

The Empire State

New York State



Department of Transportation

DESIGN-BUILD PROCEDURES MANUAL

APPENDIX C

SAMPLE

ORIENTATION - TRAINING

PRESENTATION

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Design-Build



Orientation on Design-Build in Transportation and NYSDOT Design-Build Process

Updated July, 2005

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NYSDOT Design-Build Training

Three Sessions

First: Orientation on NYSDOT DB Process

- Part I: Overview of Design-Build
- Part II: NYSDOT Design-Build Process

Second: Technical – Procurement

Third: Technical – Award to Contract Closeout



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NYSDOT Design-Build Training

Three Sessions

**First: Orientation on NYSDOT DB Process*

- Part I: Overview of Design-Build
- Part II: NYSDOT Design-Build Process

Second: Technical – Procurement

Third: Technical – Award to Contract Closeout



* Current Orientation Training

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 Design-Build Orientation 

Part I
Overview of Design-Build

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 Design-Build through the Ages

- ❖ The Great Pyramids
- ❖ The Parthenon
- ❖ The Great Wall of China
- ❖ The Cathedrals of Europe
- ❖ The Brooklyn Bridge

 Robert McManamy, Editor-in-Chief, Design - Build

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 The Owner's Approach

- ❖ The Design-Build Decision
- ❖ Procurement Strategy Development
- ❖ Procurement Process Development
- ❖ Evaluation & Selection
- ❖ Contract Administration

 **Best Practices**

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The Owner's Approach

DBPM Section 2.0

- ❖ **The Design-Build Decision**
- ❖ Procurement Strategy Development
- ❖ Procurement Process Development
- ❖ Evaluation & Selection
- ❖ Contract Administration



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The Design-Build Decision

Traditional

- ❖ Big Projects Split ... "Spread the Work"
- ❖ Separate Designer and Contractor
- ❖ Designer ... "Mini-Brooks Bill" (QBS)
- ❖ Full Design Review
- ❖ Owner Owns Design
- ❖ Contractor ... "Low Bid"
- ❖ Owner Manages Interfaces
- ❖ Owner QC / QA
- ❖ Changes & Claims & Litigation



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The Design-Build Decision

Future Industry Trends

Alternate Delivery Techniques

- ❖ Prequalification
- ❖ Source Selection (Best Value) & QBS
- ❖ Packaging
- ❖ Financing
- ❖ Warranties & Long-Term Maintenance
- ❖ Design-Build & CM at Risk
- ❖ Contractor QC / QA
- ❖ Incentives ... Award Fees
- ❖ Trust ... Partnering



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The Design-Build Decision

Alternative Delivery Methods

- ❖ Design-Bid-Build
 - ◆ A+B
 - ◆ Lane Rental
 - ◆ Warranties
 - ◆ Lump Sum
 - ◆ Incentive
 - ◆ Time Value
- ❖ CM at Risk
 - ◆ CM / GC
- ❖ Design-Build
 - ◆ DBOM
 - ◆ Low Bid Design-Build
 - ◆ Best Value Design-Build
 - ◆ QBS Design-Build



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The Design-Build Decision

Reasons for Design-Build

DBPM Section 2.0

- ❖ Early Completion
- ❖ Lower Cost & Certainty of Final Cost
- ❖ Increased Quality
- ❖ Innovation
- ❖ Available Owner Staffing
- ❖ Less Management Effort
- ❖ Less Conflict



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The Design-Build Decision

Benefits of Design-Build

DBPM Section 2.0

- ❖ Single Source Responsibility / Accountability
- ❖ Less Management / Coordination by Owner
- ❖ Avoid Adversarial Interface / Disputes between Design & Construction
 - ◆ Change Orders Reduced
 - ◆ Claims Reduced
- ❖ Improved Risk Management
- ❖ Time Savings
- ❖ Cost: Savings / Known Early / Certainty
- ❖ Increase in Quality
 - ◆ Innovation / Creativity
 - ◆ Maximize Strength of Contractor



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The Design-Build Decision

Contractor Concerns

- ❖ "Design-Build only works on 'big' projects."
- ❖ "The 'big' contractors will take all the work."
- ❖ "Won't be able to get a fair subcontract price ... I'll be squeezed"
- ❖ "Don't want to be responsible for design or MPT or quality."



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The Design-Build Decision

Contractor Concerns (continued) ... but

- ❖ "If I could have designed this ..."
- ❖ "I do quality work ... I'm offended by the implication, that I can't be trusted!"
- ❖ "We take 'pride' in our construction."
- ❖ "I welcome the responsibility to plan, design, construct and control this project."



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The Design-Build Decision

Owner Concerns

- ❖ #1: "Quality."
- ❖ "I can't trust a contractor."
- ❖ "My job is to protect the public trust and safety."
- ❖ "We are the only ones that can assure the project is done right."
- ❖ "We'll lose control."



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The Design-Build Decision

Trends (Owners)

DBPM Section 2.0

- ❖ Faster, Better, Less Cost
- ❖ Less Conflict
- ❖ Efficient Management
- ❖ Seeking More Innovation
- ❖ Prequalifying & Shortlisting
- ❖ Selecting on "Best Value"
- ❖ Sharing Risks & Releasing Control
- ❖ Going to "Design-Build"



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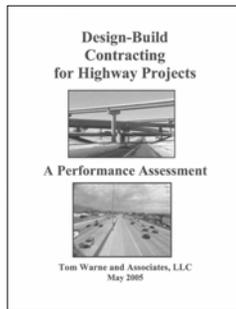


The Design-Build Decision

Recent Study

DBPM Section 2.0

- ❖ 21 Highway Projects
 - ◆ \$83M - \$1.3B
- ❖ Findings:
 - ◆ 76% completed ahead of schedule
 - ◆ 100% ahead of DBB
 - ◆ 1 - 4% growth (5 - 10% DBB)
 - ◆ 38% paid stipends
 - ◆ 100% owner satisfaction



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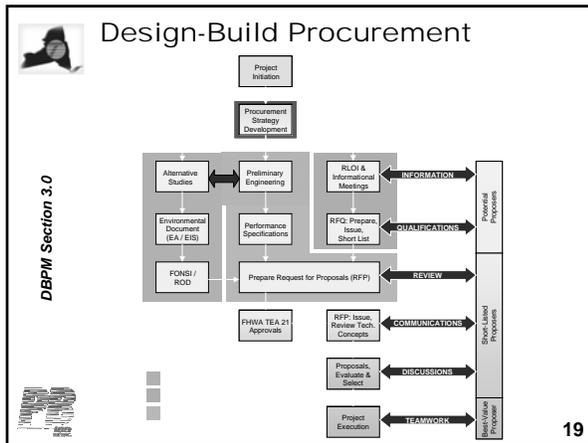
The Owner's Approach

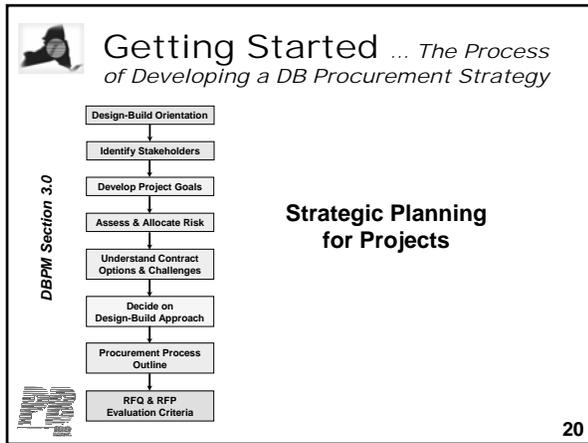
DBPM Section 3.0

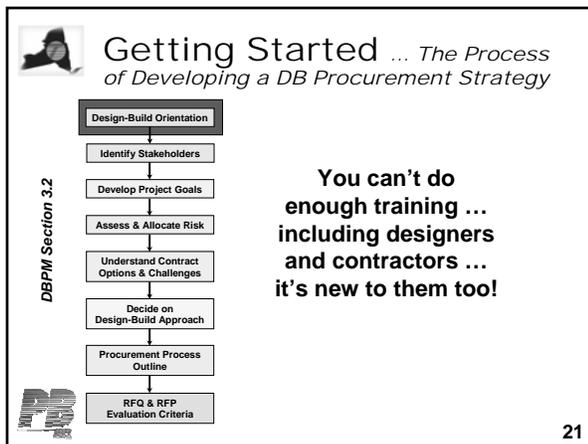
- ❖ The Design-Build Decision
- ❖ Procurement Strategy Development
- ❖ Procurement Process Development
- ❖ Evaluation & Selection
- ❖ Contract Administration



