

- Maximum long-term facility value
  - Sustainable, durable, functional, flexible
  - Cost-effective – first cost and life cost

and

- All parties win
  - Owner
  - Design team
  - Construction team

![Diagram showing cost components: Initial construction cost, operation and maintenance costs, employee salary and benefit costs]
Winning the Construction Game

1. Complete Your Management Team
2. Pick Your Playbook
3. Draft Your Players
4. Sign Your Players
5. Learn Your Playbook
6. Practice Your Plays
7. Coach Your Team
8. Keep Score
9. Finish The Game
10. Complete The Scorebook
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Step 1 – Complete Your Management Team

- Leader – expertise in project delivery, design and construction process; availability
- Technical resources – advisory/reviews
  - Design
  - Plan/specs
  - FFE
  - Voice/data/security
  - Sustainability
  - Technology
Owner Knowledge is the Key

Markets run best when both the buyer and seller have equal access to information, but in the construction industry, they do not. The fact that Owners do not have near equal knowledge is the major reason why inefficiency and mutable costs persist in construction.

Broken Buildings, Busted Budgets
Barry B. LePatner
Step 2 – Pick Your Playbook

Project delivery method

- Know State statutes
- Know and tailor the method selected
- Draft players who know the method

Diagram:

- Owner
  - Design
  - General Contractor
- Owner
  - Performance Contractor
- Owner
  - Design
  - CM as Advisor
Myth Busters

• **Myth #1**: Some methods don’t require the Owner to do much or spend much time. The Owner is always 100% responsible; the less you are involved, the less you will get for your money.

• **Myth #2**: There are no change orders with some methods. The sooner in the process you agree to no change orders, the more you will pay.
Step 4 – Sign Your Players

Contracts

• Win-win clauses
• Add detail
• Foundation for accountability of all parties, including the Owner
Step 7 – Coach Your Team

Detailed Owner reviews/improvements

• Owner’s project requirements
• Schematic design
• Design development
• 50% Construction documents
• Etc.
2 Contrasting Case Studies

- **School District A - $100 million**
  - Followed many of the 10 steps
  - All projects on time and within budget
  - Minor problems/change orders with one exception

- **School District B - $60 million**
  - Followed no steps well
  - Projects late with major delay claims
  - Mediation – all parties lost

- **Same A/E firm on both – which project did they perform best on?**
Energy Efficiency

- **Commissioning (Cx)**
  - Verifies that systems meet defined criteria and efficiency objectives beginning in early design

- **Retro-commissioning**
  - Commissioning of an existing building
**Cx & RCx Cost and Savings**

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<td>23%</td>
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332 EBCx + 77 NBCx projects = 643 buildings

- **Recent RCx Savings Results:** 34% (gas/elec); 61% (gas); <1 yr. payback
- **DCEO RCx incentives**

Additional Cx & RCx Benefits

• Reduced problems and system downtime
• Improved occupant comfort, indoor air quality and productivity
• Accurate, usable building data
Why New Building Cx is Important

- New Critical Access Hospital
- ~60,000 square feet
- In operation for 12 months
- Retro-commissioning resulted in:
  - 22% savings (gas and electric)
  - 2-month payback
Sustainability + Savings

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   Owner’s management of design and construction/renovation: 585%

2. Commissioning & retro-commissioning:
   23% & 91%
Thank You

Doug Sitton, PE, LEED AP BD+C

dsitton@sittoncg.com

www.ConstructionSavings.com