

DESIGN-BUILD IMPLEMENTATION PLAN FOR CONNECTICUT

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Engineering Administrator**



2008 CTDOT First attempt at design- build legislation

- Problems with University of Connecticut Project
- Legislation did not pass



CTDOT
design

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on

- Strategic
– C.A.S.I.
– L.P.R.I.
• CTDOT en
– Parties

Committee Findings
and Recommendations

Department of Transportation
Project Delivery Process:
RBA Pilot Project Study 2010

Approved December 16, 2010

Legislative Program Review
& Investigations Committee

CONNECTICUT GENERAL ASSEMBLY

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PUBLIC ACT NO.

12-70

**“AN ACT CONCERNING DEPARTMENT OF
TRANSPORTATION PROJECT DELIVERY AND
PROJECT LABOR AGREEMENTS FOR CERTAIN
PUBLIC WORKS PROJECTS”**

PASSED MAY 2012



PUBLIC ACT NO. 12-70

- 1 DB & 1 CMAR Project
- State employee union provisions
- Opportunity to limit/deny future applications
- Goal: Initial success



Legislation Passes

Now What?

- **No Design-Build Manual**
- **No Design Build Procedures**
- **No Dedicated Staff**



Selection of Pilot Project

- Limited permitting and ROW
- Visible to the public
- Need for accelerated project delivery
- FHWA Every Day Counts Initiative
 - Identified Candidate Project



Design-Build Pilot Project

State Project No. 15-363

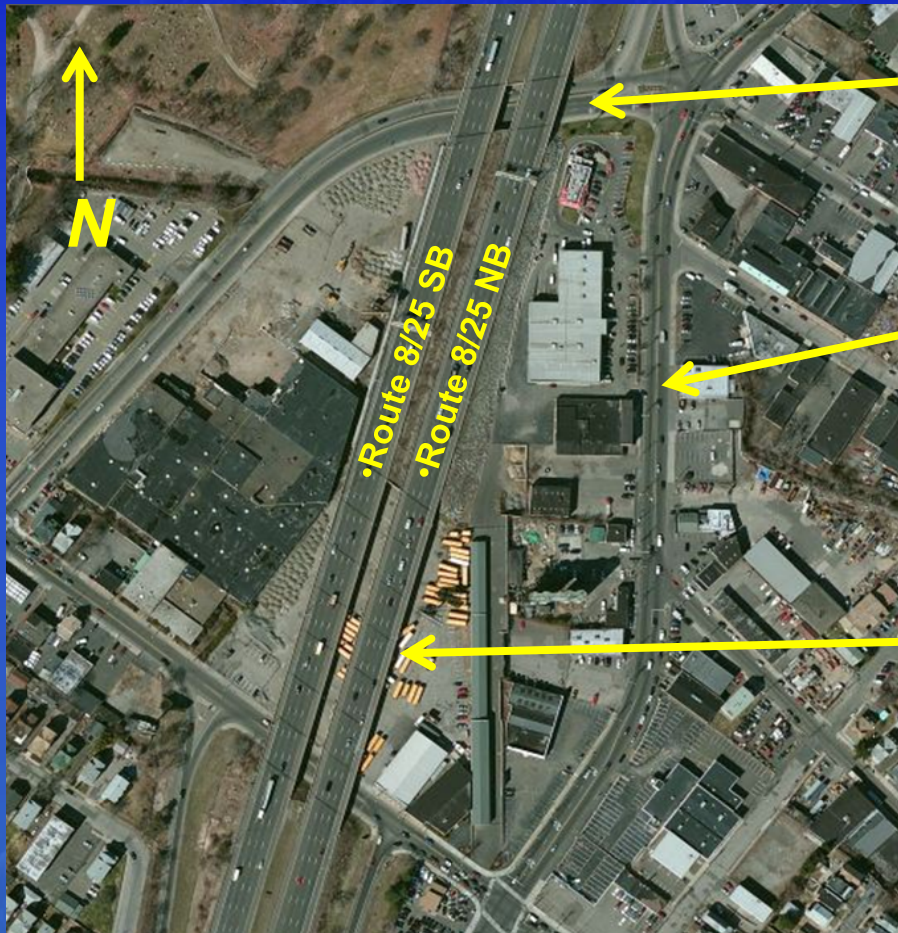
Rehabilitation of Route 8 NB & SB
Bridges

over Lindley Street, Parking Lot, and
Capitol Avenue

Bridgeport, Connecticut



Project Location Map



Capitol Ave.
Bridges

Route 1
(North Street)

Lindley Street
Bridges

Project Scope

- Replacement of 4 Bridge Superstructures
- Reconstruction of Lindley Street off Ramp
- Environmental Permitting: Minor
- Right of Way
 - Originally none
 - Issue with adjacent property owner being resolved
- Limited Utilities



Project Scope (cont.)

- Make use of Accelerated Bridge Construction methods
 - Modular Prefabricated Bridge Units
 - Elimination of 5 spans of each structure passing over Lindley Street
- MPT
 - Use short-term crossovers to close one side of expressway
 - Provides large work zone without traffic
 - Short-term closures of Lindley Street and Capitol Avenue



Project Schedule

- Start of Selection Process: Spring 2014
- Award: End 2014
- Construction Start: Spring 2015
- Construction Completion: End 2015



CMAR

- Construction Manager at Risk
- Similar to DCS (formerly DPW) process
- Likely will be limited to vertical construction projects
- Pilot Project: Maintenance of Way Facility at NH Rail Yard
- Initial outreach to construction managers held in early August



Ensuring Success

- DOT Executive Team Commitment
- DB Champion in place
- Dedicated Resources
- Process development using proven methods from other states and AASHTO
- Obtained guidance from other DOTs & FHWA
- Engaging FHWA, CCIA, ACEC
- Make use of existing processes where appropriate



What's the Department's Vision for Design-Build?

- Report progress to legislature
- Pursue Legislative Authority to continue program
- Establish dedicated staff
- Develop a Design-Build Manual incorporating lessons learned
- Add DB and CMAR to the Department's project toolbox
- Envision 4 to 5 projects per year



Future Vision and Goals

- Attain proficiency in Alternate Project Delivery
- Recognize the most appropriate applications for DB
- Incorporate innovations from the Design Builder
- Achieving noteworthy accomplishments



Connecticut DOT

Industry Design Build Contracting Workshop

Proposed CTDOT Design Build Process

**Mark D. Rolfe, P.E.
CTDOT Office of Construction**

August 26, 2013



Presentation Outline

- CTDOT Process
 - DB Entity Selection Process
 - Potential DB Contracting Provisions
 - Best Value scoring criteria



What is the same?