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Getting Started ... The Process of Developing a DB Procurement Strategy

DBPM Section 3.3

Involvement in the Process Builds "Ownership"

Examples:

- FHWA
- RPO
- Cities
- Counties
- COE / EPA
- Coast Guard
- Wildlife; Fish
- Businesses
- Land Owners
- State DEP
- Neighborhood Communities

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Getting Started ... The Process of Developing a DB Procurement Strategy

DBPM Section 3.4

Key to the Strategy! "Guides Every Decision"

- TIME
- QUALITY
- COST

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Getting Started ... The Process of Developing a DB Procurement Strategy

DBPM Section 3.5

Risk Analysis

Risk	Effect	Prob.	Impact	Rating	Mitigation
Hazmat	Time/S	1	3		Invest/Ana price
Utilities	Time/S		2		Agreement/DB
RR	Time				Agreement/Involve
MOT	Time/Impact/PR				Stakeholders/peel specs/DB solve (cont. phasing)
Expansion	FS & Impact	2	2	4	Study/options/DB
Mercy Hospital	Time/S/Future Impact	2	2	4	Coordinate/study/RFP/option/DB
ACOE	Time	2	1	2	Monitor
ROW	Time		2	2	FHWA waiver/RFP
EA Delay	Time	1	2	2	Monitor
EIS	Time	1		3	Monitor/PE/ROW
Envir. Prob.	Time/S	2	1	2	RFP/DB
Geotech	Time/S	2	2	4	Invest/RFP/DB

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Getting Started ... The Process of Developing a DB Procurement Strategy

DBPM Section 3.6

```

    graph TD
      A[Design-Build Orientation] --> B[Identify Stakeholders]
      B --> C[Develop Project Goals]
      C --> D[Assess & Allocate Risk]
      D --> E[Understand Contract Options & Challenges]
      E --> F[Decide on Design-Build Approach]
      F --> G[Procurement Process Outline]
      G --> H[RFQ & RFP Evaluation Criteria]
  
```

There are many ways to contract for Design-Build ... some better than others

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Understanding Contracting Options

DBPM Section 3.6

- ❖ Private Sector vs. Public Sector
- ❖ State and Federal Law ... and Rules and Regs
- ❖ Options ... Some Examples
 1. Competitive Bids (low price)
 2. Competitive Bids w/High Responsibility Standards
 3. Competitive Bids w/Alternative Proposals
 4. Price & Other Factors (without discussions or BAFO)
 5. Price after Discussions and BAFO
 - ➔ 6. Price & Other Factors after Discussions & BAFO ... I.e., Best Value
 7. QBS (w/highest rated proposer) ... Two Phases
 8. Sole Source Negotiating
- ❖ Project Goals & Owner Objectives

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Getting Started ... The Process of Developing a DB Procurement Strategy

DBPM Section 3.6

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```

Challenges

- Tradition & Culture ... Managing Change ... Traditional Rules & Regulations
- Building Trust
- Instilling Teamwork
- Transfer of Control ... Fear of Loss of Control
- Education & Training
- Stakeholder Concerns ... and Involvement
- Allocating Risks
- Timely Decisions ... Resolve Issues
- Communicate & Communicate

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Getting Started ... The Process of Developing a DB Procurement Strategy

DBPM Section 3.7

```

    graph TD
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      F --> G[Procurement Process Outline]
      G --> H[RFQ & RFP Evaluation Criteria]
  
```

Design-Build is a “different way” of doing business, and there are “different ways” to do the Design-Build Business.



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Deciding on a Design-Build Approach

DBPM Section 3.7

- ❖ Every Design-Build Project is Unique
- ❖ Variations in Approach to DB:
 - ◆ *Bidding to Proposing to Negotiating*
 - ◆ *Low Price to Best Value to QBS to Sole Source*
 - ◆ *Significant to Little to No Preliminary Design*
 - ◆ *Traditional to Shared to No Owner's Risk*
 - ◆ *Prescriptive or Performance Specifications*



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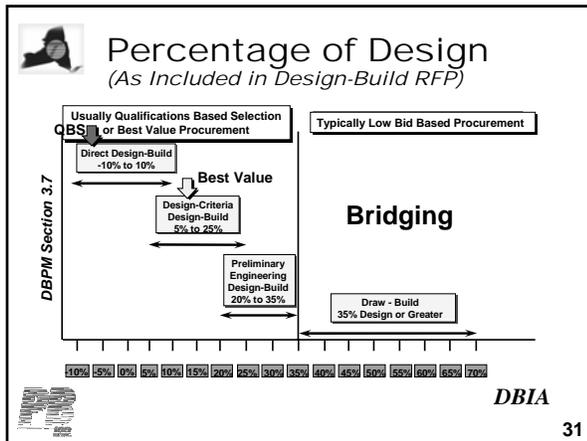
Deciding on a Design-Build Approach

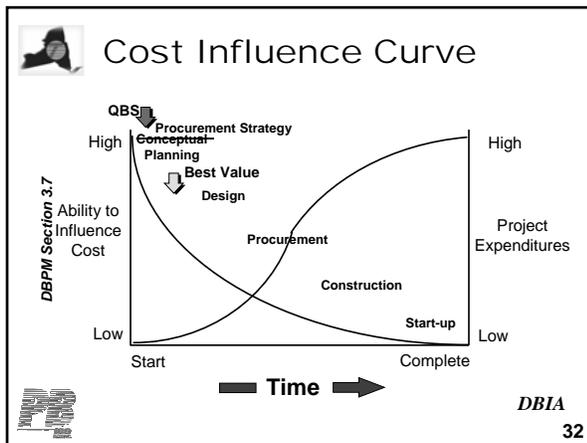
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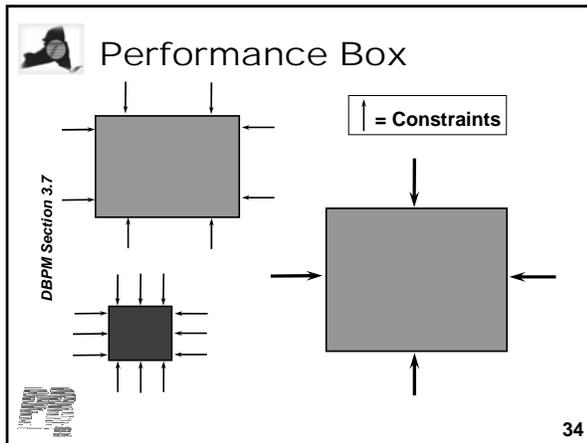
Specifications for Design-Build

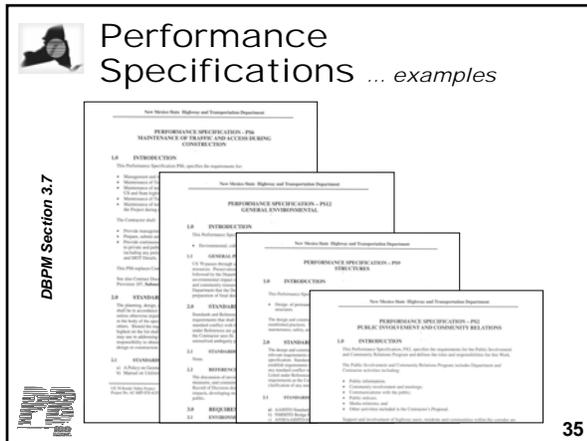
DBPM Section 3.7

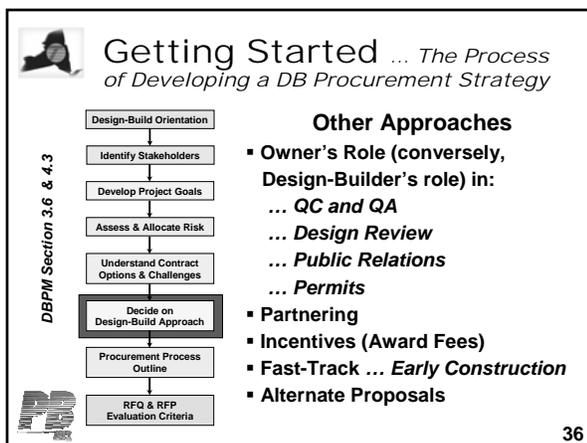
- ❖ Prescriptive vs. Performance
 - ◆ *Prescriptive (traditional)*
 - "How to" do it
 - ◆ *Performance*
 - Define "required results"

