Main Street Water Reclamation Facility

FY 20 – FY 30 Improvements Program

Item #180934

April 18, 2019

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Main St Water Reclamation Facility

- Wastewater Treatment since 1920's
- Last major upgrade completed in 1993
- Oldest operating structure is early 1960s
- Current Capacity is 7.5 MGD
- Experiencing equipment failure and high wastewater flows due to aging plant and piping infrastructure.
- Significant upgrades needed in next 6-10 years

Main St Water Reclamation Facility

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Main St Water Reclamation Facility Program Goals

- Renewal and replacement of aging infrastructure
  - Increase operational reliability
  - Increase facility resilience
  - Reduce O&M Costs
- Increase capacity from 7.5 MGD to 10-12 MGD
  - Avoiding $50-75M to build new plant
- Meet current and future nutrient removal requirements

Current FY 19/20 Construction

Filter Rehabilitation

Sodium Hypochlorite Skid Replacements

Sodium Bisulfite Storage Expansion

Reclaimed Water Pump Station Rehabilitation

East Clarifier Rehabilitation

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CRANE RENTAL

MSWRF Improvements Program

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MSWRF Improvements Program
Phase 1

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MSWRF Improvements Program
Phase 2

Filter Replacement

Disinfection System Replacement

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Other Program Improvements

- Primary Reliability Upgrades
- Whole Plant Stand-by Generation
- Secondary Electrical Infrastructure upgrades
- New Odor Control systems

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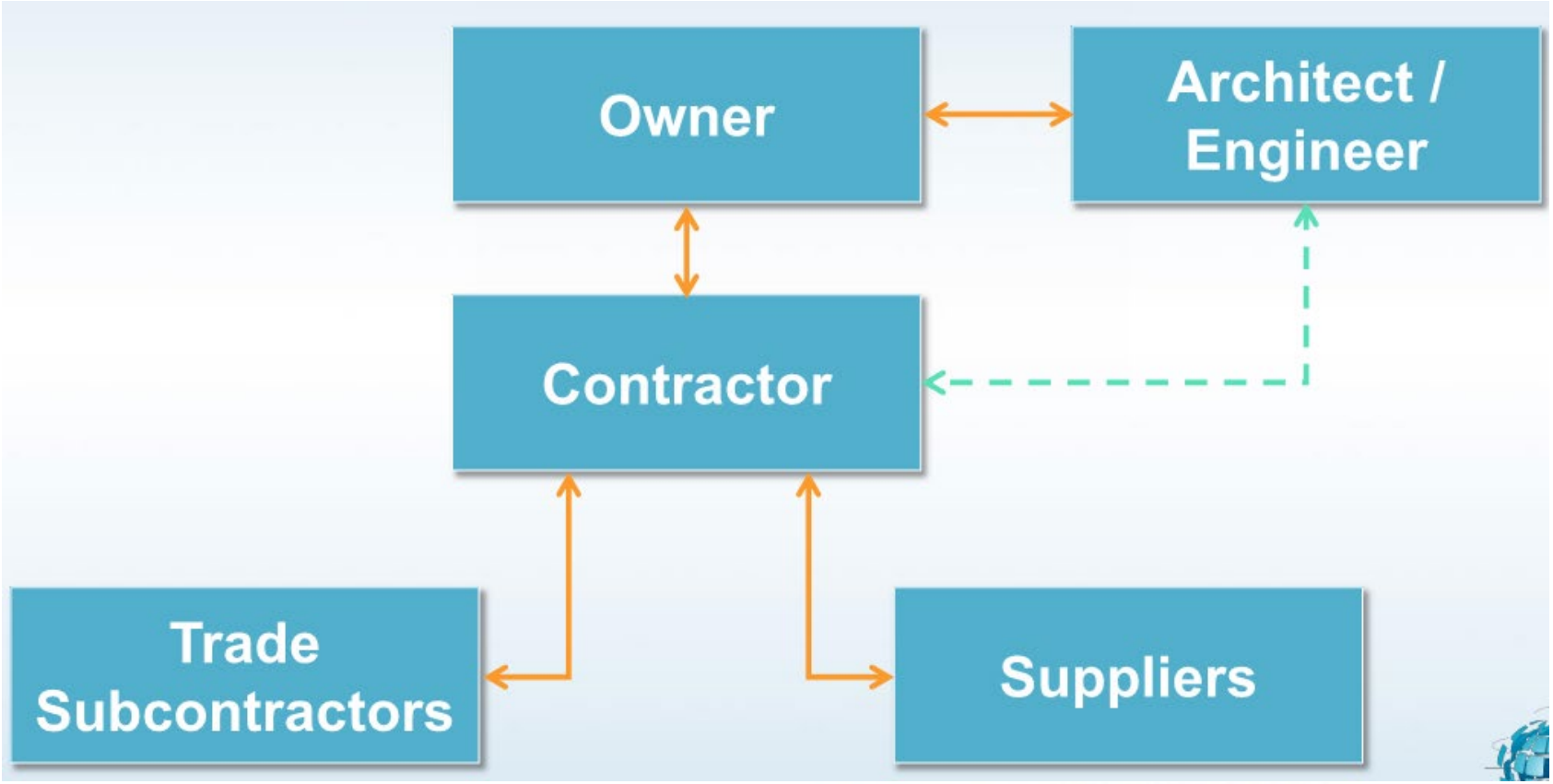
Main St WRF Program Design-Build

- Design-Build has been around for 20+ years
- Significant increase in use in W/WW industry
- Collaborative Delivery Model (Owner+Engineer/Contractor)
- Schedule acceleration to address aging infrastructure issues

