

K-12 School Facility Planning *Procurement Options*



Agenda

- Performance Services Overview
- Procurement Methods
 - ✓ Plan and Specification
 - ✓ Design-Build
- Integrated Design and Delivery Options
 - ✓ Guaranteed Energy Savings Contracts
 - ✓ Design-Build
- Q&A

Performance Services has provided guaranteed energy services to Indiana K-12 schools for 16 years and has delivered \$500 million in renovation solutions with 225+ projects in more than 400 school buildings ranging in project size of \$400K to \$36 million.






Nearly 50% of the projects in our portfolio are from **repeat customers**, with two, three, four or five projects—with a total of 35 public school districts with repeat business in the last three years.





out·come

/ˈout,kəm/ 

noun

the way a thing turns out; a consequence.

"it is the outcome of the vote that counts"

synonyms: result, end result, consequence, net result, upshot, aftereffect, aftermath, conclusion, issue, end, end product





**Optimal
Environment**

**High
Performing
Building**

**Real Energy
Savings**

**Cost
Effective,
Best Value**

Building Project Outcomes

**Guaranteed
Performance**

**Vendor
Independence**



There are two procurement methods for Indiana K-12 schools to consider



**Design-
Build**

Plan-Spec
(Design-Bid-Build)

There are TWO Design-Build procurement options to consider



**Guaranteed
Energy Savings
Contract**
(Enacted 1993)

**Design-Build
Public Law**
(Enacted 2005)

Definition: Design-Build is a method of project delivery in which one entity (design-builder) forges a single contract with the owner to provide architectural, engineering design and construction services.



Design-Build

Historical Application



■ **Past Design-Build Projects**

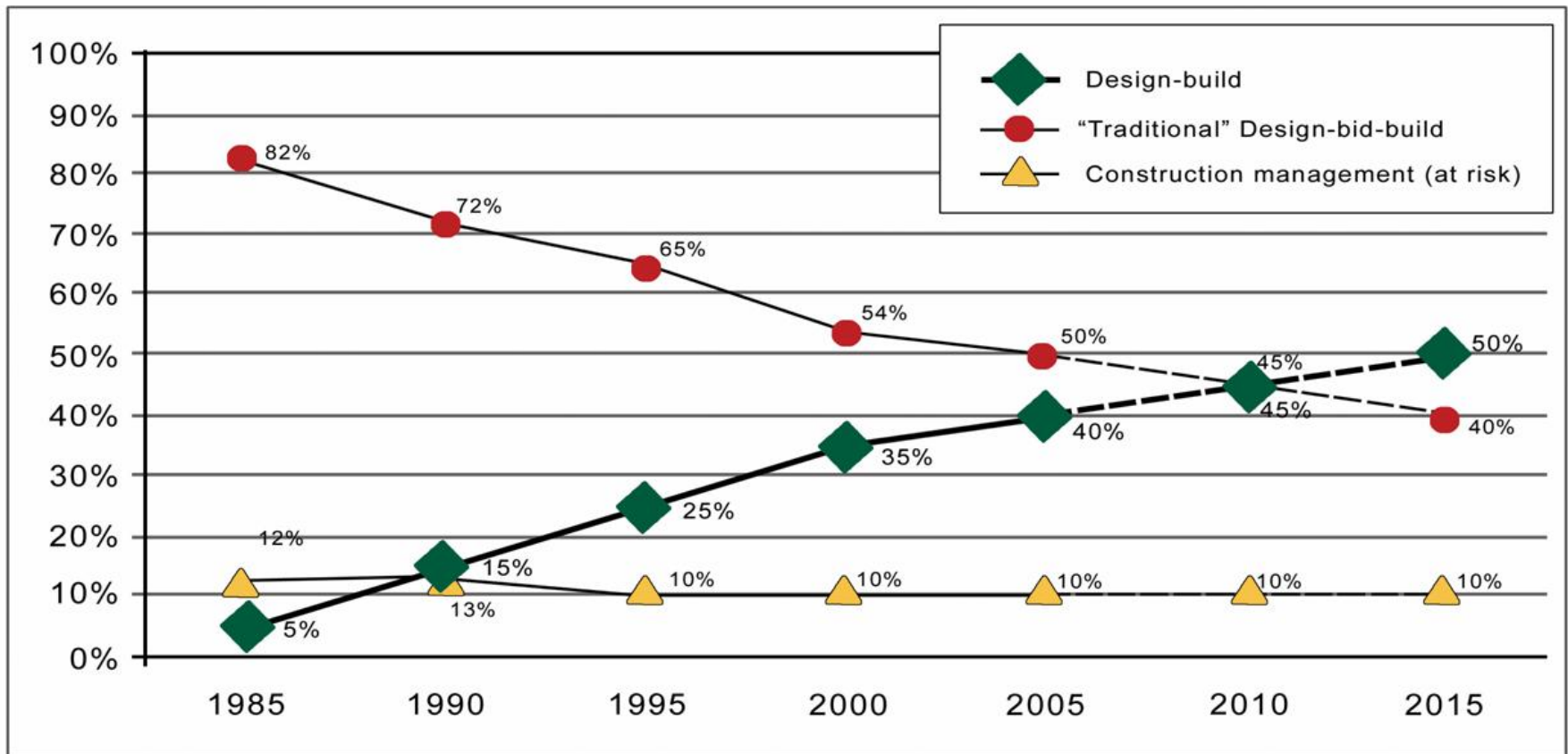
- ✓ Pyramids
- ✓ Parthenon
- ✓ Great Wall of China
- ✓ Rome

■ **Current Design-Build Projects**

- ✓ Pentagon
- ✓ Nearly all new U.S. Army buildings
- ✓ Nearly all Eli Lilly buildings
- ✓ 50% of all non-residential construction



Non-Residential Design and Construction in the United States



Evidence



Penn State Study Design-Build vs. Plan-Spec

Design Build delivered:

- Quality: 10% Higher
- Cost: 6% Lower
- Speed: 33% Faster

Source: Project Delivery Institute, 1999

Integrated team approach is better

Evidence



U.S. Dept of Commerce Study *Summary Results*

“The use of the design-build delivery system tended to yield better performance outcomes for owner-submitted projects. These projects tended to have better performance in cost, schedule, changes, rework and practice use. “

Source: U.S. Dept of Commerce Report. “Measuring the Impacts of the Delivery System on Project Performance, Design-Build and Design-Bid-Build,” Pg 49. November 2002