- Consultant Pre-qualifications
- Contractor Pre-qualifications
- Technical Specifications
- District Oversight



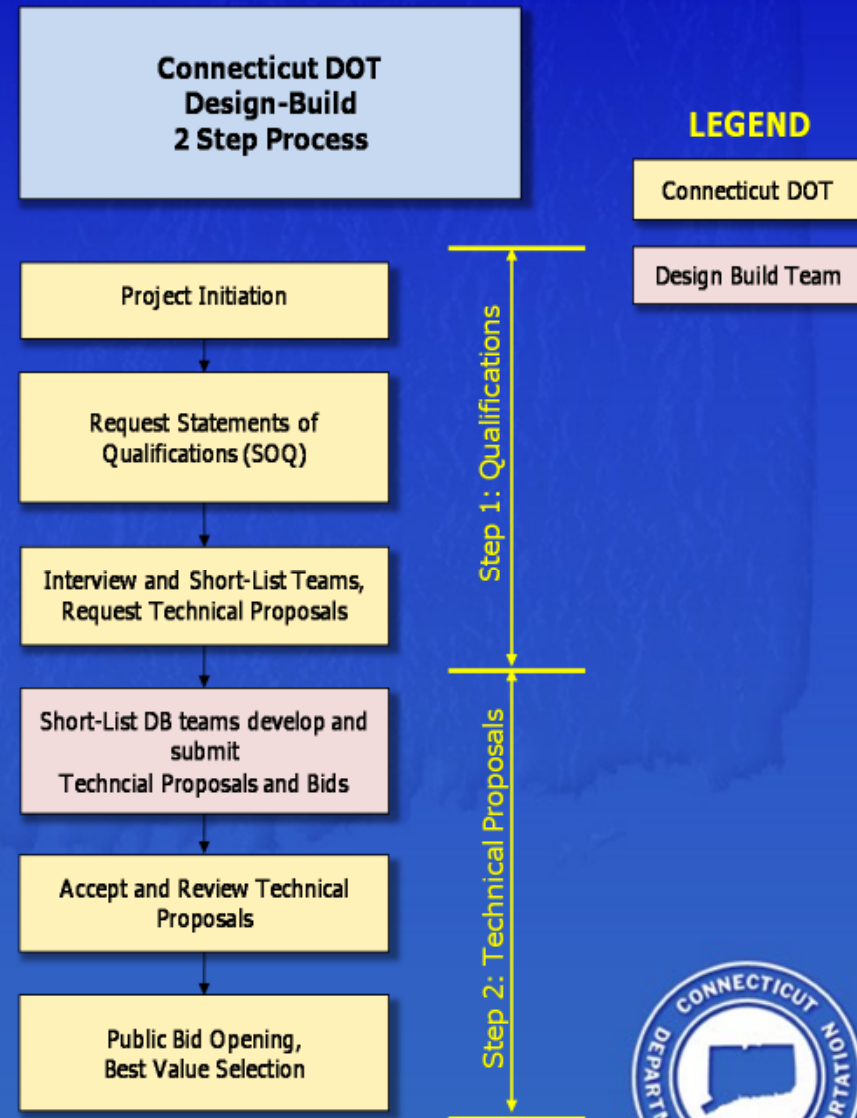
What is different?

- Relationship of Designer and Contractor
- Insurance and Bonding
 - Design & Construction
- Alternative Technical Concepts
- Quality Assurance Requirements
- Limit on number of bidders
 - Short list of DB Entities
- Best Value Selection



Two Step Selection Process

- Step 1: Qualifications
 - Goal: To establish 3-5 short list DB Entities that will be allowed to submit technical and price proposals
- Step 2: Technical Proposals
 - DB Entities Develop
 - Alternative Technical Concepts
 - Technical Proposal and Design Documents
 - Cost Proposal
 - Best Value Selection by CTDOT
 - Price and Technical Score



RFP Format

- **Part 1:** Instructions to Proposers
 - DB Selection Process
- **Part 2:** Technical Specifications
 - Project specific technical requirements
 - Design Standards
 - Allowed/Disallowed alternatives
- **Part 3:** Terms and Conditions
 - Contract general provisions



Proposal Format

- Technical write-up
- Preliminary plans
- Preliminary specifications
- Quality control process
- There will be a page limit
- Separate Sealed Bid



Committees

- Technical Support Committee
 - Includes Department staff and possibly a consultant
 - Establishes project scope and schedule
 - Assists other committees including review of Alternative Technical Concepts (ATCs)
 - Not involved in selection
- Qualifications Review Committee
 - Department Staff
 - Used during Step 1 of Solicitation
- Technical Review Committee
 - Department Staff
 - Used during Step 2 of Solicitation

