

# Dallas Water Utilities



## Maximizing the Benefits of 3<sup>rd</sup> Party Construction Management Services



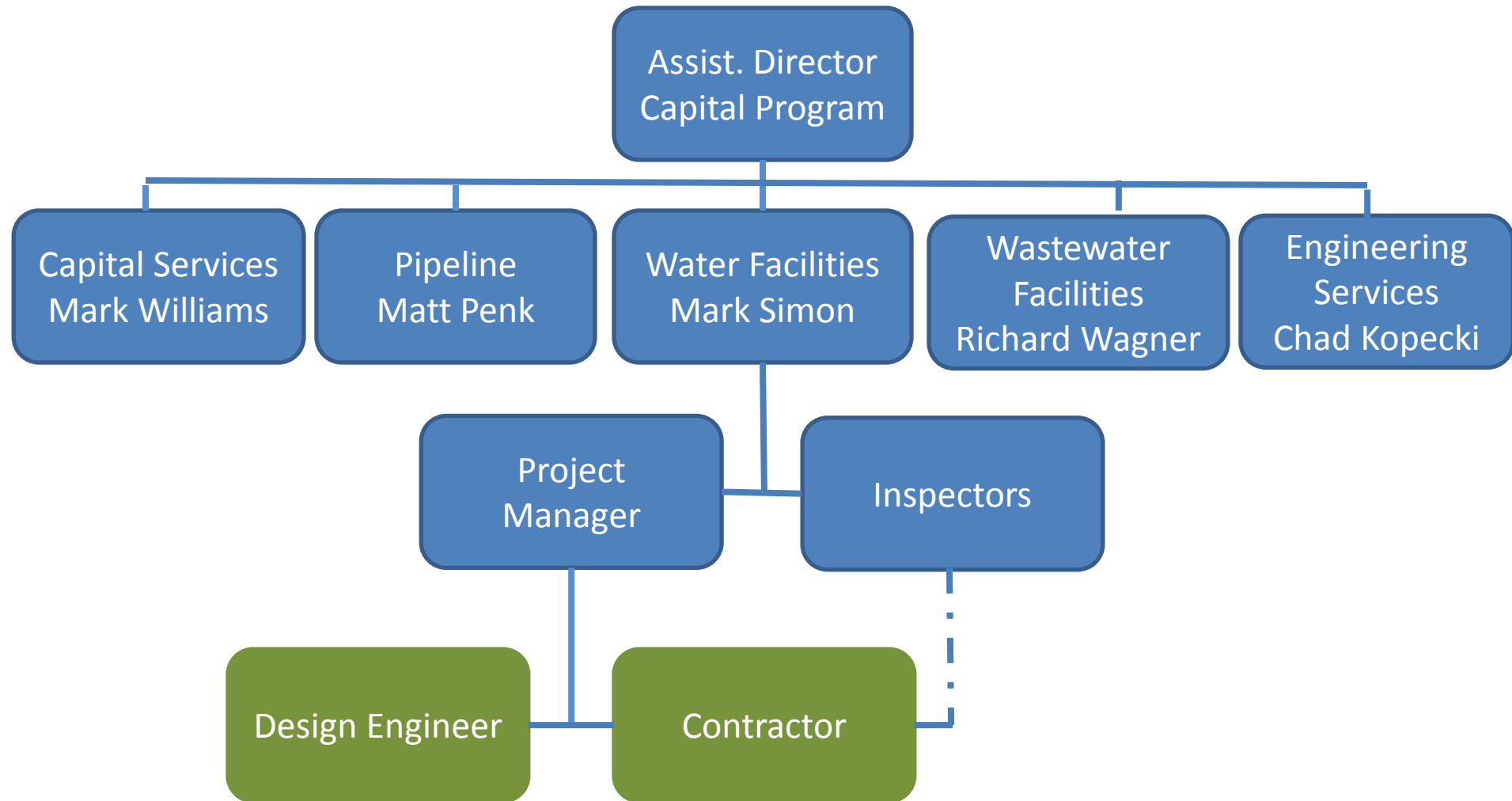
*Presentation given to SAME Chapter Meeting  
UT Arlington, TX  
December 4, 2014*