Design-Build Project Responsibilities



One master chef – full accountability

Plan-Spec Project Responsibilities

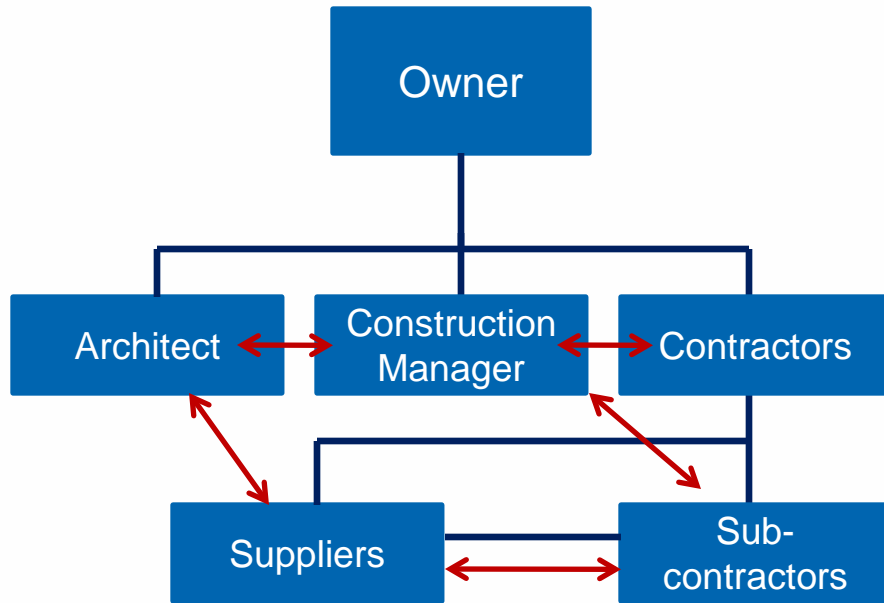


Multiple chefs in the kitchen – no clear accountability

Contractual Responsibility

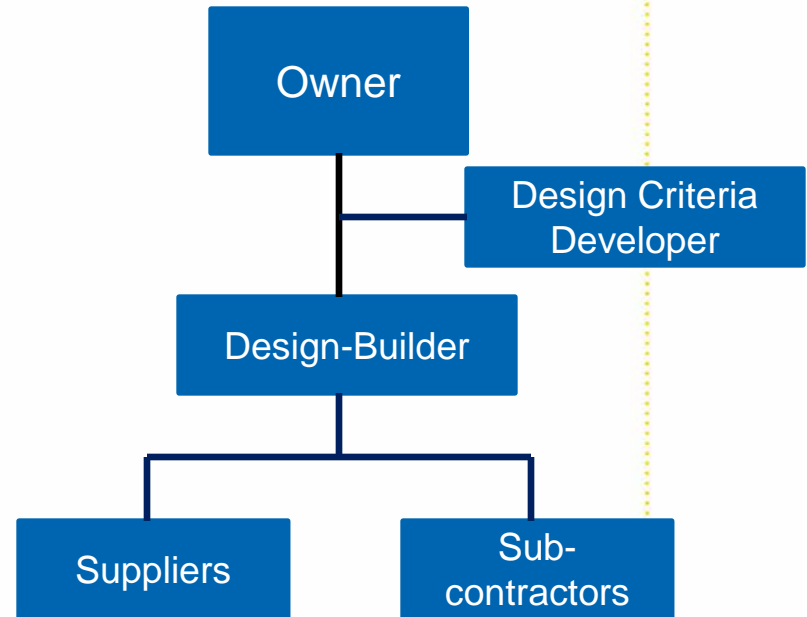


Plan-Spec



No direct accountability

Design-Build



Full accountability

Design-Build provides singular accountability

Design-Build Team



Design Builder's team consists of architects, engineers, project managers and contractors work collaboratively together, to deliver the Best Value proposal. If this team doesn't out-listen, out-think and out-work the other two teams, they lose the job. This collaboration and increased effort delivers better designs and more value.



Value of Team:

- ✓ Several brains are better than one – collaborative synergy
- ✓ Contractors can know more about what works best

