



Community Workshop

October 17, 2015

Goals for Workshop

- Education for attendees
 - How City builds projects now
 - Why a different method is being pursued for WRF
- Other workshops (not today)
 - Architecture
 - Treatment approach
 - Water reuse
 - Water quality



Agenda



1. Council Goals
2. Conventional Project Design & Construction
3. Alternative Delivery (Design & Construction)
4. Comparison of Alternatives
5. Recommendations

Council Goals



- Produce tertiary, disinfected wastewater in accordance with Title 22 requirements for unrestricted urban irrigation in a cost effective manner for all ratepayers.
- Design to be able to produce reclaimed wastewater for potential users, which could include public and private landscape areas, agriculture, or groundwater recharge.
- Allow for onsite composting
- Design for energy recovery



Council Goals



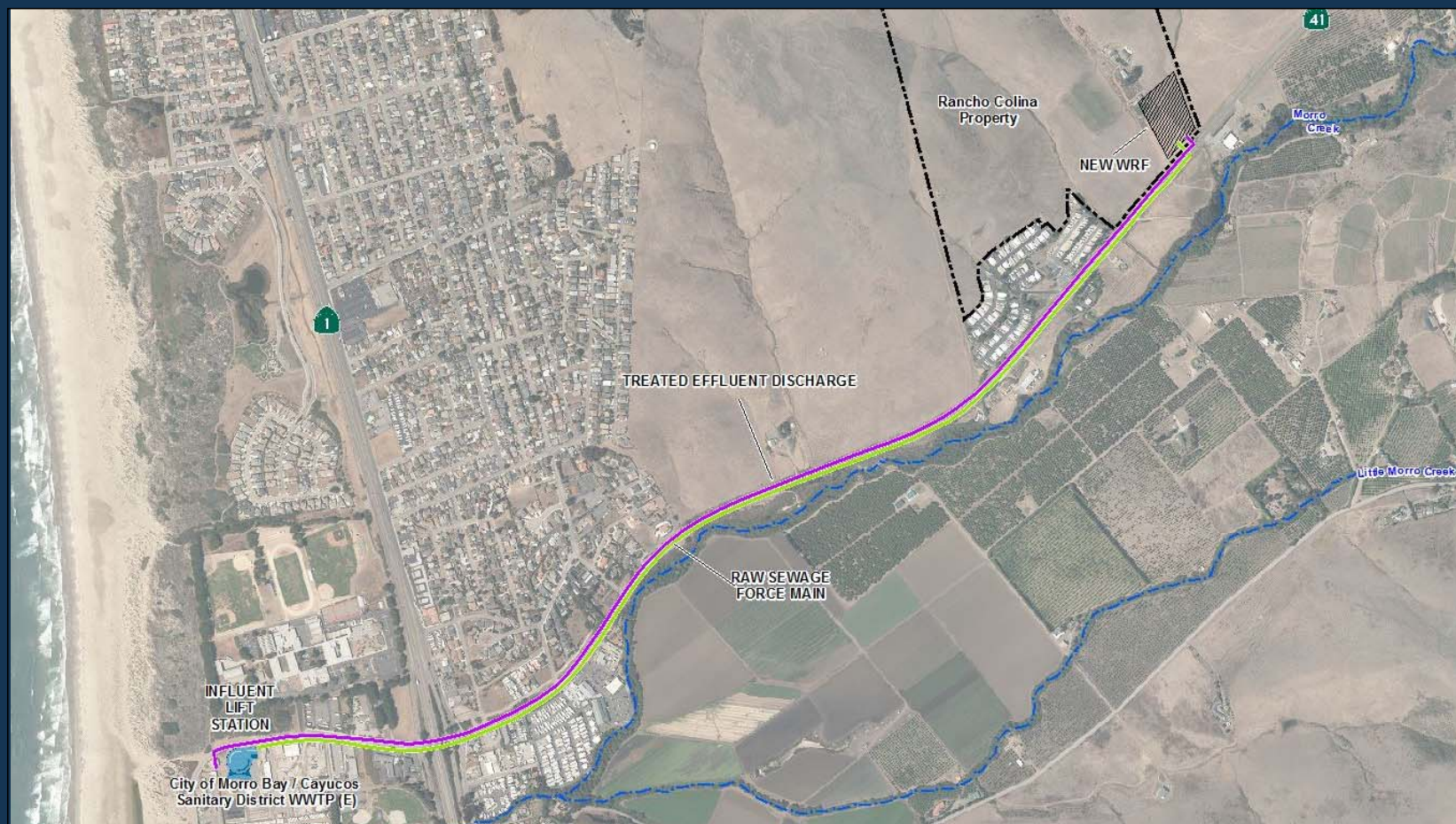
- Design to treat contaminants of emerging concern in the future
- Design to allow for other possible municipal functions, i.e. City Corporation Yard on site, as well as other uses such as public park and education center
- Ensure compatibility with neighboring land uses
- Have a new WRF operational prior to the expiration of the discharge permit for the existing WWTP, being five years more or less.