# Agenda

- DWU Capital Program Management & Why the need for CM Services
- How 3<sup>rd</sup> Party CM Services Augment DWU Capital Program Delivery
- Overall Benefits of 3<sup>rd</sup> Party CM Services

# **DWU CAPITAL PROGRAM MANAGEMENT**

# Capital Program Management Organization



# Capital Program & Staffing

- Budgeted FTE's - 139
- Well trained Project Managers & Inspectors
  - Suited for more routine projects
- Established processes & tools
  - ISO 9001, 14001, 18001 certified
- Staffing levels slightly below baseline project volume
  - **Turnover issues** due to retirement

# Capital Program Budget

**6-year Total**  
**\$2,218,833,000**

DESCRIPTION / FY	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20
<b>WATER CIP TOTAL</b>	<b>\$203,545,000</b>	<b>\$210,635,000</b>	<b>\$299,403,000</b>	<b>\$251,862,000</b>	<b>\$294,677,000</b>	<b>\$285,957,000</b>
<b>WASTEWATER CIP TOTAL</b>	<b>\$123,219,000</b>	<b>\$124,830,000</b>	<b>\$100,595,000</b>	<b>\$108,460,000</b>	<b>\$135,530,000</b>	<b>\$80,120,000</b>
<b>WATER AND WASTEWATER CIP TOTAL</b>	<b>\$326,764,000</b>	<b>\$335,465,000</b>	<b>\$399,998,000</b>	<b>\$360,322,000</b>	<b>\$430,207,000</b>	<b>\$366,077,000</b>

# Includes a Variety of Projects

Small diameter pipeline replacement  
and relocation program

Roof & HVAC Systems

SS interceptors and  
Water transmission mains

Pump and lift stations

Administration facilities/service  
Centers

Large water and waste water  
treatment plant process improvements



**Complexity**

# Our Large Complex Treatment Plant Programs Requires More Resources

- Requires more staff to manage day-to-day activities
- Needs advanced processes and tools to make workflows more efficient
- Demands broader expertise to focus on the complex issues associated with large complex projects
- Coordination and scheduling efforts
  - Consultants
  - Contractors
  - Operations personnel – Plants and Pumping
  - Engineering



# Leads to the Question

- Where do I even find the staff with the correct expertise and experience?
- Do we hire additional staff to deliver these complex projects and be over staffed when they are done or,
- Do we retain a 3<sup>rd</sup> party to augment our staff?
- DWU chose to retain a 3<sup>rd</sup> party CM out of necessity and practicality

# 3<sup>rd</sup> Party CM Applicable to Our Most Complex Projects

- East Side WTP Expansion & Water Quality Improvements
  - \$ 478M capital value
  - 9 projects
  - Over 10 years
- Bachman WTP Expansion & Water Quality Improvements
  - \$182M capital value
  - 9 projects
  - Over 12 years
- Elm Fork WTP Water Quality Improvements
  - \$350M capital value
  - 4 projects
  - Over 7 years (includes future years)