Design-build give owners choice of three building designs



School
Design
1

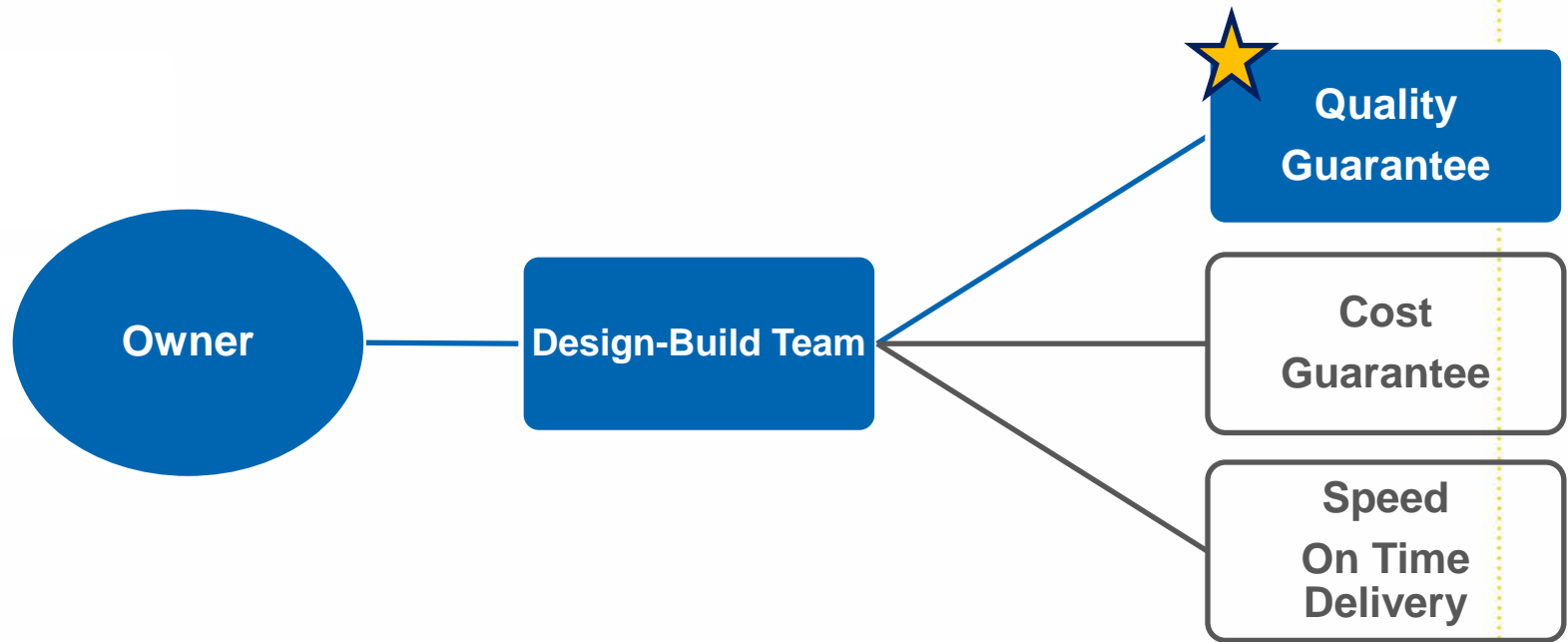


School
Design
2



School
Design
3

Design-Build Deliverables



Quality is a guaranteed outcome

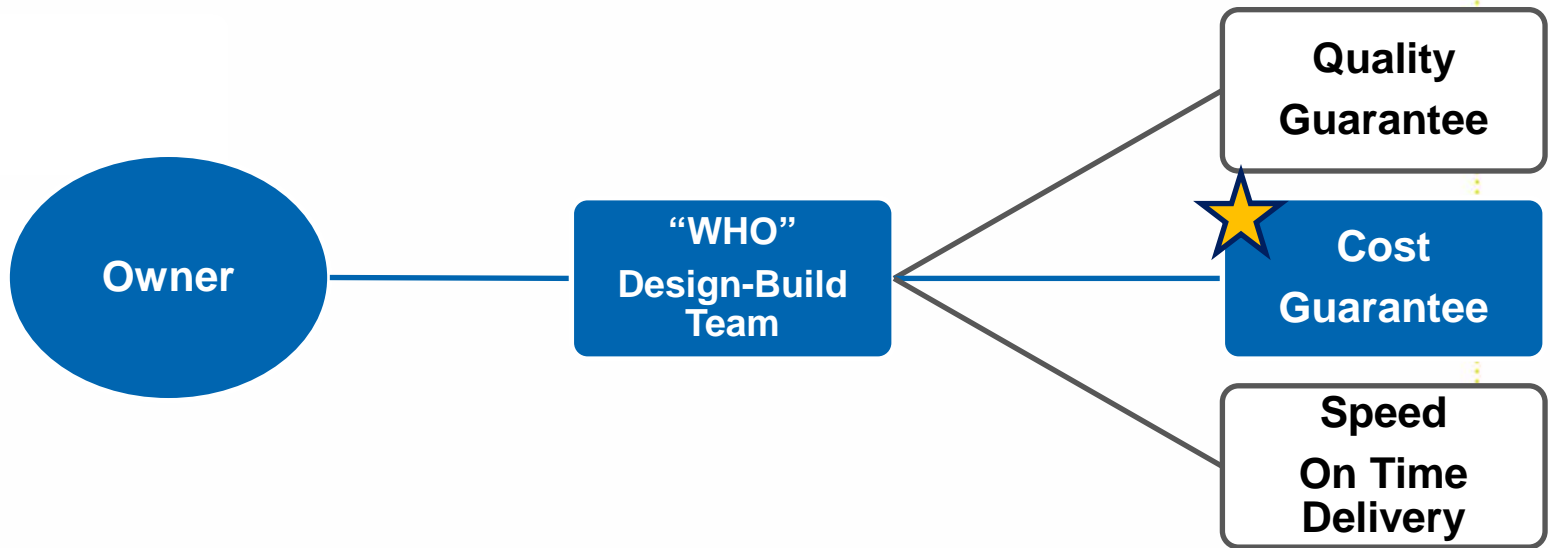
Quality Guarantee



Deliverable	Design-Build with PSI	Plan-Spec
Guaranteed Performance	YES	NO
Guaranteed Price	YES	NO
Customer Approved “Best Value” sub-contractors and suppliers	YES	NO
No Change Orders Guarantee	YES	NO
Long-Term Project Accountability	YES	NO