Phase 1 Project Elements



- Lift Station at or near existing WWTP
- Raw sewage force main to new WRF
- Utility extension (water, power) to new WRF
- Water Reclamation Facility at Rancho Colina site
- Wet weather/brine discharge

Phase 1 Project Elements

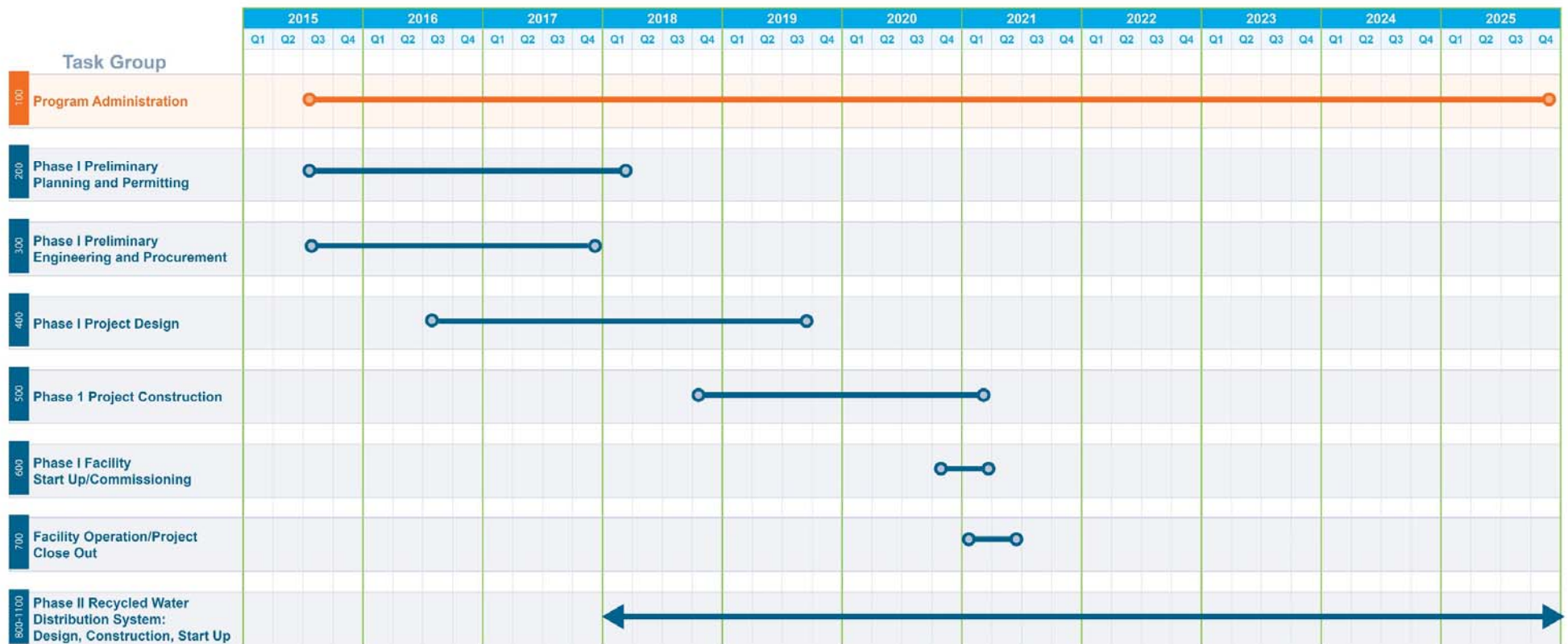


M1

Slide 7

M1 Change from "Treated Effluent" to "Wet Weather/Brine Discharge"
Mike, 10/14/2015