# Why Utilize 3<sup>rd</sup> Party CM Services?

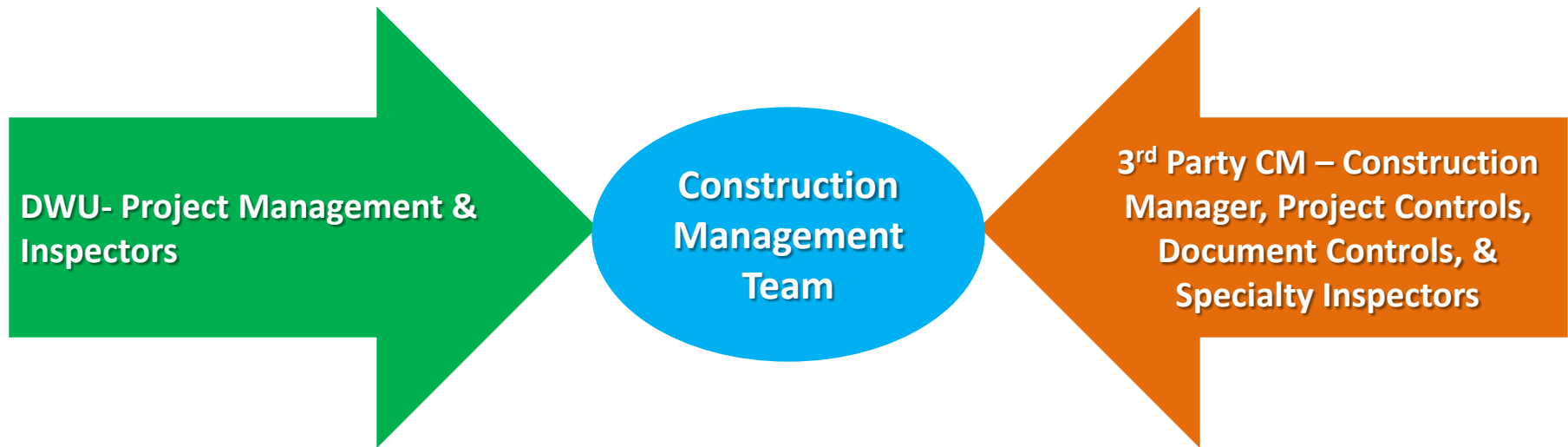
Access to a broad pool of talent and experience without making a long-term staff investment

Access to a different perspective of CM best practices...ability to enhance DWU's delivery methods

Access to new tools to make DWU's project delivery more efficient