DBIA

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Getting Started ... The Process of Developing a DB Procurement Strategy

DBPM Section 3.6 & 4.3

Other Approaches ... continued

- Financing
- Warranties/Maintenance
- Utility Agreements
- ... Relocation by DB
- Concurrent ROW
- ... Executed by DB
- RR Coordination
- Community Gateways
- Wrap-up Insurance
- Stipends
- Price Centers

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Getting Started ... The Process of Developing a DB Procurement Strategy

DBPM Section 3.7

Additional Approaches ... and challenges

- ❖ Organization to Procure
 - ◆ It's Different
- ❖ RFP is the Product
- ❖ Change in Traditions/Culture
 - ◆ Managing vs. Engineering
 - ◆ Defining vs. Problem Solving
- ❖ Continuous Creativity

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Organization Procurement Process ... Typical

DBPM Section 3.7

Construction Planning

- Performance Specifications
- Prelim. Engr.

Engineering Management

- RFQ & RFP
- Contract
- Eval & Sel

Project Support Management

- Utilities
- ROW
- Railroad

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Continuous Creativity

DBPM Section 3.7

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Getting Started ... The Process of Developing a DB Procurement Strategy

DBPM Section 3.8

Typical Steps

- Request for Letters of Interest (RLOI)
- Request for Qualifications (RFQ)
- Informational Meeting
- Short Listing
- Review Draft Request for Proposals (RFP)
- Issue RFP
- Technical / Alternate Concepts Review
- Proposal Evaluation (incl. Alt. Proposals)
- Selection
- Award / Post Award Negotiations
- Contract Execution / Notice to Proceed

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Getting Started ... The Process of Developing a DB Procurement Strategy

DBPM Section 3.9

Starts Preparation of:

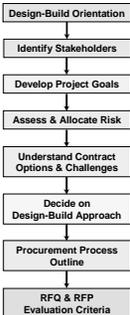
- Evaluation & Selection Plans
- Request for Letters of Interest (RLOI)
- Informational Meeting
- Request for Qualifications (RFQ)
- Request for Proposals (RFP)

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Getting Started ... The Process of Developing a DB Procurement Strategy

DBPM Section 3.0



Products of the Procurement Strategy Workshop:

- List of Stakeholders (with significance)
- Project Goals
- Risk Identification, Assessment, Mitigation & Allocation
- Specific Project Approaches (including specific performance specs)
- Scope of Work for DB Contract
- RFQ and RFP Evaluation Factors
- Future Tasks

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The Owner's Approach

DBPM Section 5.0

- ❖ The Design-Build Decision
- ❖ Procurement Strategy Development
- ❖ Procurement Process Development
- ❖ Evaluation & Selection
- ❖ Contract Administration

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FHWA and Design-Build

FHWA Design-Build Regulations allow:

DBPM Section 5.0

- ❖ Two-Phase Process: I: Short-Listing; II: Proposals (quality & price)
- ❖ Best Value (any combination of quality & price)
- ❖ Performance Specs and Minimum PD / PE
- ❖ Draft RFP Review; Alternate Proposals; Stipends
- ❖ Adjectival Evaluation; Tradeoffs; Discussions; Revised Proposals
- ❖ Negotiations after Selection and Prior to Contract Execution
- ❖ ROW (by Agency or DB'er) after Award; Utility Relocations by DB'er
- ❖ QC / Partial QA by Design-Builder (design & construction)
- ❖ QA Oversight by Owner
- ❖ Long and Short Term Warranties
- ❖ Flexibility in DBE Procedures

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FHWA Practices

FHWA Design-Build Regulations

require:

- ❖ Projects > \$50 Million; SEP-14 Below or Outside
- ❖ Final NEPA Decision Prior to Issuing RFP
- ❖ Approval of RFP Document by FHWA Division Administrator ... *Project Authorization*
- ❖ Verification and IA Testing by STD

anticipate under TEA-21 Reauthorization:

- ❖ No Limitation on Size of Project
- ❖ QBS Design-Build as Experimental Procurement (House)
- ❖ Relaxation of NEPA Restriction (Senate)

DBPM Section 5.0





Transit Design-Build

FTA Circular 4220.1E and BPPM allow:

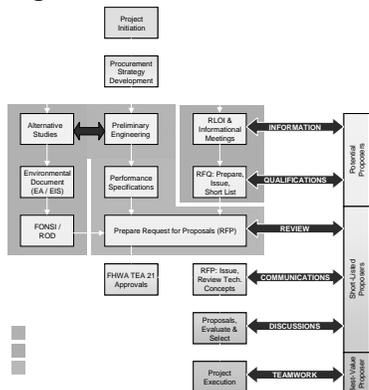
- ❖ Circular 4220.1E (very broad and flexible)
 - ◆ *Design-Build Delivery Method*
 - ◆ *Best Value Selection*
 - ◆ *Competitive Proposal / Request for Proposals Procurement*
 - ◆ *QBS Design-Build (restricted)*
 - ◆ *Options*
 - ◆ *Basically, NO Restrictions on Procurement Details*
- ❖ Best Practices Procurement Manual (BPPM)
 - ◆ *Discourages Point Scoring and Equations*
 - ◆ *Encourages Adjectival Grading and Tradeoff Analysis*
 - ◆ *Discussions and Best and Final Offers*
 - ◆ *Factually Based Selection Decision*

DBPM Section 5.0





Design-Build Procurement



DBPM Section 5.0





Steps in the Procurement Process ... *Recommended*

DBPM Section 5.0

- Request for Letters of Interest (RLOI)
- Request for Qualifications (RFQ)
- Informational Meeting
- Short Listing
- Review Draft Request for Proposals (RFP)
- Issue RFP
- Technical and/or Alternate Concepts Review
- Proposal Evaluation (incl. Alternate Proposals)
- Selection / Award / Post Award Negotiation
- Contract Execution / Notice to Proceed



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The DB Procurement Process ... *What's Different: What's Needed or Required?*

DBPM Section 5.0

❖ Processes and Procedures that:

- ◆ *Are Consistent with:*
 - FHWA Regulations
 - State Law & Regulations
- ◆ *Incorporate "Best Practices" of Design-Build Procurement*



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The DB Procurement Process ... *What's Different?*

DBPM Section 5.0

❖ Basic Documents are:

- ◆ *Request for Letters of Interest (RLOI)*
- ◆ *Request for Qualifications (RFQ)*
- ◆ *Request for Proposals (RFP)*



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Request for Letters of Interest (RLOI) ... Elements

DBPM Section 5.1

❖ Contents

- ◆ *Brief Project Description and Scope of Work*
- ◆ *Brief Description of Procurement Process*
- ◆ *"Teamwork" Statement* "... seeking Design-Builders ... committed to quality, have proven experience in design and construction of ... will bring innovative design-build approaches to ensure timely completion ... willing to partner with Department for the mutual success of the Project"

❖ Purpose

- ◆ *Announces Project*
- ◆ *Facilitates Formation of DB Teams*
- ◆ *Defines Project*
- ◆ *Stimulates Interest*
- ◆ *Provides Contact Info*
- ◆ *Initiate Communication & Info Exchange*



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Request for Qualifications (RFQ) ... Elements

DBPM Section 5.4

- ❖ **Brief Project Description**
- ❖ **Outline of Overall Procurement Process**
 - ◆ *Anticipated E&S Criteria for Proposals*
- ❖ **"Rules of the Game"**
- ❖ **Evaluation and Short List Criteria**
- ❖ **Information to Submit with Statement of Qualifications (SOQ)**
 - ◆ *Forms*



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The DB Procurement Process ... What's Different?