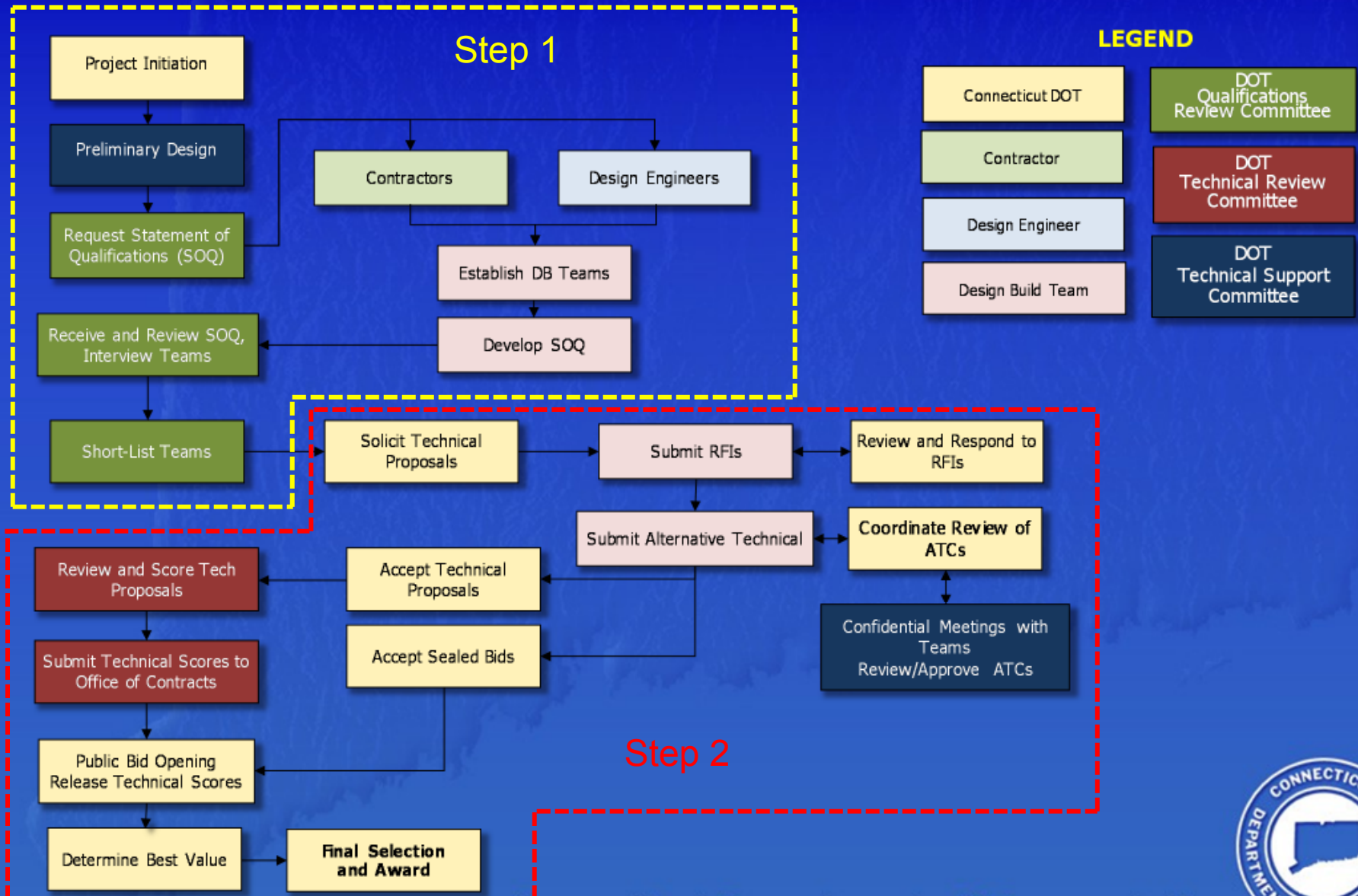
DOT
Qualifications
Review Committee

DOT
Technical Review
Committee

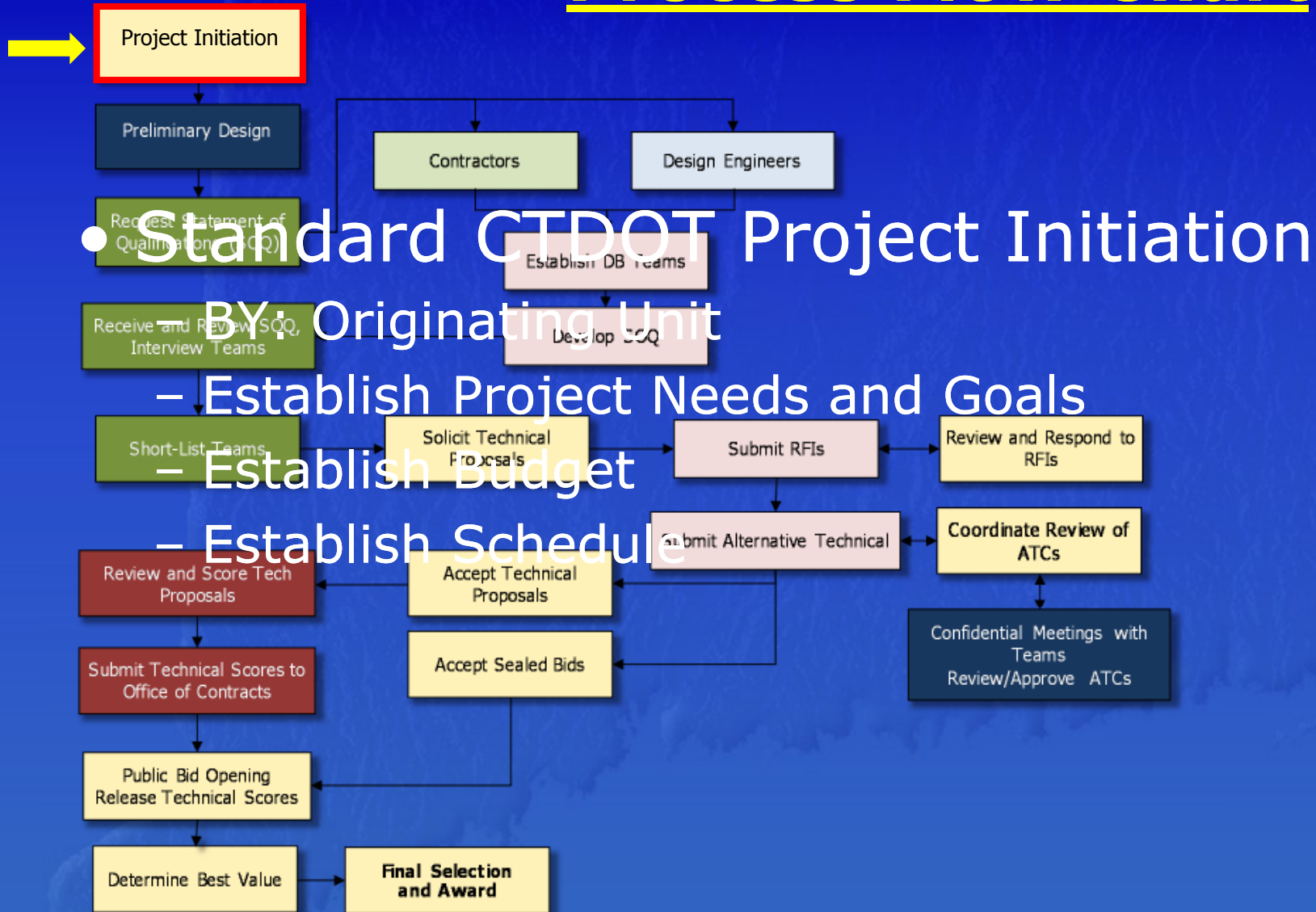
DOT
Technical Support
Committee



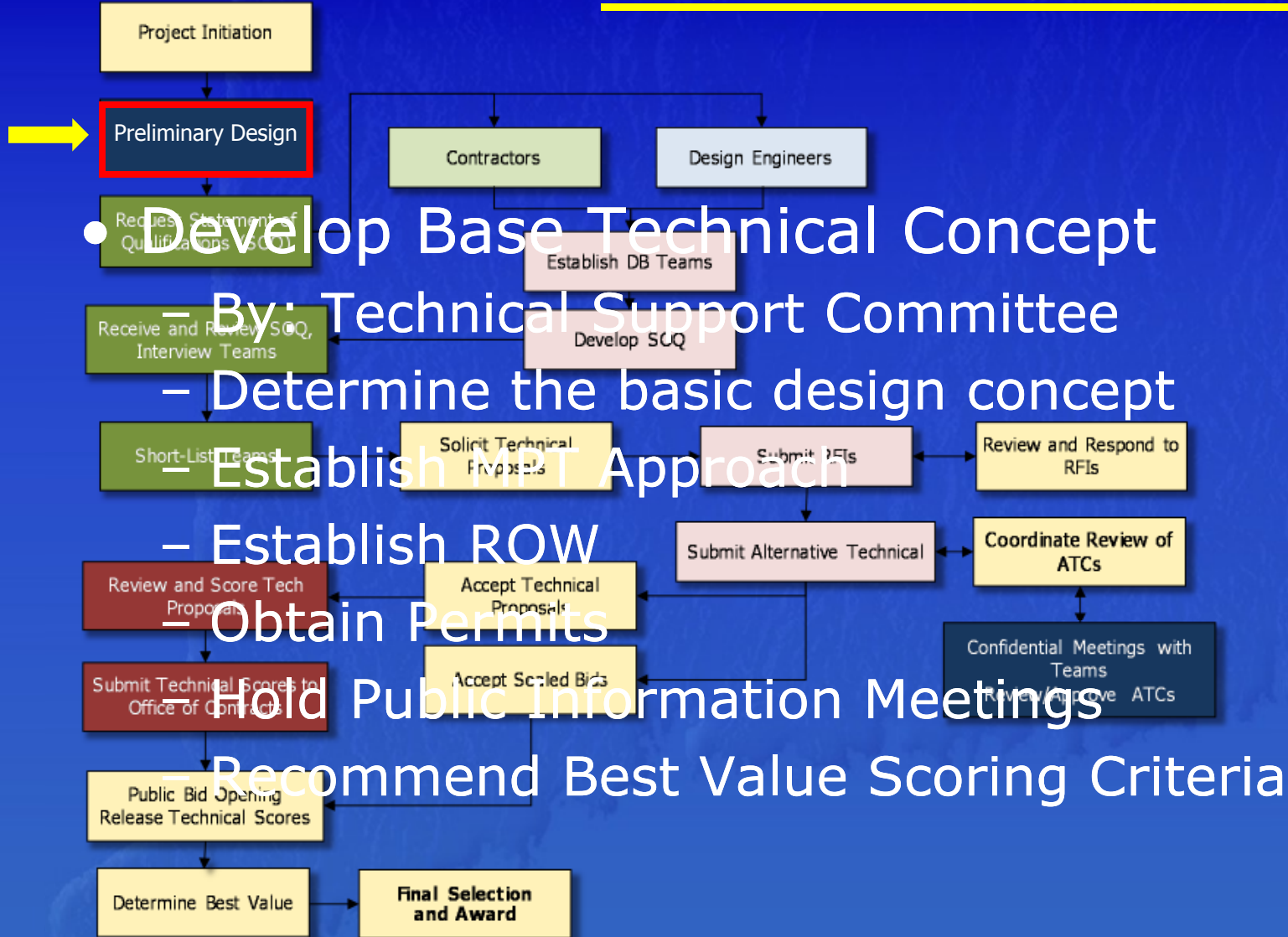
Process Flow Chart



Process Flow Chart