# **HOW CM SERVICES AUGMENT DWU CAPITAL PROGRAM DELIVERY**

# DWU's Strategy Was to Integrate 3<sup>rd</sup> Party CM Staff With Its Own



- Vision for CM services
- Where we are
- Where we want to be
- Identify gaps
- Develop a plan
- **Requires buy-in from City Management**

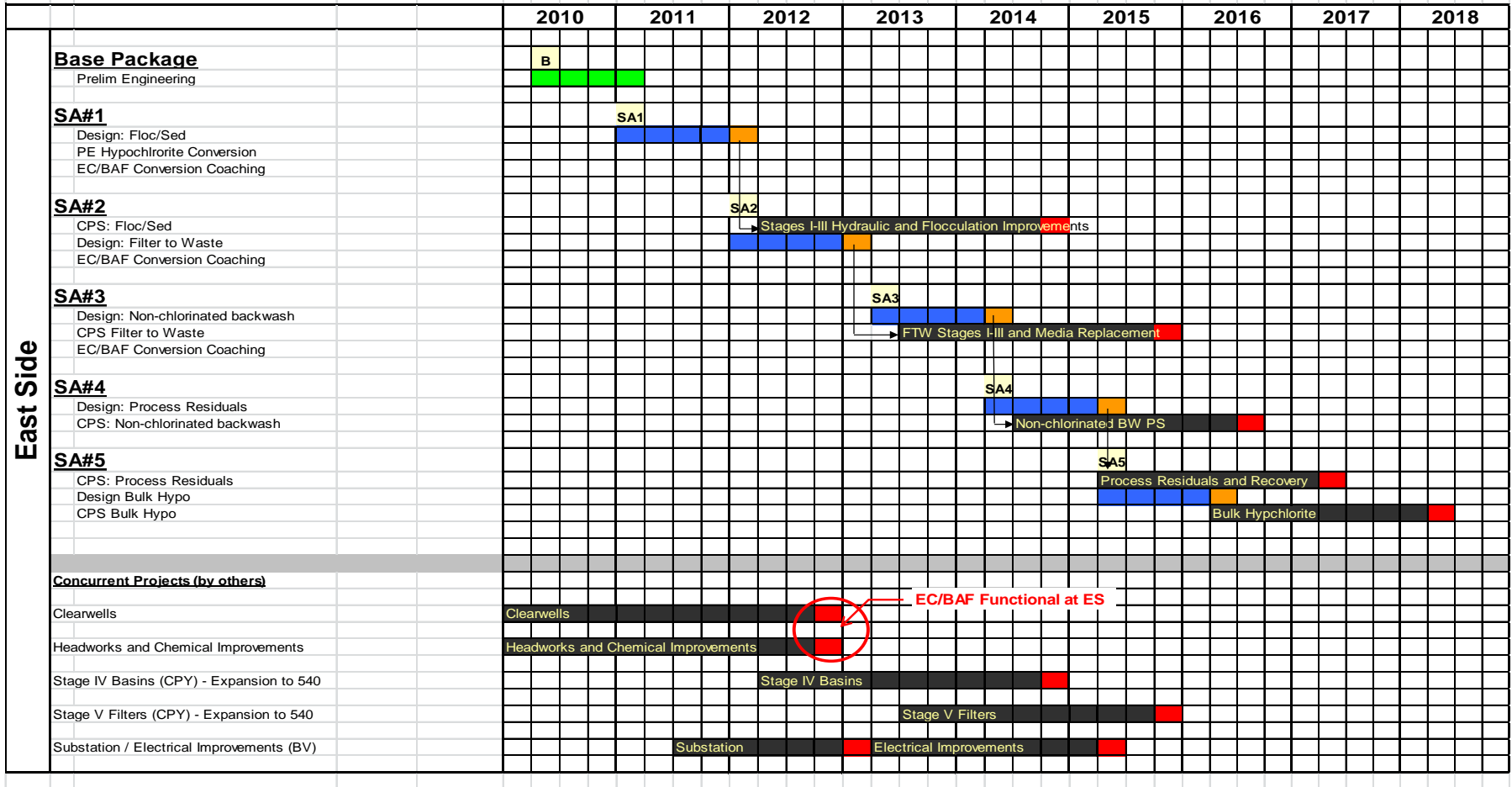
# 3<sup>rd</sup> Party CM Applicable to Our Most Complex Projects