DBPM Section 5.4

- ❖ **RFQ Evaluation Factors:**
 - ◆ *(Pass/Fail) Legal*
 - ◆ *(Pass/Fail) Financial*
 - ◆ *(Pass/Fail) Responsiveness*
 - ◆ *Organization and Key Managers**
 - ◆ *Experience**
 - ◆ *Past Performance** * **Design and Construction**
 - ◆ *Backlog / Capacity**
 - ◆ *Project Understanding / Plan*



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The Request for Proposals (RFP) ... Elements

❖ Instructions to Proposers

❖ Contract Documents

- ◆ Agreement
 - Project Scope
 - Federal Provisions
- ◆ DB Standard Specifications (DB Section 100)
- ◆ DB Special Provisions (project)
- ◆ DB Standard Specifications (Construction & Materials)
- ◆ Performance Specifications & Design Criteria
- ◆ Requirements (i.e., utilities; environmental)
- ◆ Preliminary Engineering & Design

❖ Reference Documents (Project Data & Info.)

DBPM Section 5.5



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Instructions to Proposers

❖ Factors to be Evaluated

❖ What to Submit (and when)

- ◆ Forms

❖ Criteria Guiding Evaluation

- ◆ "What's Important to Owner"

❖ Ratings Guidelines

❖ How Selection will be Made

❖ Stipend

DBPM Section 6.0



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The Owner's Approach

❖ The Design-Build Decision

❖ Procurement Strategy Development

❖ Procurement Process Development

❖ Evaluation & Selection

❖ Contract Administration

DBPM Section 9.6



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The Evaluation & Selection Process ... *What's Different?*

DBPM Section 9.6

❖ Selection Committees:

- ◆ *Unique to Project*
- ◆ *Legal & Financial (comprehensive)*
- ◆ *Use of Evaluation Teams (subject matter experts ... could include Department, PM consultant, stakeholder, and/or other outside DB experts)*



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The Evaluation & Selection Process ... *What's Different?*

DBPM Section 9.6

❖ The Evaluation Process uses:

- ◆ *Clarifications & Communications*
- ◆ *Adjectival Rating Method*
- ◆ *Recommendations by Evaluation Teams*
- ◆ *Consensus of Committees for:*
 - Quality Ratings for Each Technical Evaluation Factor
 - Overall Technical Quality Rating for Each Proposal
- ◆ *Discussions / Final Proposal Revision (i.e., BAFO)*
- ◆ *Best Value Selection*



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The Evaluation & Selection Process ... *Adjectival Ratings*

EXCEPTIONAL - The Proposer has demonstrated an approach that is considered to significantly exceed stated criteria in a way that is beneficial to the Department. This rating indicates a consistently outstanding level of quality, with very little risk that this Proposer would fail to meet the requirements of the solicitation. There are essentially no weaknesses.

GOOD - The Proposer has demonstrated an approach that is considered to exceed stated criteria. This rating indicates a generally better than acceptable quality, with little risk that this Proposer would fail to meet the requirements of this solicitation. Weaknesses, if any, are very minor.

ACCEPTABLE - The Proposer has demonstrated an approach that is considered to meet the stated criteria. This rating indicates an acceptable level of quality. The Proposal demonstrates a reasonable probability of success. Weaknesses are minor and can be readily corrected.

POTENTIAL TO BECOME ACCEPTABLE - The Proposer has demonstrated an approach that fails to meet stated criteria as there are weaknesses and/or deficiencies, but they are susceptible to correction through discussion. The response is considered marginal in terms of the basic content and/or amount of information provided for evaluation but overall the Proposer is capable of providing an acceptable or better Proposal.

UNACCEPTABLE - The Proposer has demonstrated an approach that indicates significant weaknesses/deficiencies and/or unacceptable quality. The Proposal fails to meet the stated criteria and/or lacks essential information and is conflicting and/or unproductive. There is no reasonable likelihood of success, weaknesses/deficiencies are so major and/or extensive that a major revision to the Proposal would be necessary.

In assigning ratings the Department may assign "+" or "-" (such as "Exceptional -", "Good +", "Acceptable +") to the rating to more clearly differentiate between the proposals.



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The Evaluation & Selection Process ... *What's Different?*

DBPM Section 9.5

- ❖ Evaluation Process Guided by :
 - ◆ *Evaluation & Short-List Plan (RFQ)*
 - ◆ *Evaluation & Selection Plan (RFP)*
- ❖ A Procurement Management Team to Manage Actual Evaluation Process



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"RFP Evaluation & Selection Plans"

DBPM Section 9.5

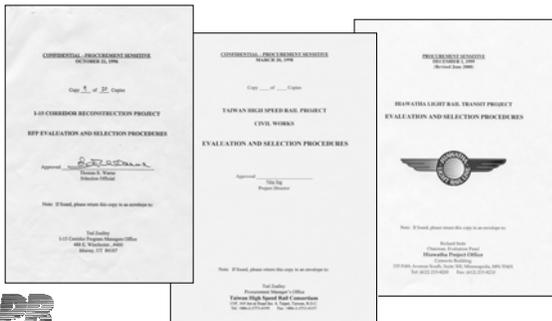
- ❖ Critical to the Discipline, Confidentiality, Fairness, Credibility & Dependability of the Process
- ❖ Modeled after: Federal "Source Selection Plan"
- ❖ Contains all the Functions, Procedures & Guidelines for Everyone in the Process



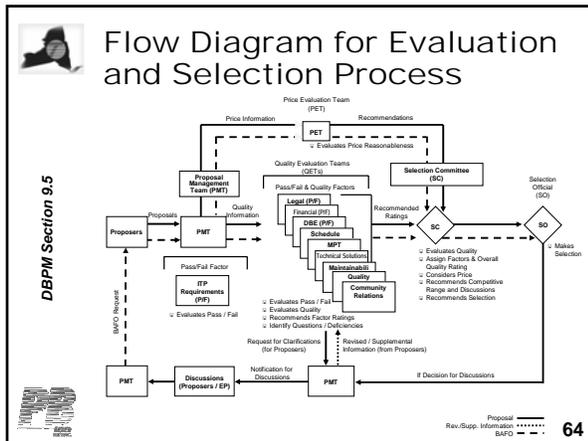
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E&S Plans ... *Examples*



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- ### The Owner's Approach
- DBPM Section 10.0**
- ❖ The Design-Build Decision
 - ❖ Procurement Strategy Development
 - ❖ Procurement Process Development
 - ❖ Evaluation & Selection
 - ❖ **Contract Administration**
- 65**

- ### Keys to Successful Administration
- DBPM Section 10.0**
- ❖ Organize to Do What You've Said
 - ◆ Staff (consistent with QA responsibility)
 - ❖ Be Consistent with the Concepts
 - ◆ Partnering
 - ◆ Fast Track
 - ◆ DB QC - NYSDOT QA [Oversight] (design & construction)
 - ❖ People Continuity
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Keys to Successful Administration *(Continued)*

DBPM Section 10.0

- ❖ Preserve the Trust
- ❖ Foster Teamwork
- ❖ Be Fair & Firm
- ❖ Resolve Issues
- ❖ Don't Slip Back to Traditional
- ❖ More Specifics on NYSDOT Administration Under Part II



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Case Studies



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Case Study



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UDOT's Program Objectives

- ❖ Transform UDOT
- ❖ Resolve Issues ... "No Litigation"
- ❖ Meet UDOT Staffing Goals
- ❖ Reduce Project Management by UDOT
- ❖ Address Public Desires



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The Design-Build Decision

Public Relations Research (1995)

*The public would prefer
a greater level of impact
in exchange for a
shorter construction duration.*



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I-15 Project Goals

❖ TIME

- ◆ *Replace Structures Before Failure*
- ◆ *Public Opinion ... "Faster"*
- ◆ *2002 Winter Olympics ... "An End Date"*

❖ QUALITY

- ◆ *High...Seismic*
- ◆ *Safe...Maintainable*

❖ COST

- ◆ *Reasonable*



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TIME (I-15)

- ❖ 4 1/2 Years! (Demanding public & 2002 Olympics & Safety)
- ❖ Must provide FLEXIBILITY for Design-Builder to "Plan, Design, Construct, and Control" project
- ❖ FLEXIBILITY Incorporated by:
 - ◆ One contractor
 - ◆ Contractor quality control/quality assurance
 - ◆ Early construction
 - design oversight
 - "over the shoulder"