Design-Build provides quality guarantees

Design Build Deliverables



Design-build is proven to cost less on average than traditional plan-spec

Cost Structure Comparison



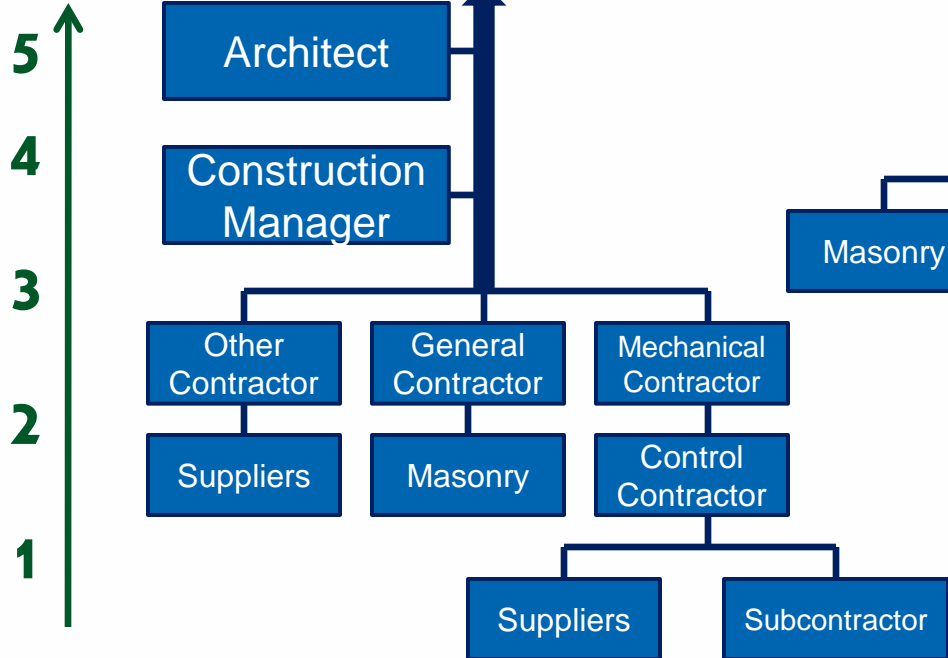
Plan-Spec



Owner's Cost

Multiple Layers of Compounded Markup

Layers of Mark Up



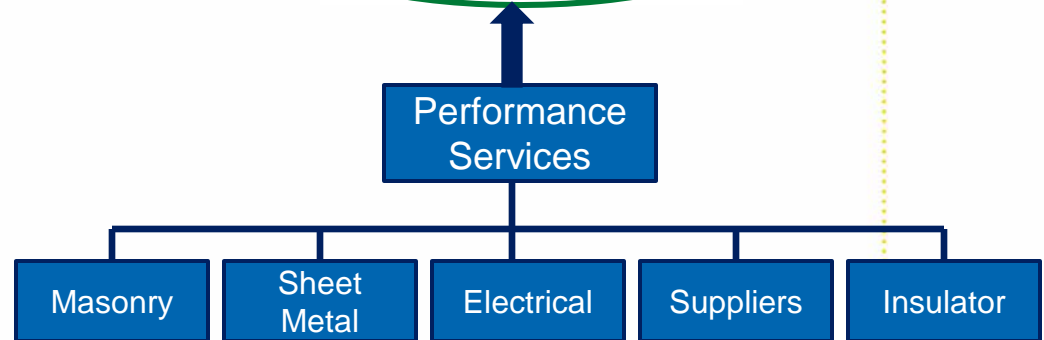
Design-Build



Owner's Cost

Flat Markup

Guaranteed Maximum Price



- Flat cost structure
- Fewer mark ups
- Open book pricing
- No change orders

Cost Structure Comparison

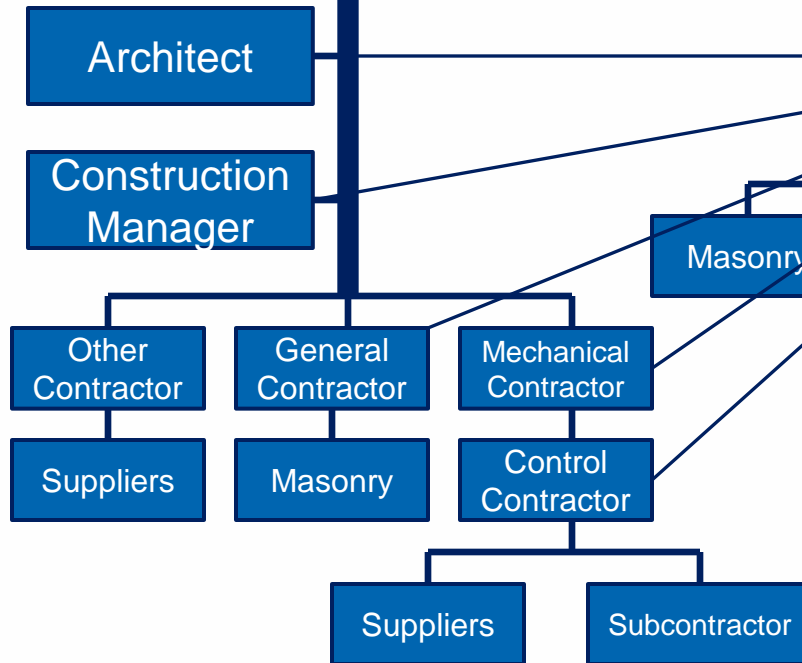
Plan-Spec

Design-Build



Owner's Cost

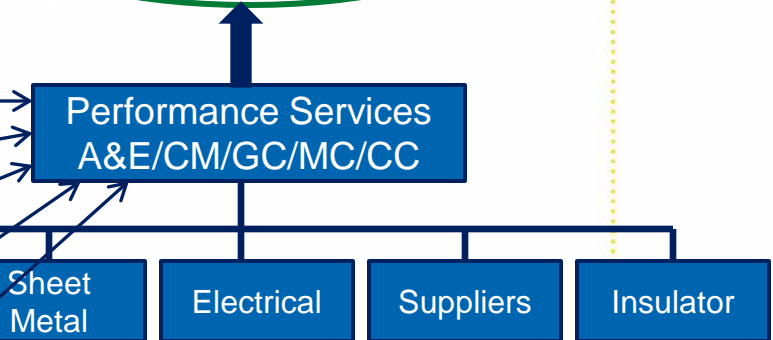
Multiple Layers of Compounded Markup



Owner's Cost

Flat Markup

Guaranteed Maximum Price



Noblesville Schools Example

Plan-Spec vs. Design-Build

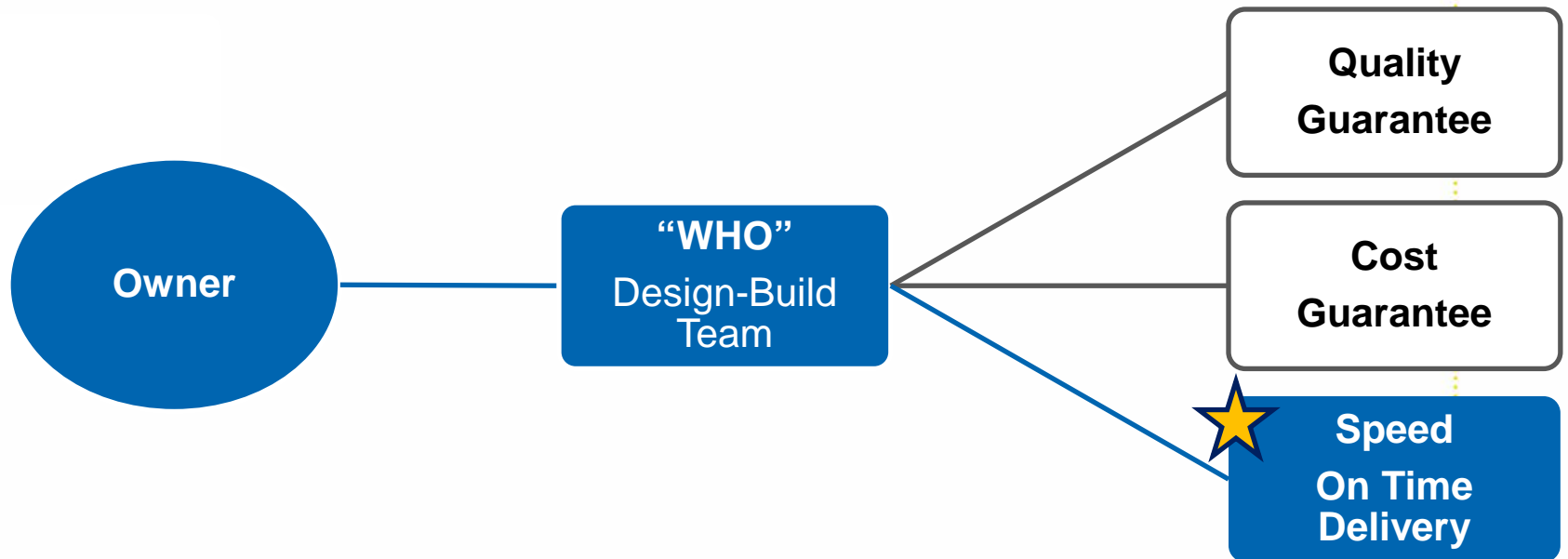
Plan-Spec Referendum LOST
Design-Build Referendum WON

