NEWPP Expansion Project

Presentation to Council
Transportation, Technology & Infrastructure Committee
NEWPP EXPANSION

- Project Background
- Current Status
- Ongoing Activities & Upcoming Authorizations
Project Background
Project Necessary to Meet Local Groundwater Subsidence Regulations

% of Water Demand Supplied by Surface Water

- Current requirement
- January 2025 requirement
- January 2035 requirement
Houston is Delivering Project on Behalf of Four Authority Partners

Cost Share

- North Harris Co. RWA: 35.31%
- Central Harris Co. RWA: 25.76%
- N. Fort Bend WA: 21.41%
- West Harris Co. RWA: 16.00%
- City of Houston: 1.53%
NEWPP Expansion is One Piece of Regional Plan to Deliver & Treat Trinity River Water
Progressive Design-Build Delivery

Delivery method selected for:

- Schedule certainty
- Cost certainty
- Ability to have input on design & insure quality
- Ability to avoid liability gap between designer and builder
Design-Builder’s Roles and Responsibility

- Engineer-of-record
- Obtains permits
- Constructor
- Commissioning & start-up
- Provides performance guarantee
Project Advisor/Technical Consultant’s Roles and Responsibility

- Extension of PWE staff
- Technical advice & oversight
- Stakeholder outreach
- Environmental permitting
- Project controls
- Cost & schedule validation
- Negotiation & procurement support
- Quality review
- Field engineering & construction oversight
- Constructability review
Pre-Proposal Phase: 320 MGD expansion with early 80 MGD milestone (Indicative Design)

80 MGD module on-line no later than Aug. 2021*

Add’l 240 MGD on-line no later than June 2024
HWT Proposal: 320-mgd Expansion with Early 80-mgd milestone (Concept Design)

- 80-mgd module on-line no later than Aug. 2021
- Additional 240-mgd on-line no later than Jun. 2024
Basis of Design: 320-mgd Expansion at Basis of Design Milestone

Existing 80 MGD NEWPP

New 320 MGD Expansion
New Intake in Lake Houston will Supply Raw Water to Plant
Current Status
Expansion being Delivered using 2-Phase (Progressive) Design-Build

Preliminary Services

- Basis of Design
- Component 1
- GMP Proposal
- Component 2
- Early Work Packages

Final Design & Construction Services

- Phase 1 (80 mgd) milestone
  - NLT 8/31/21

- Phase 2 (240 mgd) milestone
  - NLT 6/30/24

- NEWPP Construction

- Transition & Warranty Services

We are Here

Contract Amendment Award & NTP

GMP Amendment No. 1 Approval

Final Acceptance

NORTEAST

WATER PURIFICATION PLANT EXPANSION
Component 2 – Preliminary Services

- **Basis of Design**
  - Technical Submittal received February 28, 2017
  - Cost Model and Schedule submitted May 1, 2017
    - Currently reviewing Cost Model and Schedule

- Working toward 30% Design on Balance of Plant

- Finalizing designs of the Early Work Packages

- Expecting submission of Early Work Package GMPs within next few weeks
  - Site Work
  - Utility Relocates
  - Raw Water Pipelines
  - Module 1 Filter Structure & Underground Piping
Project Construction Cost Overview

Construction Cost Estimate*
- Original Construction Estimate, Summer 2013: $1.167B
- Cost Model Forecast, Fall 2016: $1.272B
- Current Cost Model Forecast, May 2017: $1.51B

- Key cost/budget considerations:
  - Design-Builder’s opinion/forecast of what they believe could be the GMP cost to build the plant
  - We still need to validate the cost model (we have only had it for 7 days)
  - We still need to review the scope and schedule
  - We still need to negotiate direct and indirect costs such as risk, contingency, escalation, and other factors that will greatly affect this number.
Ongoing Activities & Upcoming Authorizations
Anticipating Record of Decision for 404 permit
Summer 2017

Impacts to jurisdictional wetlands & streams require mitigation
Community awareness and outreach

- Fliers to neighbors for upcoming EWP work
- Hotline established – (281) 520-3777
- Website under development
- Public meeting being planned
- Over 20 Contractor Outreach Events between February & May of 2017, including:
  - National Association of Minority Contractors
  - PWE Contracts in 5
  - Greater Houston Black Chamber of Commerce
  - Greater Houston Business Procurement Forum
MWBE Outreach and Labor Participation

**PATC**
- 24% goal
- 24.61% achieved to date
- 25.82% proposed for upcoming additional appropriation

**HWT**
- 24% goal
- 15.57% achieved to date
- 24.42% proposed for upcoming amendment
Early Work Package Construction will Begin in 2017

- EWP 1 – Site Prep
- EWP 2 – Filter Structure
- EWP 3 – Powerline Relocation
- EWP 4 – Raw Water Pipelines
- EWP 5 – Early Equipment Procurement
# Upcoming Authorizations

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<td>Approve Stream Mitigation Purchase</td>
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*Budgetary estimates, actual values to be based on negotiated amendments*
Upcoming RCAs (May)

- HWT Component 2B – Authorizes HWT to complete Component 2 services through GMP, including preconstruction, and final design to IFC. ($66.3M)
  - In addition to $16M for Component 2A

- Carollo Component 2 Services – Authorizes Carollo to continue technical services, procurement support, communications and outreach support, provide field engineering and other associated services for acceptance of the construction facilities for Early Work Packages – ($17.4M for 24 months)

- Stream Bank Mitigation Credit Purchase ($600K) – Purchase of Stream Bank mitigation credits to meet requirements for US Army Corps of Engineers 404 Permit
Northeast Water Purification Plant Expansion
Early Work Package 1 – Site Preparation

Project Description
• Clear and grub 90 acre site
• Stormwater management
• Construction access roads and pads
• Construction trailers and utilities
• Mass excavation
• Relocate site utilities
• Dewater site
• Construction electrical drops and lighting
• Construction trailers
• Site survey – baseline
• Construction fence

SWP – Stormwater Pond
Early Work Package 2 – Deep Structures

Project Description
- Concrete batch plant installation
- Underslab piping for West Filter and Transfer Pumping Station
- Concrete structure for West Filter and Transfer Pumping Station
- Dewatering

EWP 2

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Early Work Package 3 – Utility Relocations

Project Description
- Clear and grub utility corridor
- Utility relocations in utility corridor
- 12.5 kV duct banks
- HDD under West Lake Houston Parkway
- Demo of existing overhead 12.5 kV power

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Early Work Package 4 – Raw Water Mains

**Project Description**
- Design 2 108-inch raw water pipelines
- Install single 108-inch steel raw water pipeline
- Cathodic protection
- Utility crossing under West Lake Houston Parkway
- Dewatering
- Reconstruction of service road

**EWP 4**

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