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QUALITY (I-15)

- ❖ Traditional Techniques not consistent with D-B
- ❖ Quality Incorporated by: "Quality Hooks"
 - ◆ Design-Build with Performance Specs (Up front value engineering)
 - ◆ Best Value (price and other factors)
 - ◆ Long Term Maintenance/Warranty
 - ◆ ISO 9001
 - ◆ Award Fee (\$50 M)
 - ◆ Stipends (\$950 K)



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I-15 Performance Specifications

- | | |
|----------------------|--------------------------------------|
| ❖ Drainage | ❖ Maintenance of Traffic (i.e., MPT) |
| ❖ Roadway Geometrics | ❖ Maintenance During Construction |
| ❖ Geotechnical | ❖ Maintenance After Construction |
| ❖ Water Quality | ❖ ATMS |
| ❖ Lighting | ❖ Concrete Barriers |
| ❖ Pavements | ❖ Landscape & Aesthetics |
| ❖ Signing | |
| ❖ Traffic Signals | |
| ❖ Structures | |



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Lighting ... Performance Specification

- ❖ General Criteria
 - ◆ Design & Construct a Durable Lighting System
 - ◆ Provide Appropriate Illumination
 - ◆ Avoid Light Pollution Outside Corridor
 - ◆ Avoids Disability and Discomfort Glare to Users
 - ◆ Provide for Ease of Maintenance
- ❖ Specific Criteria
 - ◆ AASHTO Guides; National Electric Code
 - ◆ Incorporate ATMS & Aesthetic Requirements
 - ◆ Minimize Lane Closures During Maintenance
 - ◆ Uniformity Ratio of 3:1
 - ◆ Average Lux of 6.5 to 8.6 (maximum 1.85)
 - ◆ Lamp Types as Outlined in FEIS
 - ◆ Use Sylvania, Phillips or GE Lamps!!



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Award Fee

- ❖ Philosophy & Benefits:
 - ◆ Motivates Desired Performance in:
 - Schedule/Completion
 - Quality of Work
 - Management
 - Community Relations & MPT
 - ◆ Positive Means for Achieving Results
 - Financial Incentive to Contractor
 - Consistent with Partnering
 - ◆ Incentivize Performance Throughout Schedule (not just at end)
- ❖ Proven and Successful



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Stipends

- ❖ \$950,000 to Unsuccessful Proposers
- ❖ Recognition of Proposer's Investment
- ❖ Facilitates Quality in the Proposal
- ❖ Ownership of Concepts
- ❖ Encourages Participation in Next DB Project



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COST (I-15)

- ❖ Increased Efficiency (design & construction)
- ❖ Economies of Scale
- ❖ Less Uncertainties/Contingencies
- ❖ Standardization
- ❖ Time is Money
- ❖ Premium for Compressed Schedule



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More Strategy (I-15)

- ❖ Utah Laws
 - ◆ Rules
- ❖ Federal 23CFR & FHWA
 - ◆ Special Experimental Project 14 (SEP-14)
 - ◆ MOU
- ❖ Risk Analysis/Risk Allocation
- ❖ Up front efforts (jump start D-B)
 - ◆ 100% Designs for Early Construction
 - ◆ Refinements to Roadway Geometry
 - ◆ Geotechnical Investigations
 - ◆ Utilities
 - ◆ Drainage
 - ◆ Railroads
 - ◆ ROW (Right of Way)
 - ◆ Maintenance of Traffic (i.e., MPT)
 - ◆ Aesthetics
 - ◆ Environmental Permits



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Risk Allocation (I-15)

Risk/Responsibility Category	"Traditional" Design-Bid-Build		Typical Design-Build		I-15 Design-Build	
	Owner	Designer or Constructor	Owner	Design-Builder	Owner	Design-Builder
Final Alignment Geometry	X			X		X
Geotechnical Data	X			X	X	
Environmental Permits	X	X		X	X	
Design Criteria	X		X		X	
Design Defects	X			X		X
Constructibility of Design	X			X		X
Obtaining ROW	X			X	X	
Coordinating with Utilities & Railroads				X	Agreements	Coordination
Quality Control and Quality Assurance		Significant inspection and testing	Quality of Workmanship	Oversight only	X	Oversight Only
Coordination with other work	X			X		X



81



Utilities

- ❖ 1500 Crossings
- ❖ 600 Potential Conflicts/Relocations
- ❖ 40 Utility Owners
- ❖ Agreements in Place



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Utilities (continued)

Design and Construction of Utility Work

Number	Utility Owner	Name	Type	Who Does the Work?	
				Design	Construction
1	Coburn & McElroy Ingoten Company	IR	DB	DB	
2	Ingoten Cable Television	CTV	DB	DB	
3	Moore City	SS, SS, WTR	DB	DB	
4 (163)	Moore Park Paddy Company	DB	DB	DB	
4	Moore City Sewer / Water	SS, SS, WTR	DB	DB	
7	Moore City Power - Operations	EL	Utility	Utility/DB	
8	Salt Lake City - Dept. of Public Utilities	SS, SS, WTR	DB	DB	
9	Salt Lake City Suburban Services Dist. #1	SS	DB	DB	
10	Salt Lake City Suburban Dist. #2 (Salt Lake City)	SS	Utility	DB	
11	Salt Lake County	SS	DB	DB	
12	St. George Sewer and Dist. No. 1	SS	Utility	DB	
13	St. George Water Conservancy District	SS	DB	DB	
14	Stans City	SS, SS, WTR	DB	DB	
16	Utah Education Assn. District	DB	Utility	DB	
16	City of South Jordan	SS, SS, WTR	DB	DB	
17	Utah Salt Lake City	SS, SS, WTR	DB	DB	
18	UTCCollegians	CTV	Utility	Utility	
19	UT West Communications	Tel	DB	DB	
20	Utah Power	EL	Utility	Utility	
21	UTV	No utility conflicts identified at this time			
22	MCI	FO	DB	DB	
23	US Sprint	FO	DB	DB	
24	Bell Canyon Ingoten Company	No utility conflicts identified at this time			
25	Big Bend Ingoten Company	IR	DB	DB	
26	East Jordan Ingoten Company	IR	DB	DB	
27	Moore Ingoten Company	IR	DB	DB	
28	Utah & East Jordan Ingoten Company	IR	DB	DB	
29	Utah	FO	DB	DB	
30	AMSCO Oil Company	DB	DB	DB	
31	Utah Telephone	FO	DB	DB	
32	Brooks Fiber Properties	FO	DB	DB	
33	Taligent Communications Group	No utility conflicts identified at this time			
34	Greenway Telecommunications	No utility conflicts identified at this time			
35	Utah Telephone	FO	DB	DB	
36	Utah Telephone	FO	DB	DB	
40	Utah Power	FO	DB	DB	
41	Utah Power	FO	DB	DB	
42	Utah Power	FO	DB	DB	



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ROW Traditional Design/Build

- ❖ Appraisals begin only AFTER all funding available → Began appraisals in anticipation of funding
- ❖ Acquisition STARTS at 100% design → Acquisition started during RFP development ... obtained rights of entry & Options
- ❖ IFB AFTER all land is acquired → Acquired land through first year of design & construction
- ❖ 3 years (162 parcels) → 18-20 (concurrent) months



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Other Concepts (I-15)

- ❖ Partnering ... "Issue Resolution"
- ❖ OCIP (Owner Controlled Insurance Program)
 - ◆ (Cost Avoidance: \$ 20 -25 M)
- ❖ Expedited Payment
 - ◆ (Cost Avoidance : \$ 30 M)
- ❖ Public Information Program
- ❖ 4 CD-ROMS
- ❖ Subcontracting



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More Challenges (I-15)

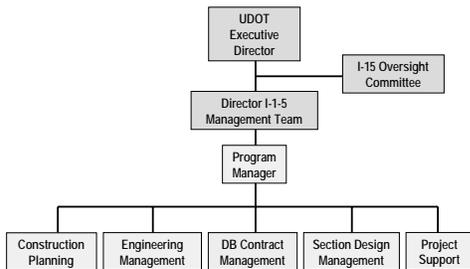
- ❖ Procurement Organization
- ❖ Concrete vs. Asphalt
- ❖ MPT
- ❖ Aesthetics & Landscaping
- ❖ Cost Estimate
- ❖ Long-Term Maintenance & Warranty
- ❖ Continuous Creativity