- 21% Lower Overall Cost
- Four Significant Value Adds
- Savings of \$2M



Referendum LOST <u>Plan-Spec</u> in 2008	Budget	Referendum WON <u>PSI Design-Build</u> in 2010	Actual Price
High School Renovation	\$6,930,415	High School Renovation	\$5,261,629
Wellness Center	included	Wellness Center	included
Science Rooms Addition (4 rooms)	not included	Science Rooms Addition (4 rooms)	included
Technology	not included	Technology (projectors, wireless data network, access control,	included
Locker room Addition & Renovation	included	Locker room Addition & Renovation	included
Mytel Phone Upgrade	not included	Mytel Phone Upgrade	included
Cooling Tower Replacement	not included	Cooling Tower Replacement	included
Architect Engineering Fees	\$381,000	Architect Engineering Fees	included
Document printing	\$30,000	Document printing	included
Construction Mgmt Services/Extended Services	\$0	Construction Mgmt Services	\$0
General Conditions	\$69,304	General Conditions	included
Criteria Developer	not included	Criteria Developer	\$149,920
TOTAL	\$7,410,719	TOTAL	\$5,411,549

Design Build Deliverables



On-Time Delivery

Noblesville Schools

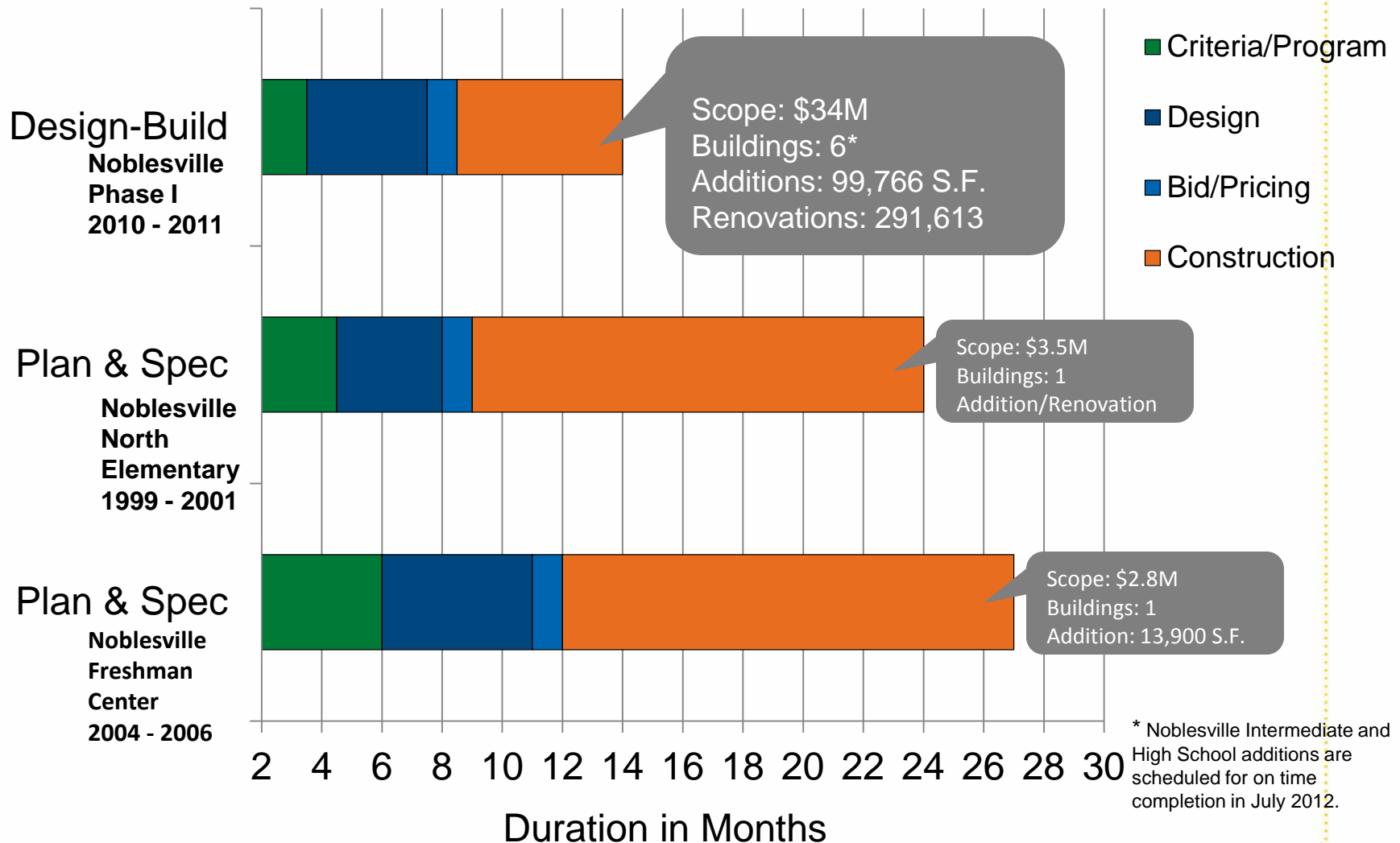
\$30 million in 7.5 months vs. 18 months



Design-Build vs. Plan & Spec

Noblesville Schools – Actual Renovation Project Results

Speed of Completion Comparison



Design-Build is a Team Approach



Design Builder hand picks contractors based on:

1. Past performance
2. Local presence
3. Ability to work together

Collaboration results in increased subcontractor efficiency

1. No change orders so no time wasted on fighting over them
2. Helping each other and working together reduces labor and schedule, reducing everyone's cost



Value of Team:

- ✓ Teammates are hand picked for high performance
- ✓ Collaborative teamwork outperforms top down enforcement