- Identify available DWU resources and capabilities
- Evaluate project schedules and identify specific needs based on tasks/scopes
  - Communications and Instrumentation specialist
  - Pump specialist
  - Electrical, process specialist
  - Programmers
- Implement and integrate resources where and as needed
- Perform and re-negotiate annually which means **annual amendments** to the contract
- **Approach works because it is supported by City Management...NO surprises!**

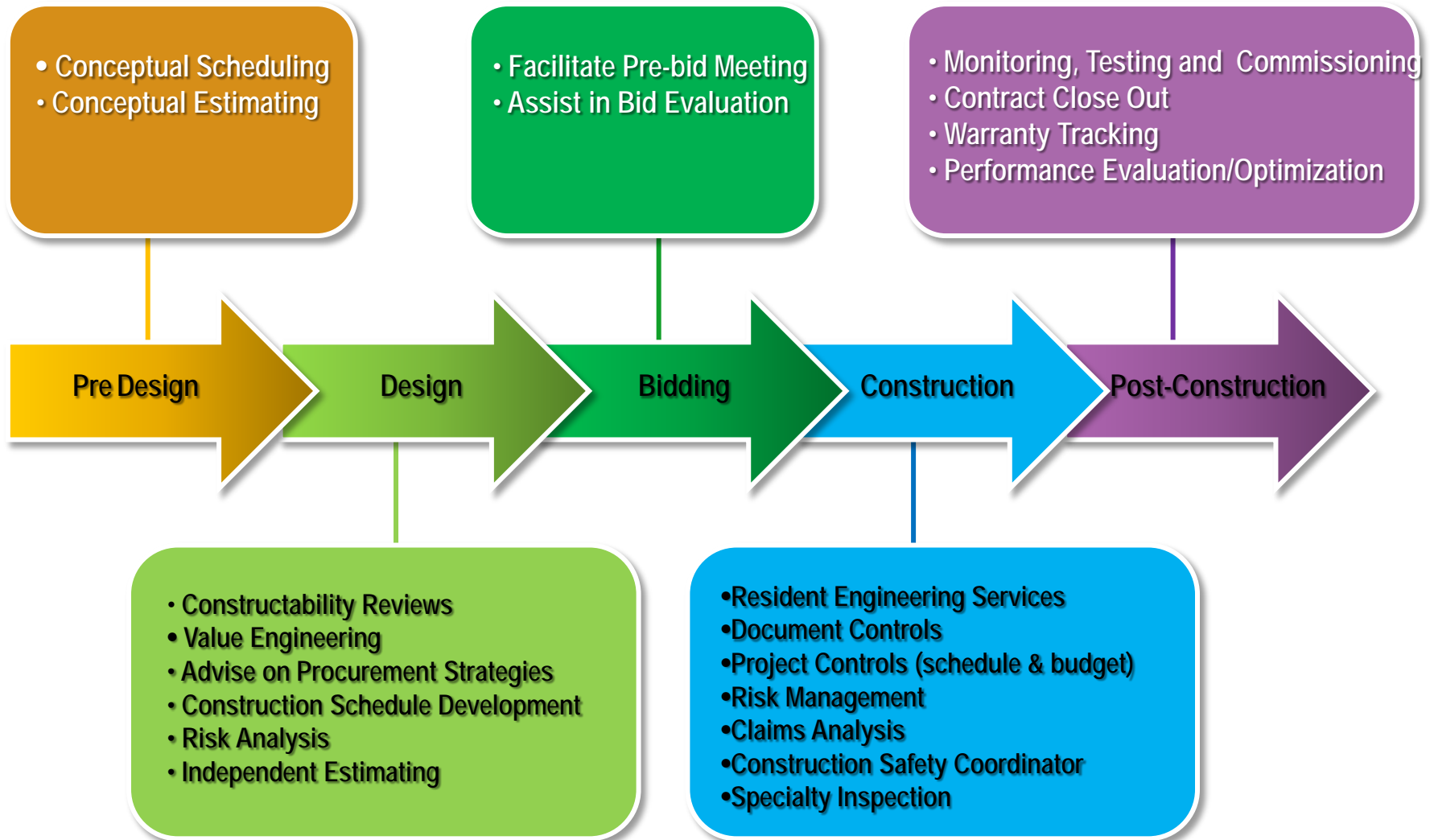
# Example Program Schedule

## WATER QUALITY IMPROVEMENTS PROJECTS SUPPLEMENTAL AGREEMENT AND CONSTRUCTION SCHEDULE

Preliminary Design Bid/Award Construction Startup



# 3<sup>rd</sup> Party CM is Engaged in all Project Phases





# 3<sup>rd</sup> Party CM Provides Additional Support and Training

- Field office facilities and furnishings
- Supplemental training
  - DWU Inspectors
  - Project Management
  - Operations and maintenance
- Implementation and use of project management system software
  - Trains DWU staff, design engineers and contractors
- Safety and environmental awareness

# Example Project Statistics

- Elm Fork WTP Chlorine Building Rehabilitation Project
  - Construction value \$17 M
  - Currently at 99.7% completion
  - Processing Statistics
    - 605 Submittals
    - 325 RFIs
    - 4 WTP Shutdowns
    - 94 Progress Meetings
    - 23 Pay Applications
    - 3 Change Order Requests
      - Total \$730K; final negotiated cost \$641K for 12% cost savings

# Example Program Statistics

- East Side WTP Expansion to 540 MGD & Water Quality Projects
  - Construction value \$478 M
  - Currently 8 of 9 projects complete. FTW at 90% completion
  - Processing Statistics for 9 projects
    - 3029 Submittals
    - 1086 RFIs
    - **Coordination of restrictions and shutdowns** for East Side WTP and DWU system. At one time **as many as 5 active construction projects** at one facility
    - 256 Pay Applications
    - Change Order Requests
      - Final negotiated cost savings of about \$4.3M relative to engineer or contractor initial cost proposal.

# **BENEFITS OF 3<sup>RD</sup> PARTY CM SERVICES**

# Overall and Long-term Benefits

- Staffing levels continue to fluctuate but CM Services provides flexibility in resource management
- We have fine-tuned our capital delivery process based on input from our 3<sup>rd</sup> party CM's best practices
  - Better quality, efficient delivery of projects, improved documentation and reporting
- Use of latest Technology
  - Software as a service/Hosted solutions
  - Mobility, GIS
- Lower Cost
  - Change Order <1.5% of construction value
  - Cost avoidance – Upwards of \$15M
- We have improved our culture on safety

**END**