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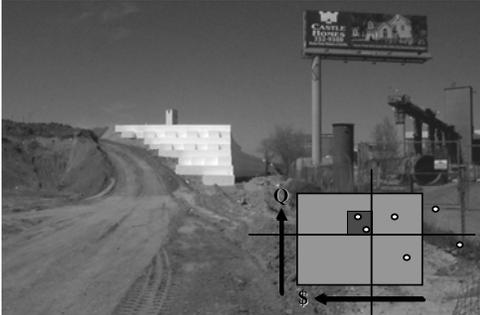
Organization Procurement Process ... Utah I-15



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Continuous Creativity



88



Steps in the Procurement Process (1-15)

❖ Request for Letters of Interest (RLOI)	❖ Mar 96
❖ Informational Meeting	❖ 15 May 96
❖ Request for Qualifications (RFQ)	❖ 30 May 96
❖ Selection of Prequalified	❖ 18 Jul 96
❖ Develop Request for Proposals (RFP)	❖ Feb-Sep 96
❖ Review Draft RFP	❖ Aug-Sep 96
❖ Issue RFP	❖ 1 Oct 96
❖ Technical Concepts Review	❖ 23 Oct-1 Dec 96
❖ Receive Proposals	❖ 15 Jan 97
❖ Evaluation of Proposals (initial)	❖ Jan-Feb 97
❖ Discussion & BAFO (if required)	❖ Feb-Mar 97
❖ Best Value Selection	❖ Apr 97
❖ Award/Notice to Proceed (NTP)	❖ 15 Apr 97

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Evaluation Factors

- ❖ Technical Solutions
 - ◆ Maintenance of Traffic (i.e., MPT)
 - ◆ Geotechnical
 - ◆ Structures
 - ◆ Pavement
 - ◆ Maintainability
 - ◆ Other: Aesthetics, Drainage, Roadway Geometry, Lighting, Traffic Signals, Signing, Water Quality, Harmful/Hazardous Materials Remediation, Concrete Barriers, & ATMS
- ❖ Work Plan/Schedule
- ❖ Management
- ❖ Organizational Qualifications
- ❖ Price

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Technical Proposal

3.5.4 EVALUATION FACTORS

The technical and price proposals are **approximately equal in weight**.

The Technical Proposal is composed of the following four technical factors listed in **descending order of importance**:

- Technical Solutions
- Work Plan/Schedule
- Management
- Organizational Qualifications

Technical Solutions are broken down further into the following six technical subfactors. **All six are of equal weight.**

- Maintenance of Traffic
- Geotechnical
- Structures
- Pavement
- Maintainability
- Others, in **three levels of significance**:
 - High:** ATMS
Drainage and Water Quality
Roadway Geometrics
 - Intermediate:** Aesthetics
Lighting, Traffic Signals, Signing (evaluated together)
 - Low:** Concrete Barriers
Harmful/Hazardous Materials Remediation



Technical Proposal Ratings Guidelines

EXCEPTIONAL: The proposer has demonstrated an approach which is considered to significantly exceed stated requirements/objectives in a beneficial way and provides a consistently outstanding level of quality. There is very little or no risk that this proposer would fail to meet the requirements of the solicitation. There are essentially no weaknesses.

GOOD: The proposer has demonstrated an approach which is considered to exceed stated requirements/objectives and offers a generally better than acceptable quality. There is little risk that this proposer would fail to meet the requirements of the solicitation. Weaknesses, if any, are very minor.

ACCEPTABLE: The proposer has demonstrated an approach which is considered to meet the stated requirements/objectives and has an acceptable level of quality. The proposal demonstrates a reasonable probability of success. Weaknesses are minor and can be readily corrected.

SUSCEPTIBLE TO BECOMING ACCEPTABLE: The proposer has demonstrated an approach which fails to meet stated requirements/objectives as there are weaknesses and/or deficiencies, but they are susceptible to correction through discussion. The response is considered marginal in terms of the basic content and/or amount of information provided for evaluation but overall the proposer is capable of providing an acceptable or better proposal.

UNACCEPTABLE: The proposer has demonstrated an approach which contains significant weaknesses/deficiencies and/or unacceptable quality. The proposal fails to meet the stated requirements/objectives and/or lacks essential information and is conflicting and/or unproductive. There is no reasonable likelihood of success; weaknesses/deficiencies are so major and/or extensive that a major revision to the proposal would be necessary.



Evaluation Matrix

EVALUATION MATRIX

Technical Factors
Descending Order of Importance

Proposer	TEB	Org. Qual.	Man/Work Plan/Schedule	Tech. Solutions
Laker Biomenville	A*	G*	G*	A*
Still Lake	G*	G*	A*	G*
Wauatch	E*	G*	G*	E*

Technical Subfactors
Equal Weight

Proposer	Tech. Solutions	MOT	Geotech	Pres. Imp.	Maintain. Sols.	Other
Laker Biomenville	A*	A*	A*	G*	A*	G*
Still Lake	G*	G*	G*	G*	G*	A*
Wauatch	E*	E*	G*	E*	G*	E*

Other Technical Subfactors
High Significance Medium Significance Low Significance

Proposer	TEB	Org. Qual.	Mot/Work Plan/Schedule	Tech. Solutions	MOT	Geotech	Pres. Imp.	Maintain. Sols.	Other
Laker Biomenville	G*	E*	A*	A*	G*	G*	A*	G*	G*
Still Lake	A*	G*	G*	G*	G*	G*	G*	A*	G*
Wauatch	E*	E*	G*	E*	E*	E*	A*	A*	E*

* Initial rating shown in parenthesis if rating was adjusted during BAFO evaluation

 I-15 MPT Plan
(Wasatch Proposal)



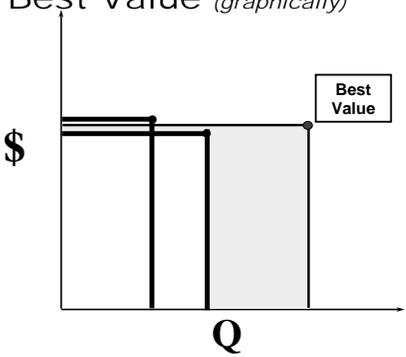
94

 Re-striping of I-215 (West)



95

 Best Value (graphically)



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Utah's I-15 ... Design-Build Approach Summary

- ❖ FLEXIBILITY for Design-Builder to "Plan, Design, Construct, and Control" Project
- ❖ One Contractor
- ❖ Performance Specifications
- ❖ Proposals & Best Value Selection
- ❖ Little Overall Preliminary Design / Engineering
- ❖ Shared Risk
- ❖ Contractor Quality Control / Quality Assurance
- ❖ Provisions for Early Construction



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I-15 Reconstruction

... Salt Lake City, Utah



- 5 Months Ahead of Schedule
- \$ 30 Million under Budget
- No Claims



- ❖ \$1.325 Billion ... 4 ½ Years
- ❖ 16 Miles ... 142 Bridge Structures
 - ◆ 3 Interstate Junctions
 - ◆ 9 SPUI Interchanges
 - ◆ Valley-wide ATMS
- ❖ Innovative Procurement
- ❖ Best Value Selection
 - ◆ Highest Quality
 - ◆ Second Lowest Price
 - ◆ Adjectival Ratings
- ❖ Critical Project Goals:
 - ◆ Complete Before Olympics
 - ◆ High Quality ... Seismic
 - ◆ Safe ... Maintainable

98



US 70 Widening

... Hondo Valley, New Mexico



- ❖ \$130 Million
- ❖ 38 Miles ... 5 Bridges
 - ◆ 14 Stakeholders
 - ◆ Environmentally Sensitive
- ❖ Best Value Selection
 - ◆ To Other Than Low Price
 - ◆ Adjectival Ratings
- ❖ Critical Project Goals:
 - ◆ Award by June 2002
 - ◆ Completion NLT Sept 2004
 - ◆ High Quality
 - ◆ Under Budget