Delivery Method Comparison

Design-Build vs. Design-Bid-Build



Design-Build

- Professional design
 - ✓ Multiple designs
- Competitive bid process
 - ✓ Best value
- Project execution
 - ✓ No change orders
 - ✓ Design Builder responsible

Design-Bid-Build

- Professional design
 - ✓ One design
- Competitive bid process
 - ✓ Lowest bids
- Project execution
 - ✓ Change orders
 - ✓ Owner responsible

Delivery Method Comparison

Design-Build vs. Design-Bid-Build



Design-Build

- Commissioning
- Warranty
- Optimization
- Guaranteed performance
- Long term support

Design-Bid-Build

- ?
- Warranty
- N/A
- N/A
- N/A

Design-Build Track Record



South Adams Results

- ✓ \$4,000,000 in taxpayer savings
- ✓ Finished 5 weeks ahead of schedule and achieved ENERGY STAR



First design-build project in Indiana at South Adams Schools. A \$22M, 150,000 square foot, K-8 school completed in June 2009.



Largest design-build project in Indiana at Noblesville Schools. A \$34M project, completed \$30M with six buildings completed in 7 ½ months.

Indiana K-12 Schools Design-Build Delivery



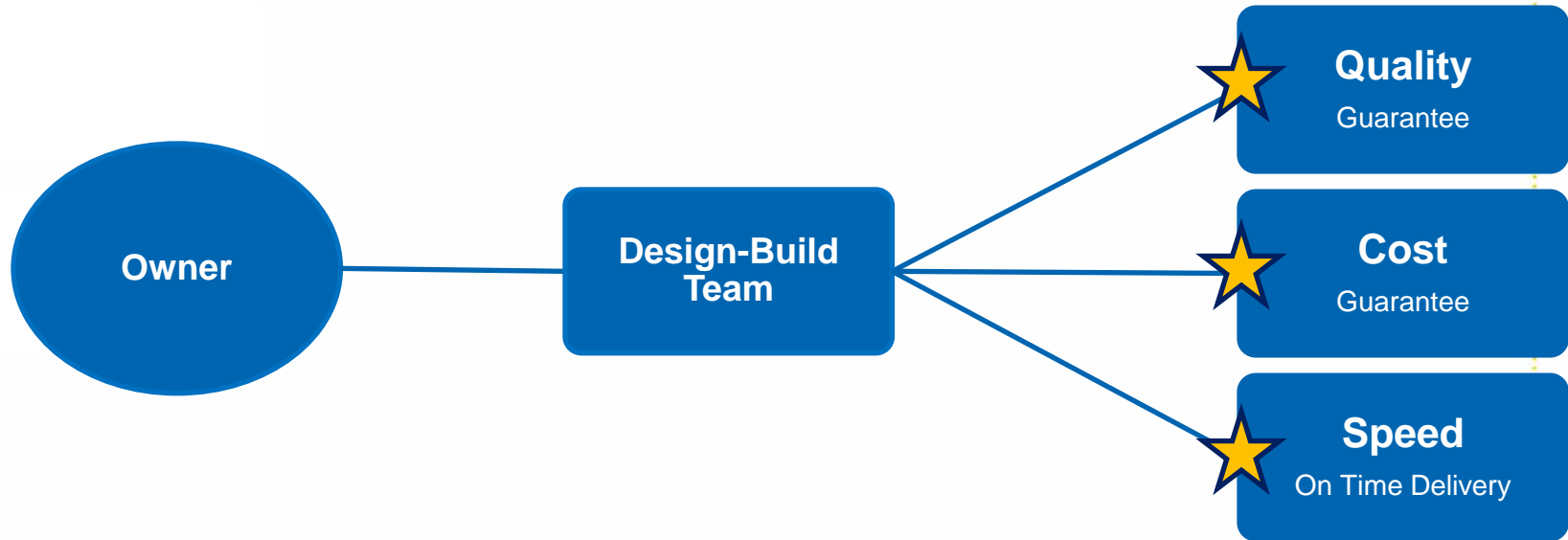
School Corp	Project Type	Budget
South Adams	New K-8 th Grade	\$25,000,000
Hamilton Southeastern	New Const & Renovation	\$35,000,000
Noblesville Schools	New Elementary	\$16,000,000
Noblesville Schools	Additions & Renovations	\$34,000,000
Lebanon Schools	New Construction	\$40,000,000
Adams Central	Renovation	\$10,000,000
Crawfordsville	Reconstruction	\$30,000,000
Beech Grove	Addition & Renovation	\$2,000,000
Shenandoah	Addition	\$2,000,000
Tippecanoe Valley	Community Wind	\$3,000,000
West Central	Community Wind	\$3,000,000
North Newton	Community Wind	\$3,000,000
Northwestern Schools	Community Wind	\$3,000,000
TOTAL		\$206,000,000

Recent Indiana K-12 Schools Design-Build Delivery



School Corp	Project Type	Budget
Fort Wayne Schools	Elementary School Renovations	\$8,000,000
Noblesville Schools	Administration Building	\$3,000,000
Shenandoah Schools	Community Wind	\$2,000,000
Noblesville Schools	HS/MS Additions & Renovations	\$38,000,000
Hamilton Southeastern	High School Additions	\$90,000,000
TOTAL		\$347,000,000

Design-Build Advantages



Naysayers

"Fox watching the hen house"



- **Trust in the design builder is essential**
- **Win-Win structure**
 - ✓ Align goals
- **Several cooks in kitchen**
 - ✓ Gives false sense of security
 - ✓ When food tastes bad, finger pointing
 - ✓ Trust one cook, with accountability, works better
- **Guaranteed performance**
 - ✓ Requires design builder to deliver
 - ✓ No change orders

Naysayers

“Design build costs more, lower quality.”