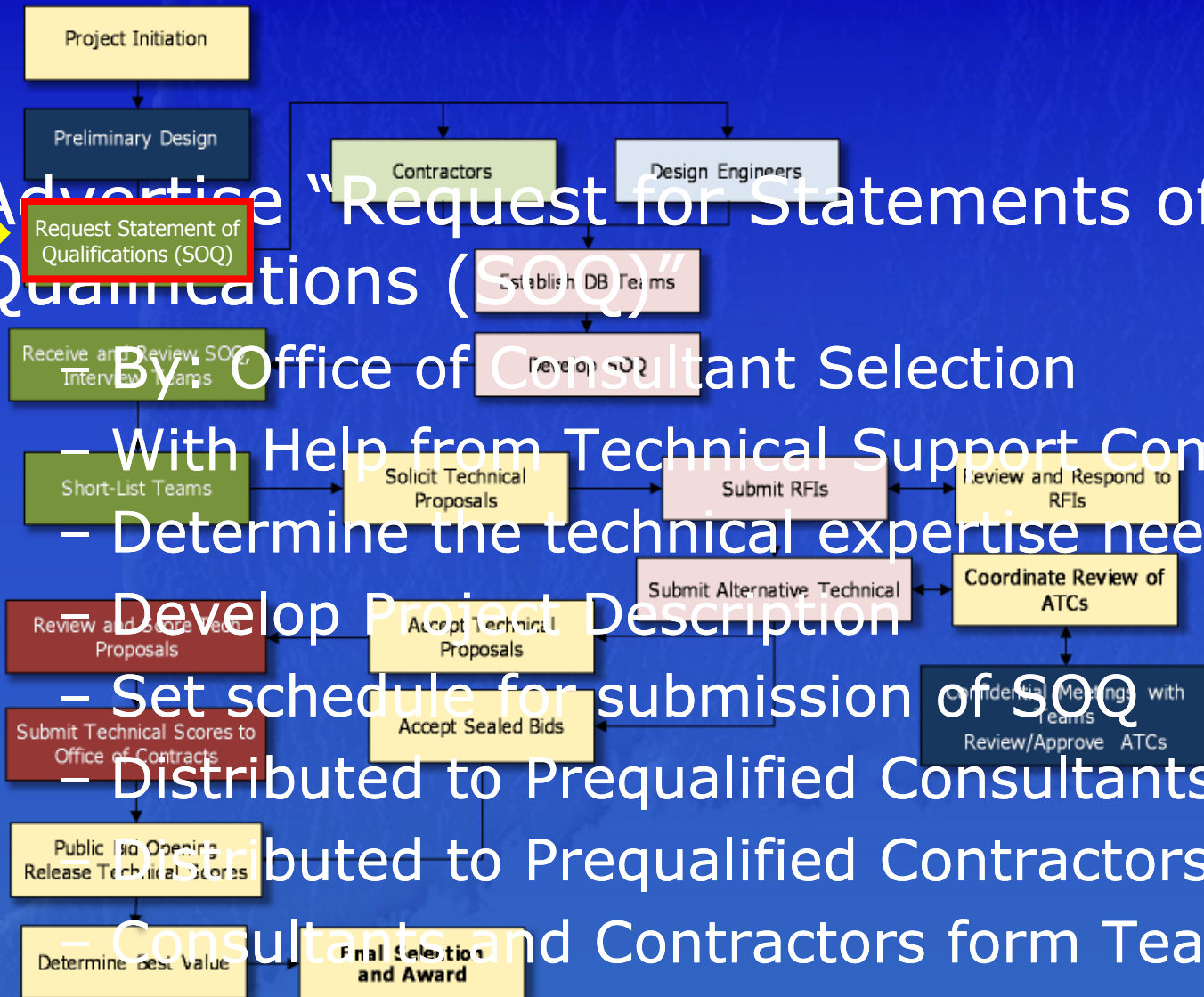
Process Flow Chart



- Develop Base Technical Concept
- By: Technical Support Committee
- Determine the basic design concept
- Establish MIT Approach
- Establish ROW
- Obtain Permits
- Hold Public Information Meetings
- Recommend Best Value Scoring Criteria