Morro Bay WRF Program Schedule

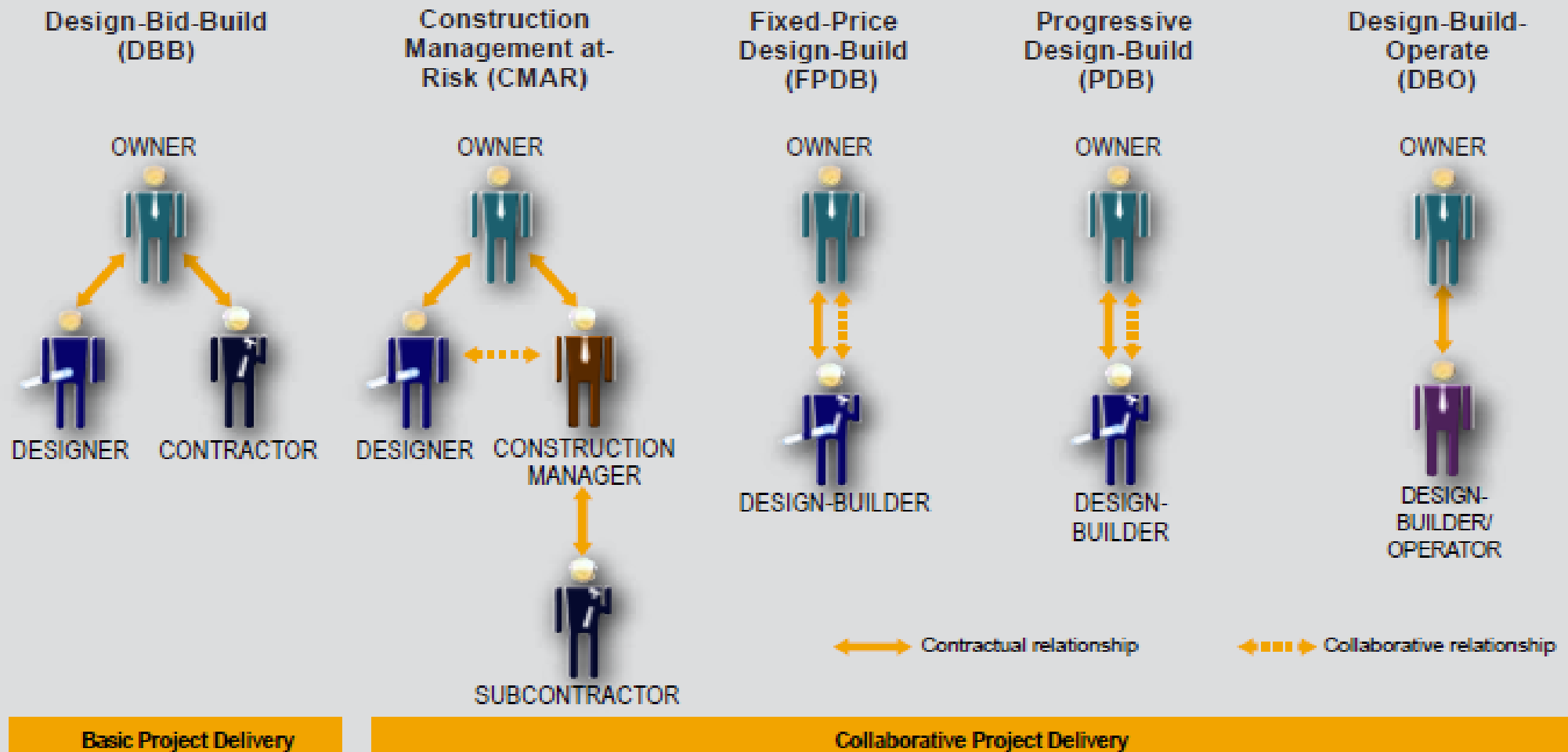


Project Delivery Alternatives



- Conventional Design-Bid-Build
- Collaborative Project Delivery Alternatives
 - Construction Management at Risk (CMAR)
 - Design-Build
 - Best Value Design-Build (BVDB)
 - Progressive Design-Build (PDB)
 - Design-Build-Operate (DBO)
 - Design-Build-Finance-Operate (DBFO)