99



Admiral Clarey Bridge

... Ford Island, Hawaii



- ❖ \$80 Million Max. (sale of property)
- ❖ Effectively a "Design Competition"
- ❖ "Creative Stipend & Geotech "
- ❖ Best Value Selection
 - ◆ \$68.5 Million (lowest price)
 - ◆ Highest Quality
 - ◆ Adjectival Ratings
- ❖ Added Additional Lane for \$10 M
- ❖ Critical Project Goals:
 - ◆ Design and Cost



100



Cooper River Bridge

... Replacement Project, Charleston, SC



Current



Future

- ❖ \$531 Million
 - ◆ \$119M less than DBB Estimate
- ❖ Main Span:
 - ◆ 1,546 Ft Long – 186 Ft High
 - ◆ 1,000 Ft Navigational Channel
 - ◆ Longest Cable-Stayed Span in North America
- ❖ Fast-Track 5-Year Completion
- ❖ Critical Project Goals:
 - ◆ Quality (signature design), Cost and Time



101



I-285 Bridge Structures

... RW and TW Expansion at Atlanta Airport



- ❖ \$159 Million
 - ◆ \$91M less than DBB Estimate
 - ◆ \$20M below Next Lowest
- ❖ Best Value Selection
 - ◆ Lowest Price
 - ◆ Innovative Design Solutions for Ventilation, Abutments and RW-TW Surface/Bridge Decks
- ❖ Fast-Track 3-Year Completion
- ❖ Critical Project Goals:
 - ◆ Time and Cost



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Bath-Woolwich Bridge

... New Bridge Replacement, Bath, ME



- ❖ \$62 Million
- ❖ Best Value Selection
 - ◆ High Quality and Low Price
- ❖ Critical Project Goals:
 - ◆ Speed of Procurement ... Early Price Saved \$38M in Discretionary Bridge Funds
 - ◆ Saved 2 Years Off Traditional Delivery
 - ◆ Pier and Segmental Girder Design Innovation ... a Bonus



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Toll Roads

(Transportation Corridor Agencies)
... Orange County, California




- ❖ San Joaquin Hills
 - ◆ \$813 Million
 - ◆ 15 Miles; 58 Bridges; 10 Interchanges
 - ◆ Completed 3 Months Early
- ❖ Eastern
 - ◆ \$750 Million
 - ◆ 28.5 Miles; 63 Bridges; 9 Interchanges
 - ◆ \$114 Million below Budget
 - ◆ Completed 12 Months Early
- ❖ Foot Hill-South
 - ◆ \$600 Million (estimate)
 - ◆ 16 Miles; 16 Bridges; 5 Interchanges
 - ◆ Quality Based Selection

Currently in Phase 1 →

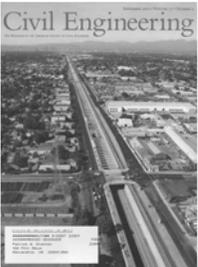


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Alameda Corridor

... Long Beach, California



- ❖ \$770 Million ... 5 years (2006)
- ❖ Midcorridor Trench (10 miles)
 - ◆ Two Rail Tracks & Access Road
 - ◆ Track for Entire Corridor
 - ◆ 2/3 of Program (\$)
 - ◆ First ACTA Design-Build
 - ◆ 19 other D-B-B Contracts
- ❖ Best Value Selection
 - ◆ 2nd Highest Quality / Lowest Price
- ❖ Critical Project Goals:
 - ◆ Time
 - ◆ Min. Impact to Community, Public
 - ◆ Quality Project within Budget



105

T-REX
... Denver, Colorado



- ❖ \$1.186 Billion ... 5 years (2006)
- ❖ Highway & Light Rail
 - ◆ 17 Miles I-25 / I-225
 - ◆ 19 Miles Double Track
 - ◆ First Major CDOT Design-Build
- ❖ Best Value Selection
 - ◆ 2nd Highest Quality / Lowest Price
 - ◆ Adjectival Ratings
- ❖ Critical Project Goals:
 - ◆ Fully Operational (June 2008)
 - ◆ Min. Impact to Community, Public
 - ◆ Quality Project within Budget

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T-REX
Plan View




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State Highway 130
...Austin, Texas



- ❖ \$1.36 Billion ... Toll Road
- ❖ 90 Miles
 - ◆ 4-Lanes (expandable to 6)
 - ◆ 15-Year Provision for Maintenance
 - ◆ First TxDOT Design-Build
- ❖ Best Value Selection
 - ◆ Best Long-Term Value (concrete)
- ❖ Critical Project Goals:
 - ◆ Time (compressed time from 25 years to less than 5 years)
 - ◆ Environmentally Sensitive
 - ◆ Transfer Responsibility / Liability

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Carolina Bays Parkway

...Myrtle Beach, South Carolina



- ❖ \$240 Million
 - ◆ 20 Miles
 - ◆ Six Lanes
 - ◆ 36 Bridges
- ❖ Best Value Selection
 - ◆ Max. Stipulated Sum
 - ◆ Scope Adds
 - ◆ "Added Value" Options
- ❖ Environmentally Sensitive
- ❖ Completed in 27 Months
 - ◆ 7 Months Early
 - ◆ 7 Years Ahead of DBB

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Carolina Bays Parkway

The roadway travels through an environmentally sensitive area. "Carolina bays" are isolated wetlands in natural shallow depressions that are largely supported by rain and shallow groundwater. The wetlands are a habitat for a wide range of wildlife, including such animals as frogs, salamanders, turtles, snakes, and alligatoric birds including herons, egrets, and migratory wildfowl; and such mammals as deer, raccoons, skunks, and opossums. Additionally, the wetlands provide erosion control, water purification, and flood control. The U.S. Army Corps of Engineers permit for the project defined a basic "footprint" of the impacted wetland area. A key goal was not to exceed this footprint, and if possible, reduce the total acres of impacted wetlands.



Carolina Bays Parkway bridge crossing environmentally-critical wetlands area



Carolina Bays Parkway bridge crossing Atlantic Intracoastal Waterway

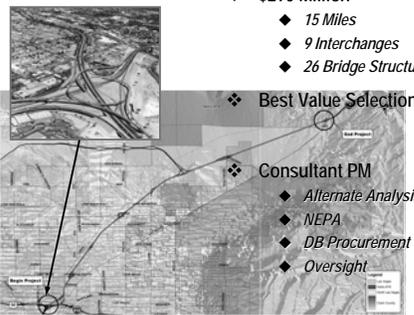
UNDER PROMISING AND OVER DELIVERING
While the Carolina Bays Parkway was the second design-build project completed by SCDDOT, it was the first design-build project that included design, right-of-way, significant risk sharing, utility relocation, and construction services under a single contract. The Carolina Bays Parkway was open to traffic on December 17, 2002, over seven months ahead of the revised project schedule that incorporated SCDDOT options and change orders. The final contract price was \$253.9 million, a 3.8 percent growth over the project budget. This modest increase reflected additional scope changes by SCDDOT or change orders requested by other agencies and municipalities. Moreover, the project not only minimized wetlands impact, but also ultimately resulted in fewer acres of impacted wetlands than allowed under the Corps of Engineers permit. Environmental agencies permit to this project as a "showcase project" of how to navigate a project through an environmentally sensitive area.