Design-Bid-Build and Construction Manager At-Risk (CM@R)



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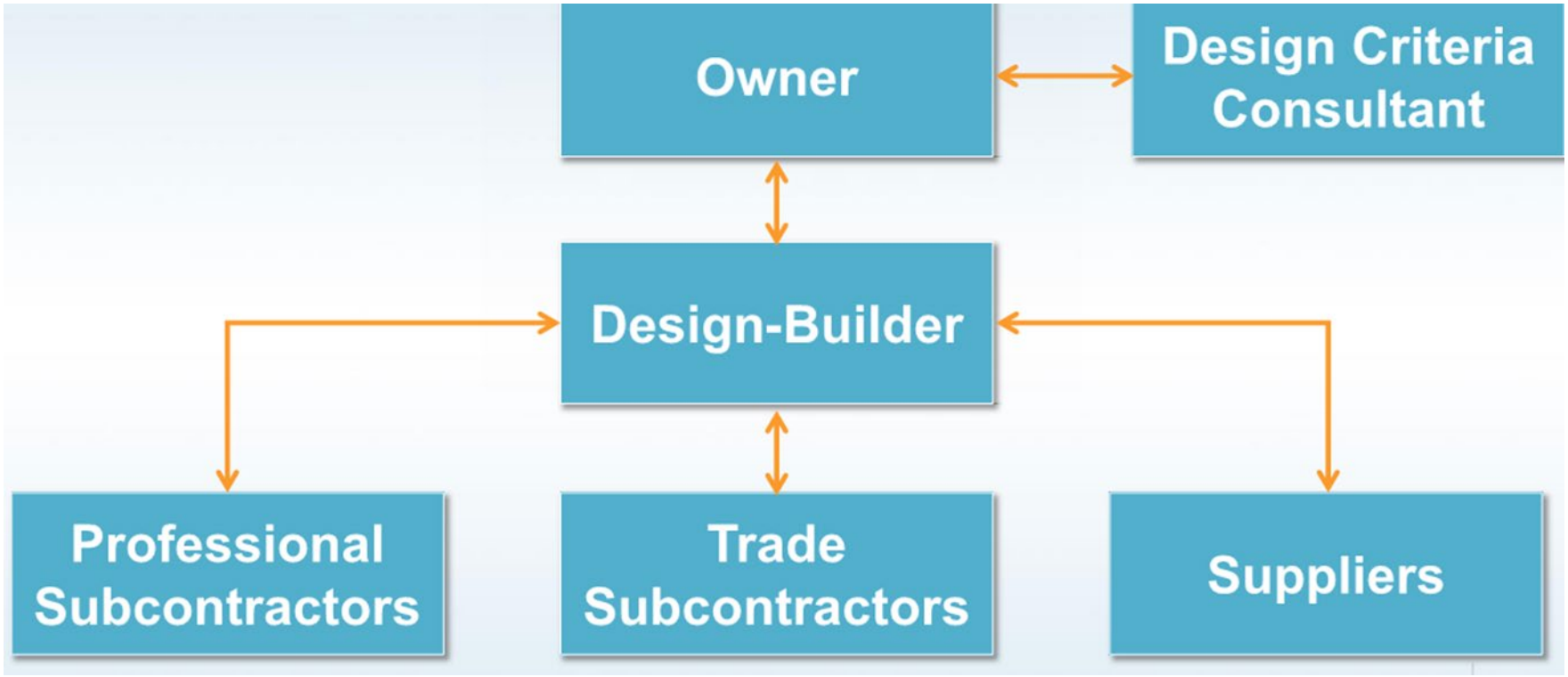
Progressive Design-Build



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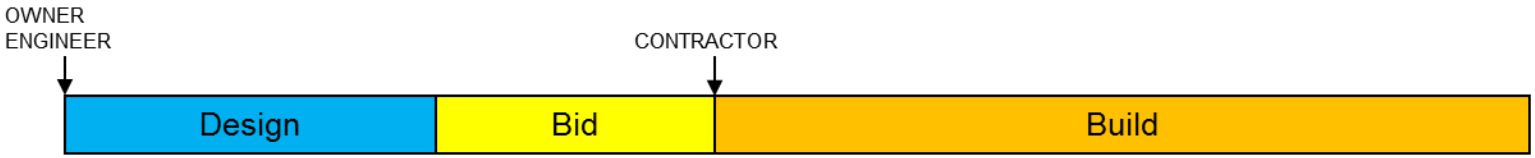
Collaboration and Schedule

D-B-B



CM@R

D-B

Comparison of Project Delivery Methods

(CII/Penn State Study)

Metric	DB vs DBB	CM@R vs DBB	DB vs CM@R
Unit Cost	6.1% lower	1.6% lower	4.5% lower
Construction Speed	12% faster	5.8% faster	7% faster
Delivery Speed	33.5% faster	13.3% faster	23.5% faster
Cost Growth	5.2% less	7.8% more	12.6% less
Schedule Growth	11.4% less	9.2% less	2.2% less

Re: "Comparison of U.S. Project Delivery Systems," Mark Konchar & Victor Sanvido, *Journal of Construction Engineering and Management, Vol. 124, No. 6 (1998), pp. 435-444.*

Path Forward

- Funded in accordance with the budget approvals on a fiscal year basis.
- Project anticipated to take 6-10 years and estimated to be a $40-50 million upgrade
- Future agenda item in Summer 2019 to review and approve contract negotiations with the selected Design-Builder.


Questions?/The End
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