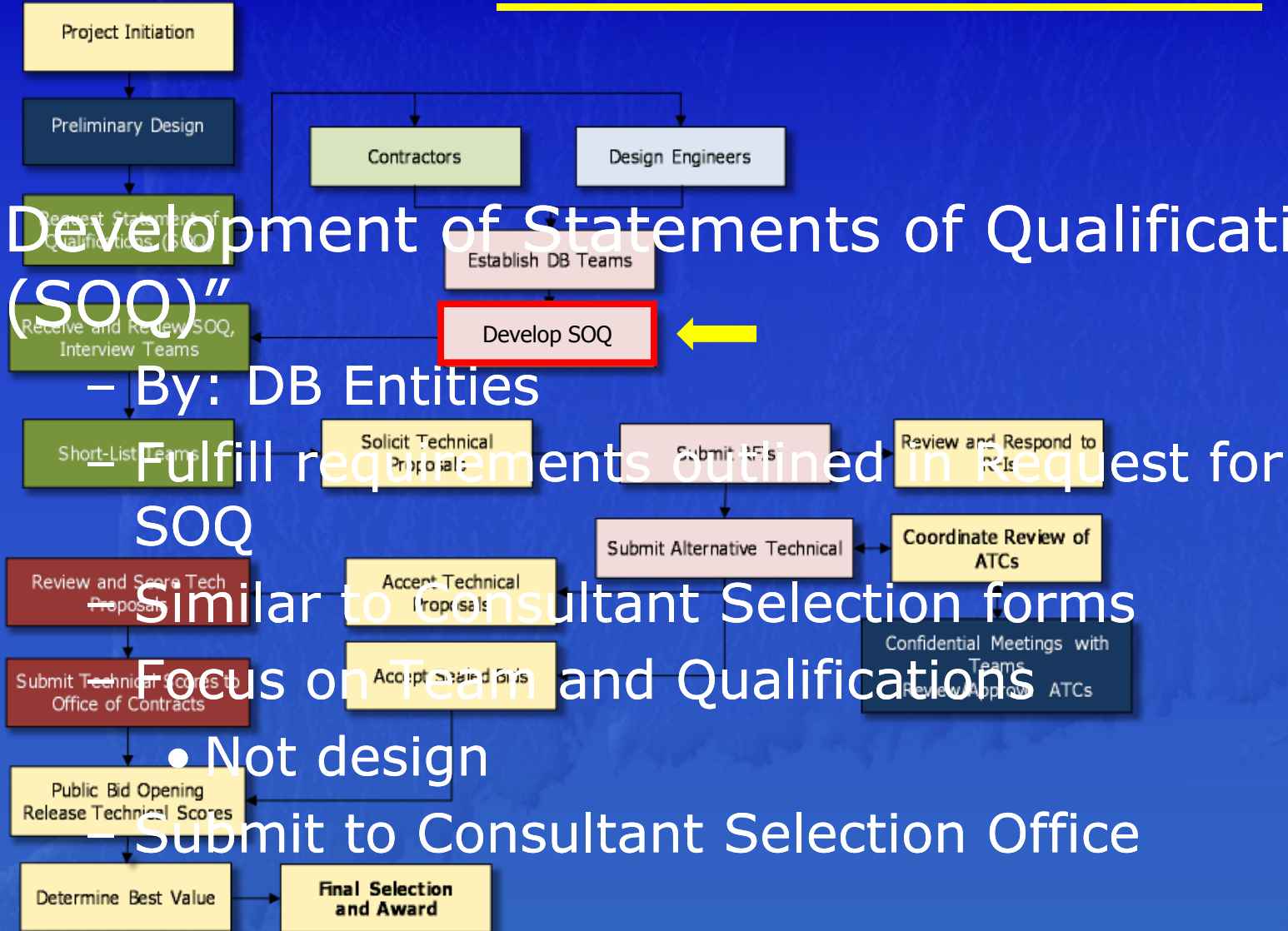
Process Flow Chart



Advertise "Request for Statements of Qualifications (SOQ)"
 - By: Office of Consultant Selection
 - With Help from Technical Support Committee
 - Determine the technical expertise needed
 - Develop Project Description
 - Set schedule for submission of SOQ
 - Distributed to Prequalified Consultants
 - Distributed to Prequalified Contractors
 - Consultants and Contractors form Teams
 • DB Entities



Process Flow Chart



Process Flow Chart



Process Flow Chart

Short List Teams

– By: Consultant Selection Office

– Using Qualifications Review Committee

- Short List 3-5 Teams

- Most likely 3 Teams

– Solicit Technical Proposals

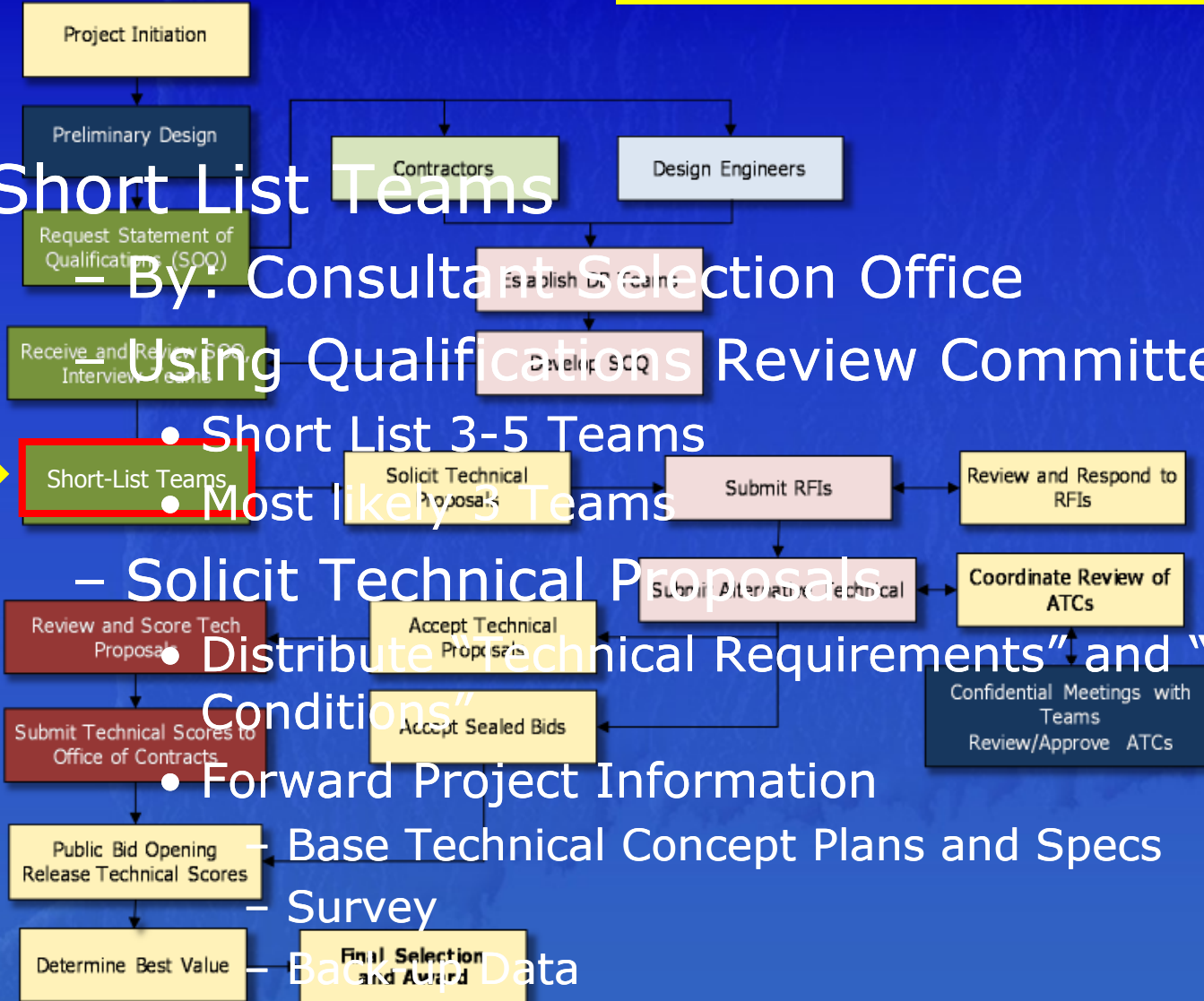
• Distribute “Technical Requirements” and “Terms and Conditions”