FIGURE 1-1. Project Delivery Methods



Benefits of Collaborative Delivery Methods



- **Cost savings** - early contractor involvement
- Early cost confirmation
- **Time savings**
 - Design/construction overlap
 - Reduction of bid periods
 - Reduction of design reviews
- Single point of responsibility
- Fewer contracts

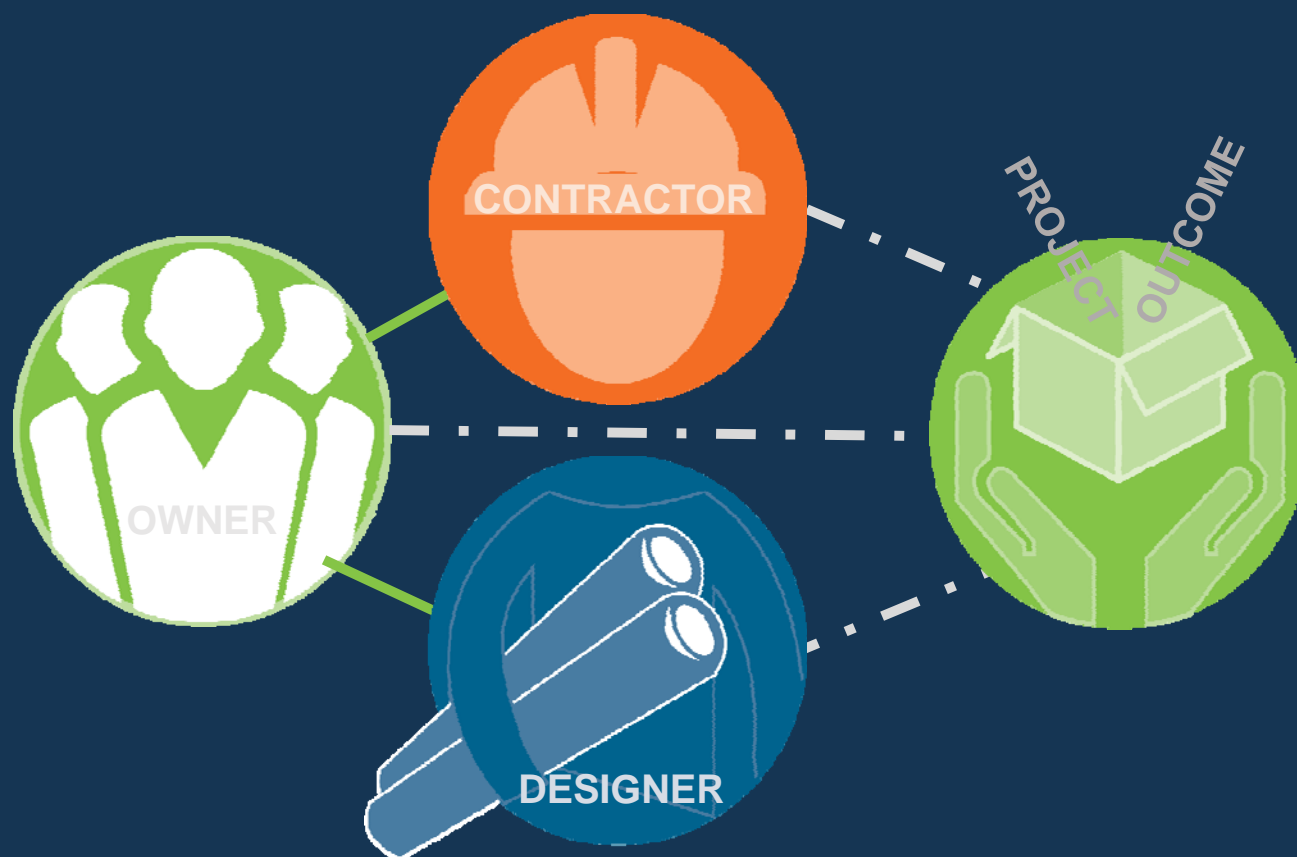


Drawbacks of Collaborative Delivery Methods



- Requires **intensive management resources** at the
- Potential for higher costs
 - Qualifications-based considerations for DB team
- Requires **prompt reviews and decision-making** by owner to realize savings