■ Costs Less

- ✓ National studies show design-build costs **4 to 6% less**
- ✓ South Adams design-build costs **16% less; \$131 / S.F.**

■ Higher Quality

- ✓ National studies show design-build quality is **10% higher**
- ✓ Picking contractors and suppliers improves quality
- ✓ Design builder must fix shortcomings for 10 years
- ✓ Rework is very costly for design builder
- ✓ Quality must be high to meet guarantees

Naysayers

“Owners get little say”

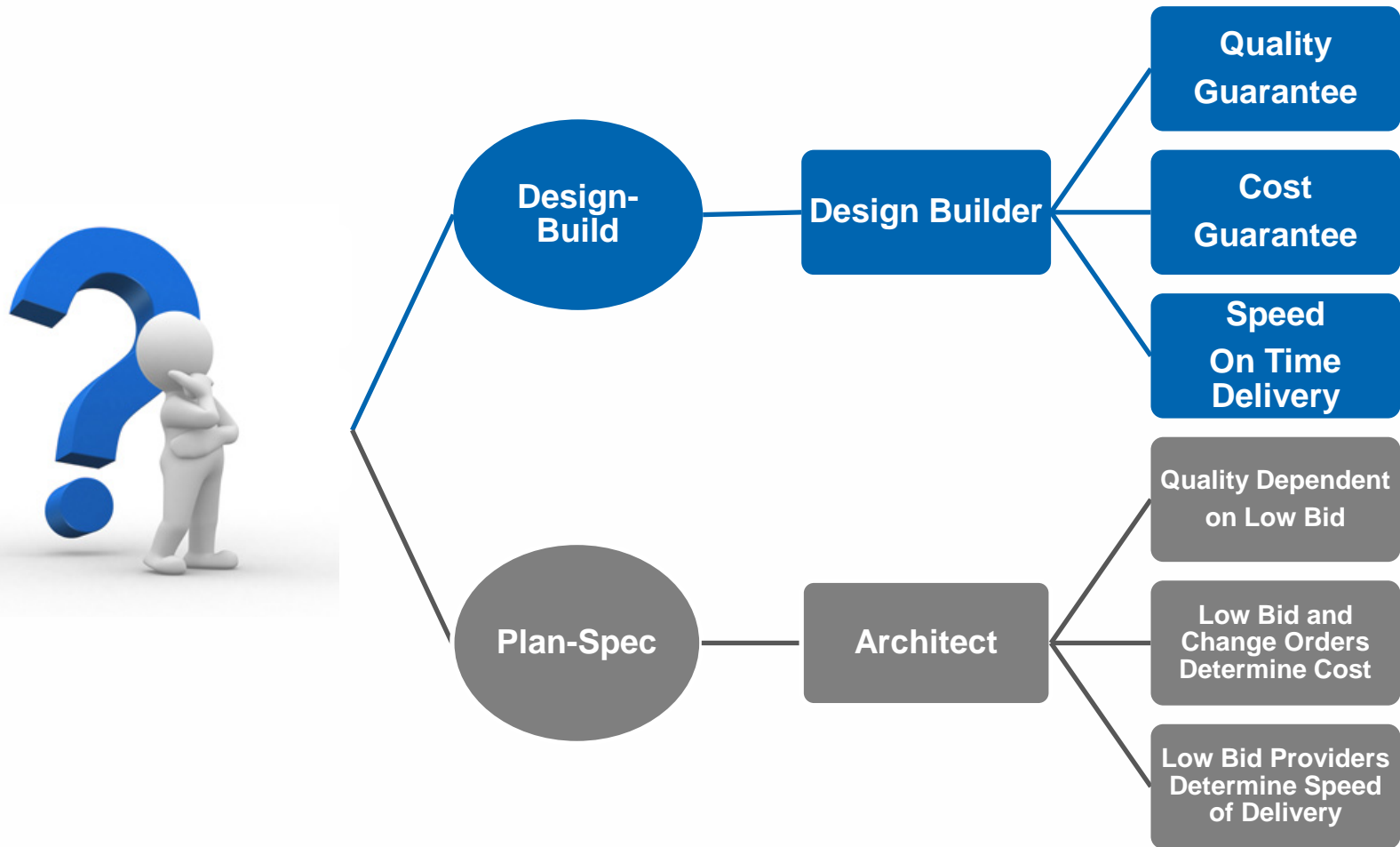
■ Owners get more input

- ✓ For a design builder to win he must:
 - Listen
 - Be responsive
 - Give owner exactly what they want
- ✓ Design options
 - Select from three designs vs. only one
- ✓ Building performance
- ✓ Preferred contractors
- ✓ Changes after design builder selection



Integrated vs. Traditional Delivery

Decision Time:



There are TWO Design-Build procurement options to consider



**Guaranteed
Energy Savings
Contract**
(Enacted 1993)

**Design-Build
Public Law**
(Enacted 2005)

What is a Guaranteed Savings Contract?



Guaranteed Energy Savings Contract Law

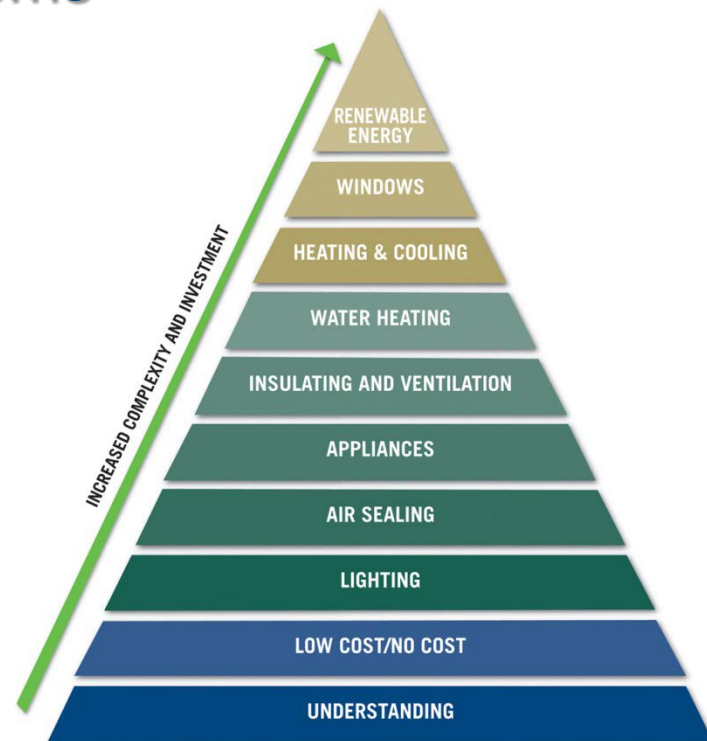
■ Requirements

1. Energy and operational savings must pay for project over 20 years
2. Energy conservation measures
3. Work causally connected to energy renovations
4. Maximum 15% non-energy related work