• Forward Project Information

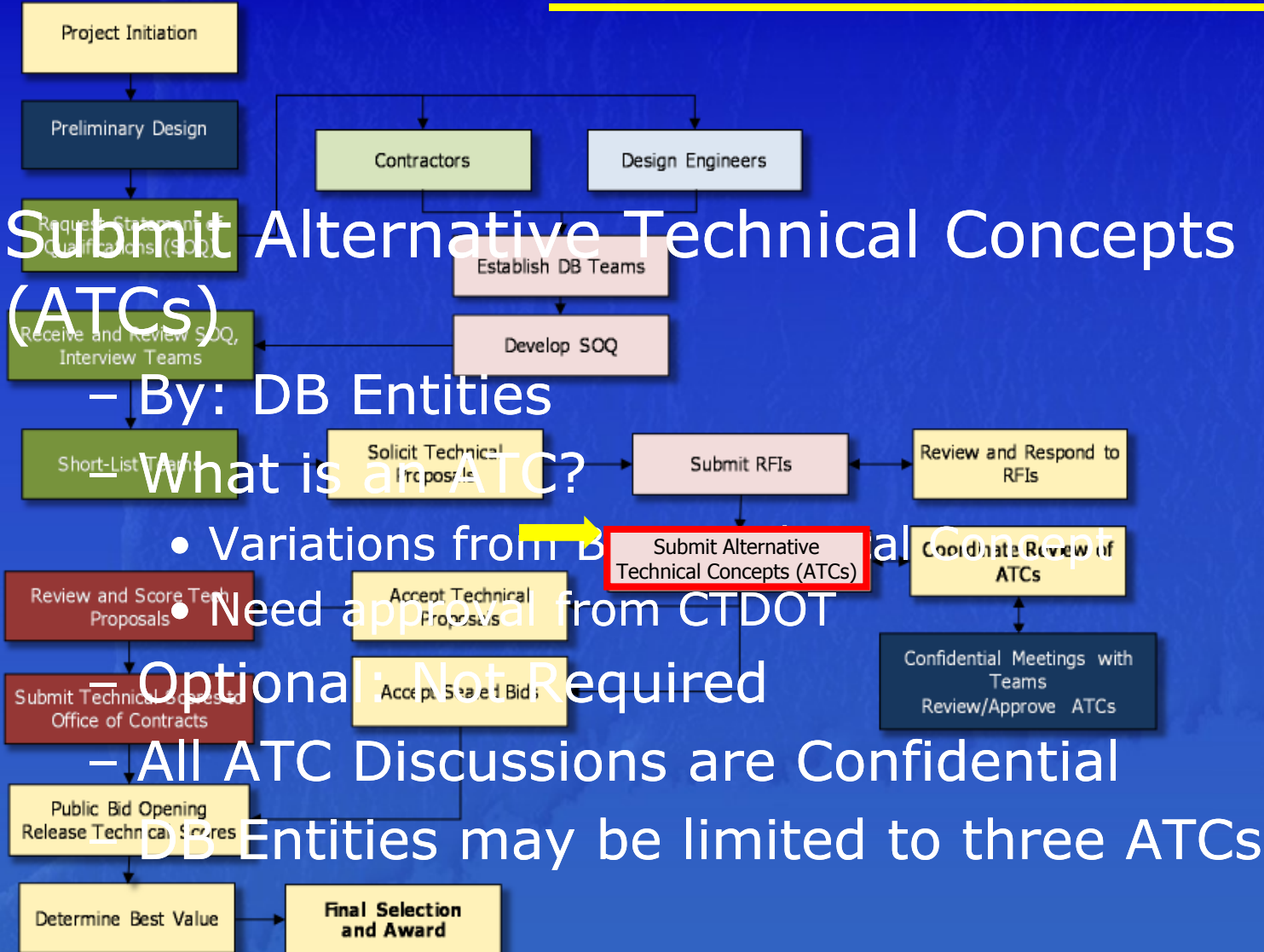
– Base Technical Concept Plans and Specs

– Survey

– Backup Data



Process Flow Chart



Submit Alternative Technical Concepts (ATCs)

- By: DB Entities

- What is an ATC?

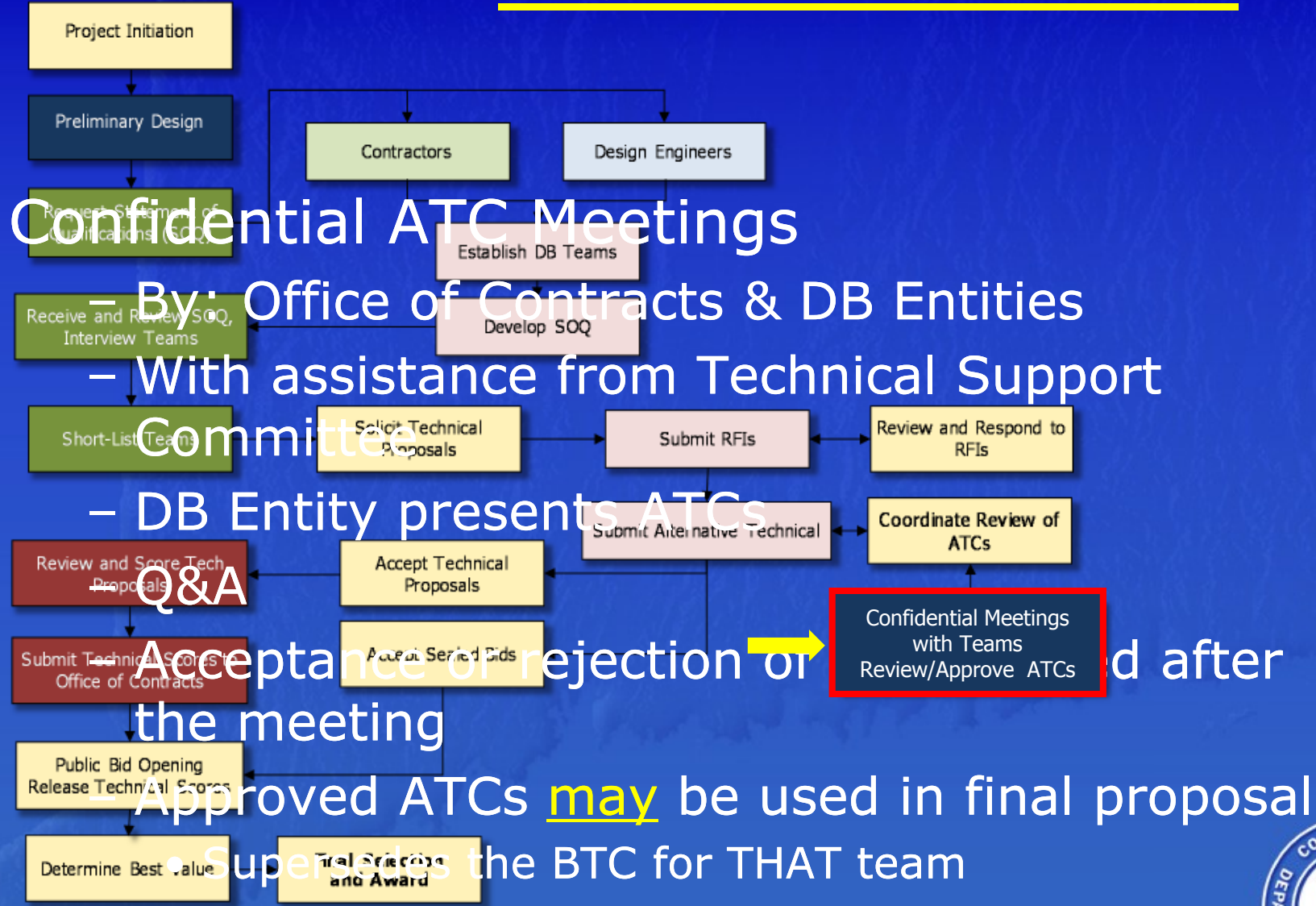
- Variations from Bid
- Need approval from CTDOT

- Optional: Not Required

- All ATC Discussions are Confidential
 DB Entities may be limited to three ATCs



Process Flow Chart



Confidential ATC Meetings

- By: Office of Contracts & DB Entities
- With assistance from Technical Support Committee