Conventional Design-Bid-Build



- 3 Prime Players
- 2 Contracts
- Owner warrants designer's work
- "Spearin Doctrine"

Conventional Design-Bid-Build

- Legal constraints: None - widely used in public sector and for City projects
- Risk allocation: Owner retains risk of design-construction conflicts
- Costs: Can be lower if project will be tightly defined by Owner
- Control: Highest Owner control
- Time: Typically longest



Why Consider Alternative Delivery?

- Pitfalls with conventional Design-Bid-Build
- **Spearin Doctrine**
 - 1918 Supreme court case
 - Protects the contractor from incomplete or impractical specifications
- Owner warrants the sufficiency of the design to the contractor
- Procurement statutes have been slow to recognize that a better way exists

Construction Management at Risk

- Two separate contracts - design and construction*
- Contracting “looks like” Design-Bid-Build
- Contractor performs constructability review
- CMAR firm provides GMP and schedule at 60% design
- May continue as General Contractor

*In CA – multiple contracts/bids
would be required



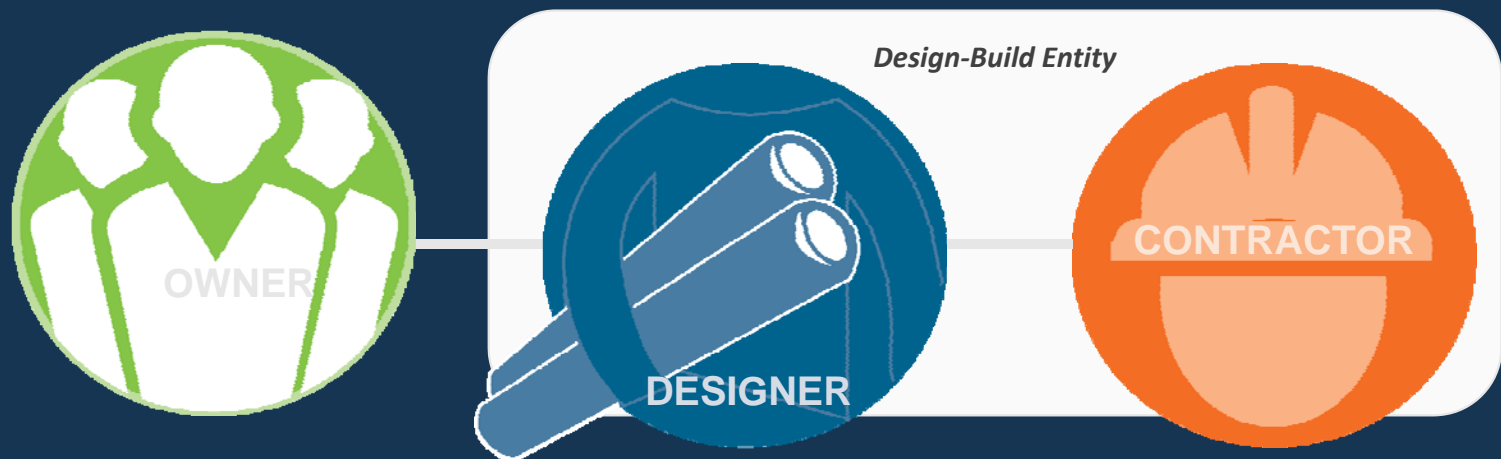
Construction Management at Risk



- Legal constraints: No legal authority (CA general law cities)
 - Special legislation
 - Multiple bids
- Risk allocation: Owner has design risk
- Costs: Lower than DBB
- Control: Owner leads design until nearly complete
- Time: Faster than DBB (CMAR helps with design and planning)

What is Design-Build?