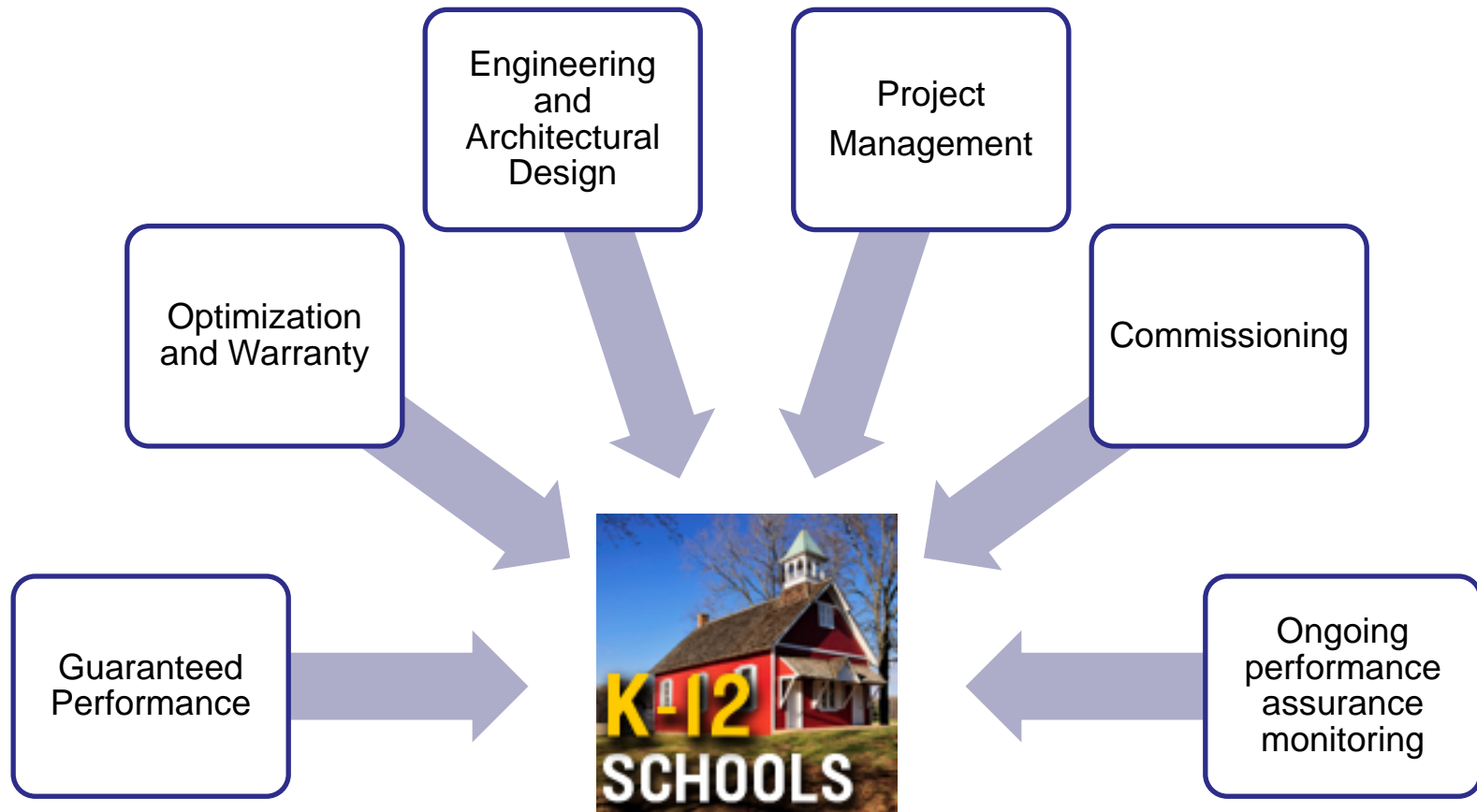
Guaranteed Energy Savings Contract Law

■ Energy Conservation Measures

- ✓ Lighting
- ✓ Digital Control Systems
- ✓ Heating & Cooling
- ✓ Windows & roofs
- ✓ Water
- ✓ Cogeneration
- ✓ Renewable energy
 - Wind power
 - Solar power
 - Geothermal



Typical Services



Guaranteed Energy Savings Contract Law

- **Work Causally Connected to Energy Renovations**
 - ✓ Hot water piping when replacing steam heating system with hot water
 - ✓ Roof decking when installing more energy efficient roof
 - ✓ Ceiling work when installing new HVAC ductwork
 - ✓ Dozens of other examples

Guaranteed Energy Savings Contract Law

- **Maximum 15% non-causally related work if it costs less to do as part of project**
 - ✓ Addressing code violations
 - ✓ Meeting ADA requirements
 - ✓ Security systems
 - ✓ Fire alarm systems
 - ✓ Small renovations
 - ✓ Dozens of examples

Guaranteed Energy Savings Contract Steps

1

- School Board Approval

2

- Advertise (2 local papers / 37 days min)

3

- Proposal submissions

4

- Review proposals and recommend best value

5

- Award contract

6

- Project installation (6-9 months typical)

7

- Guarantee period

Guaranteed Energy Savings Contract Law

■ Advantages

1. Lower construction costs
 - No “change orders”
 - Lower “soft costs”
 - Fewer layers of mark-up
2. Lower energy & operating costs
 - Guaranteed



Guaranteed Learning Environment (optional)

Factor	Standard
Temperature	70 to 74 degrees
Relative Humidity	30 to 65%
Outside Air	15 CFM/per person
CO ₂	< 1000 PPM
Air Filtration	Minimal noticeable air movement
Lighting	Classrooms: 60 ft candles Gym: 50-80 ft candles (based on use) Cafeteria: 20-50 ft candles Corridors/Stairs: 35 ft candles
Noise	< 45 dB and < 40 NC

Guaranteed Energy Savings Contract Law

▪ Advantages

- ✓ Reduced administrative burden
 - No “change orders”
 - Owner chooses contractors & suppliers
 - Design Builder takes full responsibility
 - One point of contact

- ✓ Long term performance
 - Commissioning
 - Optimization
 - Monthly building performance monitoring
 - 100% customer satisfaction on all 65 projects
 - Met or exceeded all performance guarantees

Guaranteed Energy Savings Contract Law

■ Advantages

- ✓ Guaranteed energy savings
- ✓ Guaranteed learning environment (if in scope)
- ✓ Best value selection
- ✓ Owner choice
- ✓ Win-win structure
- ✓ Lower construction costs
- ✓ Less aggravation – no finger pointing
- ✓ Long-term partnership

Questions ?



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