- DB Entity presents ATCs

Q&A

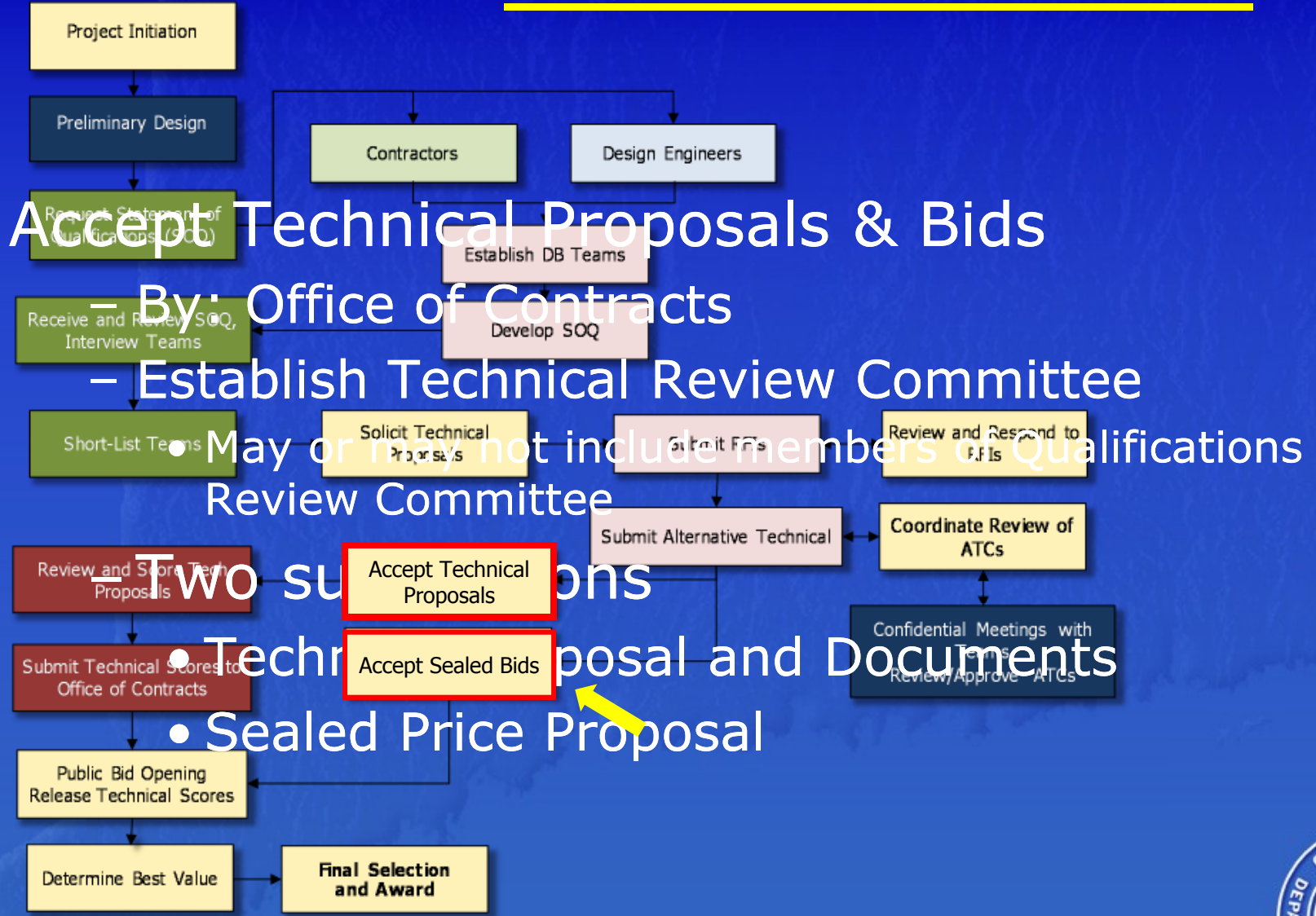
- Acceptance or rejection of the meeting