- Design and construction are one contract
- Single point of responsibility.



Legal Authority



- Design-Build is more accessible to California
- Government Code 22160 (et seq.)
 - City, county, or city and county agencies
 - Special districts
 - wastewater, solid waste management, WRFs, or fire protection facilities
 - Projects in excess of \$1M
 - Design-build-operate (DBO)
 - Only allowed - short transitional period

Varieties of Design-Build

1. “Best Value”
2. Fixed Price – Best Design
3. Progressive

Also:

- With/Without Operations
- With/Without Financing



Selection Process

- Owner develops requirements
 - “Performance Criteria” –owner’s major requirements
 - “Bridging Documents” – preliminary plans and specifications
- Request for Qualifications is issued
- Top three (3) teams selected
- Proposals reviewed
- “Top ranked” team selected
- Final contract (price/terms) is negotiated



Selection of Design-Build Team

- Progressive— Less price, more qualifications
- Best Value - Price alone or best value
- Best value takes into account objective criteria such as:
 - Features
 - Functions
 - Life cycle costs
 - Experience
 - Past Performance
 - Price



Best Value Design-Build

- Often called Fixed Price or Lump Sum DB
- DB team picked early- fixed price and schedule
- Owner provides project requirements
- DB firm agrees to design and construct the project under Owner's terms
- Selection process based on price and qualitative considerations



Best Value Design-Build



- Legal constraints: None for City
- Risk allocation: Early transfer of risk to DB team
- Costs: Price set early; any cost savings accrued to DB firm
- Control: Owner must pick performance criteria (“what is most important”)
- Time: Typically faster than CMAR and DBB
 - DB team constructs/designs together

Progressive Design-Build



- Multi-step process
- Selection on qualifications
- Step 1 - Design, cost-estimating and final pricing
 - DB team completes 30 – 60% design with close input from the Owner
 - DB team provides a GMP proposal
- Step 2 - Owner and DB team negotiate cost and schedule
- Project is completed

Progressive Design-Build



- Legal constraints: Cost must be a criteria of selection
- Risk allocation: Owner transfers risk early to DB firm
- Costs: Similar to BVDB, but costs are not defined as early as BVDB
- Control: Owner stays involved farther into the design process
- Time: Typically shortest delivery

Design-Build-Operate

- Includes operations and maintenance of the constructed facility
Minimum of 5 years is typical
- Law requires transition to agency operation
- Teams can be led by operations partner



Design-Build-Operate



- Legal constraints: No additional
- Risk allocation: All risk to DBO team
- Costs: Typically higher (profit) than options without operation. Some agencies opt out because of costs.
- Control: Less control than owner operation
- Time: Similar to other DB options

Design-Build-Operate-Finance



- Includes operation and financing for project
- City simply pays rates
- Legal constraints: No additional
- Risk allocation: Owner has very low risk
- Costs: Typically higher (public financing helps agencies)
- Control: Less control
- Time: Similar to other DB options

Comparative Summary – Phase 1 WRF



	Legal Constraints	Risk Allocation	Cost	Time	Owner Control
DBB (Baseline)	0	0	0	0	0
CMAR	--	+	+	+	0
Best Value DB	0	+++	++	++	--
Prog DB	-	++	++	+++	-

Considerations – Phase I WRF

- “Greenfield” site
 - Innovation
 - Creative design
- Environmental studies will identify constraints early
- Alternative delivery processes can take these into account
- Phase I WRF design/construction is on critical path



Considerations – Lift Stations and Pipelines

- Not “critical path” for design or construction
- Less opportunity for innovation
- Detailed design plans will be required
 - Easements and permits
 - Utility conflicts



Recommendations



- Lift Station and Pipelines - Conventional DBB
- Phase I WRF – 2 Approaches for Consideration
 1. Progressive DB
 - Requires trust
 - City commits to prelim work without price
 - Can terminate if issues arise during design
 - Legal concerns/ risk

Recommendations



- Phase I WRF – 2 Approaches for Consideration (Cont'd)
 - 2. Best Value Design-Build
 - Defines the budget early
 - City has a guaranteed maximum price before contract is finalized
 - History of success in California