110



I-15 North Widening

... Las Vegas, Nevada



- ❖ \$290 Million
 - ◆ 15 Miles
 - ◆ 9 Interchanges
 - ◆ 26 Bridge Structures
- ❖ Best Value Selection
- ❖ Consultant PM
 - ◆ Alternate Analysis
 - ◆ NEPA
 - ◆ DB Procurement
 - ◆ Oversight

Current Work

111



Hiawatha LRT

... Minneapolis, MN



- ❖ \$291 Million
 - ◆ *Negotiations after Selection*
- ❖ Best Value Selection
 - ◆ *Stipulated Sum*
 - ◆ *Scope Adds & Deducts*
 - ◆ *Adjectival Ratings*
- ❖ Critical Project Goals:
 - ◆ *Maximum Scope within Budget*
 - ◆ *Sensitive to Stakeholders*
 - ◆ *Minimum Disruption*
 - ◆ *Full Service Late 2004*



112



University & Medical Center LRT

... Salt Lake City, UT



- ❖ \$208 Million
 - ◆ *Negotiations after Selection*
 - ◆ *Used Provisional Sums*
- ❖ Best Value Selection
 - ◆ *Option to add Medical Center*
 - ◆ *Adjectival Ratings*
- ❖ Critical Project Goals:
 - ◆ *University: Before Olympics*
 - ◆ *University: Obtain Funding*
 - ◆ *MC: Low Cost / Get Funding*



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AirTrain LRT

... Elevated Transit to JFK Airport



- ❖ \$930 Million
 - ◆ *8-Mile Elevated Track*
 - ◆ *DBOM Contract*
- ❖ Best Value Selection
 - ◆ *Two Short Lists*
 - ◆ *Negotiations after Selection*
 - ◆ *High Quality / Lowest Price*
- ❖ Critical Project Goals:
 - ◆ *Service Proven Technology*
 - ◆ *Within Budget*



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Successful Design-Build

The Successful Owner's Approach

DBPM Section 3.0

- ❖ Develop a Procurement Strategy "First"
 - ◆ *Project Goals are the "Key"*
 - ◆ *Decide on a Design-Build Approach*
- ❖ Embrace "Teamwork & Trust"
- ❖ Encourage Creativity
- ❖ Manage Cultural Change
- ❖ Administer Consistent with Strategy



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Successful Design-Build

The Contractor's Perspective

- ❖ Well Planned Procurement Strategy and Process
 - ◆ *Communicated Well; Understood; Fair*
 - ◆ *Performance Specs; Flexibility*
 - ◆ *Opportunity for Innovation & Creativity*
 - ◆ *Best Value Selection*
- ❖ Be Serious about "Teamwork & Trust"
- ❖ Provide Positive Incentives
- ❖ Recognize "Different Way of Doing Business" When Administering Contract



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Design-Build Orientation



Part II NYSDOT Design-Build Process

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Development of NYSDOT's Design-Build Process

NYSDOT's Design-Build Process

- ❖ Review of Existing NYSDOT Policies & Procedures
- ❖ Industry Research of Design-Build Practices: *Design-Build Practice Report*
- ❖ Recommended Process for Design-Build: *Design-Build Process Report*
- ❖ Supporting and Related Documents for Design-Build Procurement Process and Revised NYSDOT Manuals and Procedures: *Design-Build Procedures Manual (includes guidance, templates, forms and Design-Build Standard Specifications)*
- ❖ Training



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Design-Build Procedures Manual – Volume I ... Contents

NYSDOT's Design-Build Process

- Guidance to Department Staff in Procuring Design-Build
- ❖ The Design-Build Decision
 - ❖ Project Procurement Strategy
 - ❖ Environmental Documents & Preliminary Engineering
 - ❖ Request for Letters of Interest (RLOI)
 - ❖ Informational Meeting
 - ❖ Request for Qualifications (RFQ) & Short Listing
 - ❖ Request for Proposals (RFP) ... (review and issuance)
 - ❖ Proposal Evaluation
 - ❖ Best Value Selection
 - ❖ Design-Build Project Execution



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Design-Build Procedures Manual – Exhibits ... Contents

NYSDOT's Design-Build Process

- ❖ Sample of RLOI
- ❖ Sample of RFQ
- ❖ Sample of RFP
 - ◆ *Instructions to Proposers (including forms)*
 - ◆ *Design-Build Agreement (template)*
 - ◆ *Design-Build Standard Specifications (Section 100)*
 - ◆ *Sample Design Requirements*
 - ◆ *Sample Performance Specifications*
 - ◆ *Sample Design-Build Specifications*
 - ◆ *Sample Design-Build Utility Requirements*
- ❖ Sample Evaluation and Selection Plans
 - ◆ *Statement of Qualification (SOQ)*
 - ◆ *Proposal*
- ❖ Sample Forms for Department Use



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Contract Administration

... QA / QC

NYS DOT's Design-Build Process
DBPM Section 10.1

❖ Quality Control (QC)

- ◆ Responsibility of Design-Builder
- ◆ Includes traditional QC plus some traditional QA
- ◆ Design: "... procedures for design quality; checking; design review ... and approval of Working Plans."
- ◆ Construction: "... procedures for Materials handling and construction quality; Inspection, sampling and testing of Materials, plants, production and construction; Material certifications; calibration and maintenance of Equipment; and monitoring of environmental compliance."
- ◆ Documentation of All QC Design and Construction



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Contract Administration

... QA / QC

NYS DOT's Design-Build Process
DBPM Section 10.1

❖ Quality Assurance (QA)

- ◆ Responsibility of Department
- ◆ Oversight to Provide Confidence that Design-Builder is Performing to Quality Plan
- ◆ Design: "... monitoring and verification ... through auditing, spot-checking, and participation in the review of the design."
- ◆ Construction: "... monitoring and verification ... through auditing, spot inspections, and Verification Sampling and Testing ..."
- ◆ Independent Assurance & Documentation of QA
- ◆ Final Inspection and Acceptance



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Contract Administration

... Design Review

NYS DOT's Design-Build Process
DBPM Section 10.4

❖ Fully Defined in DB Section 111

❖ Design-Builder Responsible for:

- ◆ Design Quality Control Plan
- ◆ Conducting Design Review of:
 - Preliminary Design
 - Readiness for Construction or Interim Design
 - Final Design
 - Working Plans
- ◆ Signing and Stamping of Drawings



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Contract Administration

... Design Review (continued)

NYS DOT's Design-Build Process
DBPM Section 10.4

- ❖ Department Responsible for:
 - ◆ Participating in Design Review
 - ◆ Providing "Consultation and Written Comment" ... Department does not Approve Design Prior to As-Built Plans.
 - ◆ Non-Conformance Reports
 - ◆ Conducting Design Review and Approval of As-Built Plans



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Contract Administration

... Construction Oversight

NYS DOT's Design-Build Process
DBPM Section 10.5

- ❖ Fully Defined in DB Section 112
- ❖ Responsibility of Department
- ❖ More Efficient use of Staff
- ❖ Elements:
 - ◆ Facilitates Design-Builder's Success
 - ◆ Empowered to Resolve Issues
 - ◆ Use of Verification, Auditing & Checking Techniques
 - ◆ Verification & IA Sampling & Testing
 - ◆ QA Documentation
 - ◆ Final Inspection and Acceptance



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Contract Administration

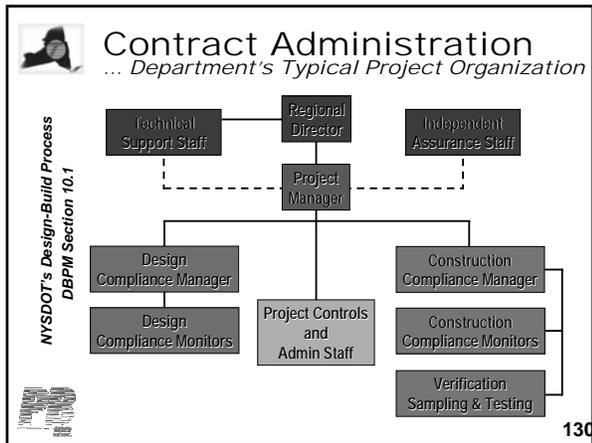
... Changes and Orders on Contract

NYS DOT's Design-Build Process
DBPM Section 10.6

- ❖ Mechanics the Same; Justifications Different
- ❖ Most Changes are Derived Based on Incorrect or Erroneous Information Provided in Contract:
 - ◆ EX: Faulty Warranted Geotechnical Investigation Data
 - ◆ Significant Changes in Character of the Work
 - ◆ Necessary Basic Project Configuration Change
 - ◆ Changes in Environmental Mitigation
 - ◆ Accuracy of Existing Utility Relocations
 - ◆ Significant Variation in Harmful/Hazardous Materials
 - ◆ Inaccuracies in Preliminary Design
- ❖ Site Conditions Different from Those that could be Reasonably Discerned from an Inspection of the Site



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NYSDOT Design-Build Training

Three Sessions

First: Orientation on NYSDOT DB Process

- Part I: Overview of Design-Build
- Part II: NYSDOT Design-Build Process

* *Second: Technical – Procurement*

* *Third: Technical – Award to Contract Closeout*

* Future Detailed Training

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Design-Build Orientation

QUESTIONS?

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