- Approved ATCs may be used in final proposal

- Supercedes the BTC for THAT team
- Not mandatory



Process Flow Chart



Accept Technical Proposals & Bids

– By: Office of Contracts

– Establish Technical Review Committee

• May or may not include members of Qualifications Review Committee

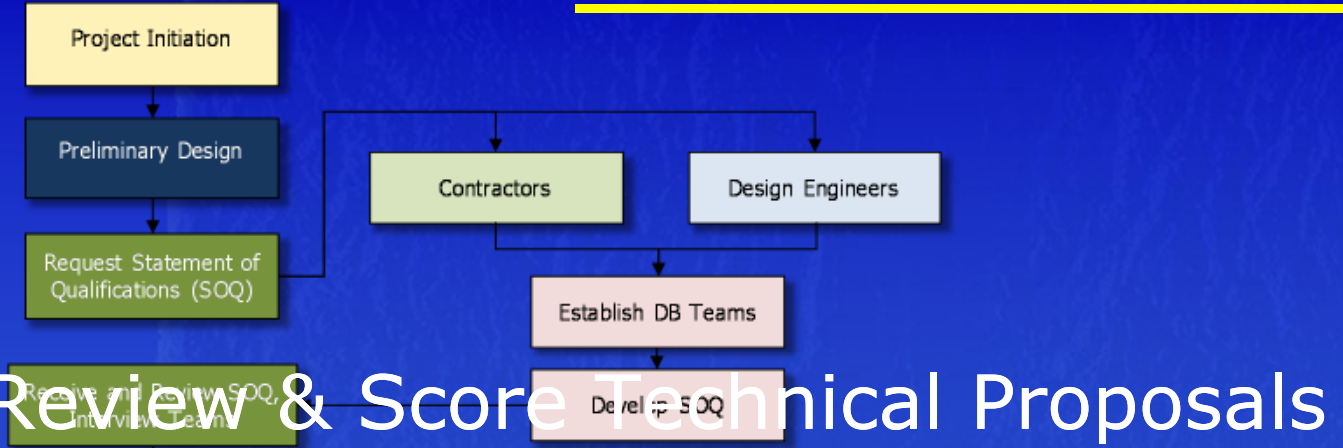
– Two submissions

• Technical Proposal and Documents

• Sealed Price Proposal



Process Flow Chart



Review & Score Technical Proposals

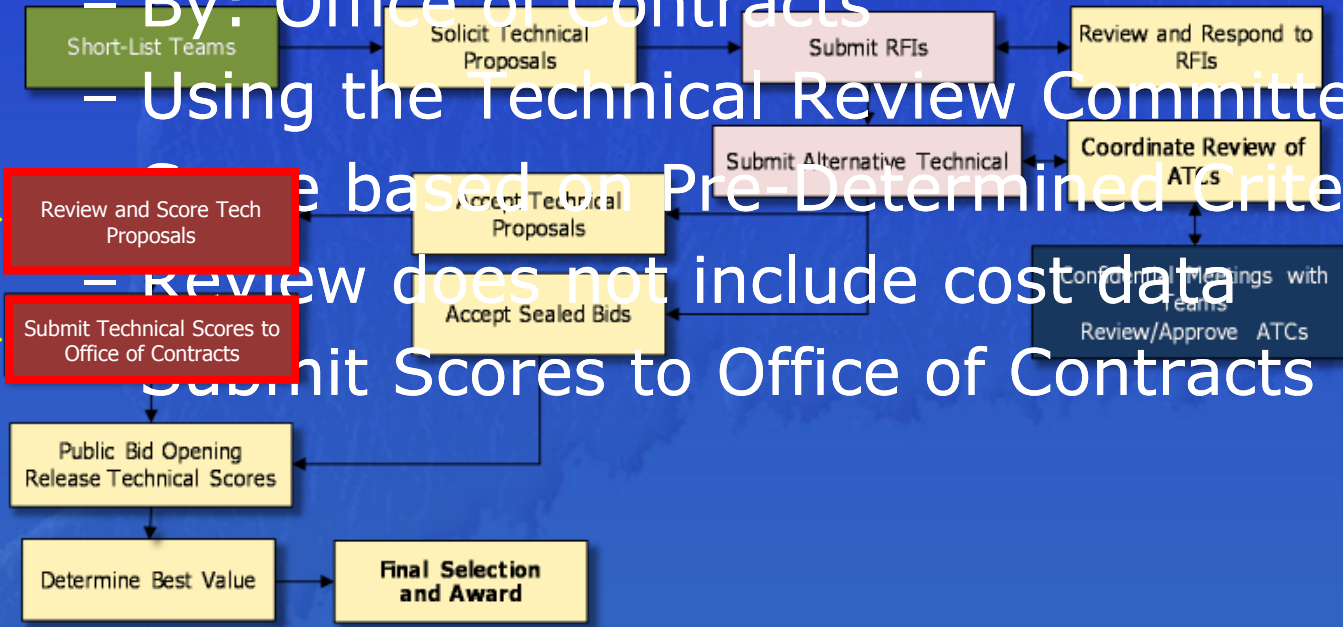
– By: Office of Contracts

– Using the Technical Review Committee

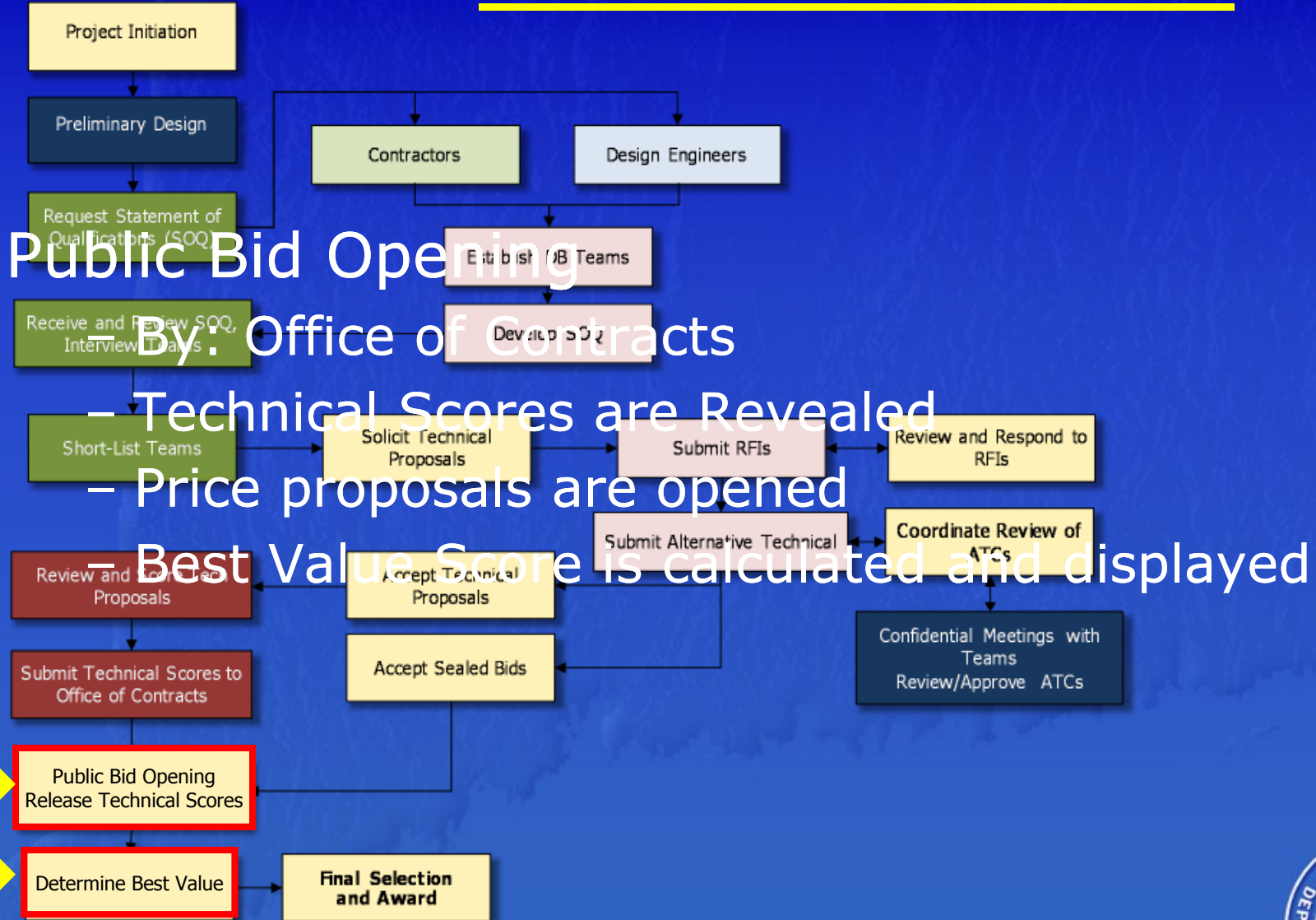
– Selection based on Pre-Determined Criteria

– Review does not include cost data

– Submit Scores to Office of Contracts



Process Flow Chart



Potential Contracting Provisions

CTDOT is considering

- Stipends
 - Paid to non-selected, short listed teams
- Incentives and Disincentives
- Liquidated Damages
- Lane rentals
- A+B Bidding
- Values to be determined prior to solicitation



Best Value Scoring Method

CTDOT considered Several Options

- Multiple Methods in use in the US
- Most common method
 - Weighted Criteria Algorithm
 - Selected by CTDOT



Weighted Criteria Algorithm

Technical Score $TS = W_1S_1 + W_2S_2 + \dots + W_iS_i$

Where:

W_i = Weight Percentage for factor i

S_i = Qualitative Rating Score for factor i

Note: The highest technical score would be 100 points



Weighted Criteria Algorithm

$$\text{Price Score} = \text{PS} = W_p * (1 - (B - LB) / LB)$$

Where:

W_p = Price weight factor

B = Bid Value

LB = Low Bid Value

Note: The highest price score would be equal to the Price Weight Factor

Best Value = Largest value of: TS + PS



Example Best Value Results

	Bid Price	Total Technical Score (TS) (100 maximum)	Price Score (PS)	Best Value Score
Team 1 Moderate PS & Moderate TS	\$61,346,000	83.64	90.94	174.58
Team 2 High PS & High TS	\$66,780,000	90.51	81.28	171.79
Team 3 Low PS & Low TS	\$56,250,000	73.90	100.00	173.90

Best Value

Note: Price weight factor of 100 used for this example

Connecticut Department of Transportation



Thank You

Questions and Comments

