



CITY OF HOUSTON
Houston Public Works

DESIGN-BUILD SERVICES

Northeast Water Purification Plant Expansion

December 11, 2019



Houston Waterworks Team

Drone Site Map: Nov 19, 2019





Construction Progress – EWP 1/3 Site Development

- **Site Crew managing soils and sand stockpiles**
- **Installing Trailer City 2.0 Utilities and Temporary Construction Water Line**
- **Delivered and set sewer precast holding tanks**
- **Installed north temporary fence**
- **Relocating fiber optic cable**



Trailer City 2.0: Nov 19, 2019



Trailer City 2.0 – Installing 12in storm sewer system



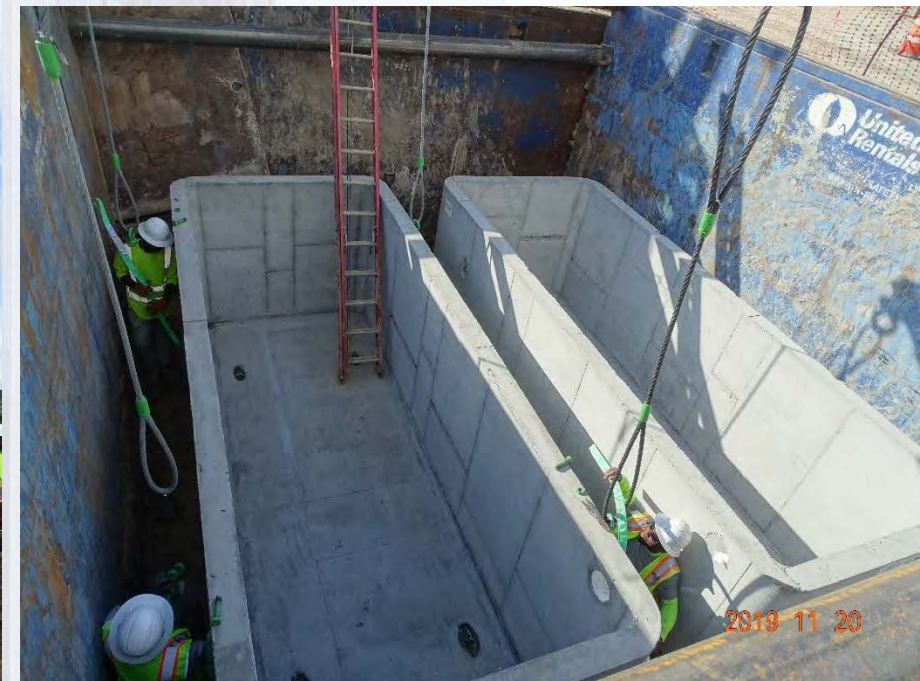
Trailer City 2.0 – Laying 6in Trunk Sewer Lines



Trailer City 2.0 – Setting trench boxes for holding tanks



Trailer City 2.0 – Delivered and set precast sewer holding tanks



Trailer City 2.0 – Set holding tank lids and grade rings, and backfilling



11/26/19, 11:50 AM




2019 12 04

Installing temporary north fence and demolished existing fence



Relocated fiber optic cables onto new fence





Construction Progress – Temporary Power / Site Electrical EWP-6

- **East Site Temp Power H-12 CenterPoint Connection**
- **Central Plant Phase II Temp Power**
- **East Duct Bank Manhole 152-5 to 152-3**
- **Facility 111 Under Slab Work**



Temporary Power East Site



Installing and pouring East Duct Bank





Construction Progress – EWP 4 Raw Water Corridor

- **Trench shoring installation and excavation in East and West Corridors and in the Decline Tunnel**
- **Manhole Installation**
- **Welding joints**
- **Storm Drainage Installation**
- **Completion of Decline Tunnel**



Sta 134+00 Decline Tunnel



Decline Tunnel Pipe Installation



Sta 142+50 Excavation and Shoring



Sta 142+50 Excavation and Storm Drainage Support



12/9/19, 11:50 AM

Sta 128+50 Rail Car Bridge



12/6/19, 8:20 AM

Houston Waterworks Team



Sta 128+50 Excavation and Shoring



Sta 128+50 Pipe Installation





Trench Shoring and Excavation



Construction Progress—Phase 1- Central Plant

281-FILTER MODULE 1 :

- **Reinforcing Base Slabs B1B/B2B.**
- **Pouring Base Slab B1B.**
- **Reinforcing/Forming/Pouring Wall Pours**
- **Shoring For Top Deck**
- **Reinforcing/Forming Top Deck D3**

291-TPS:

- **Pour Concrete at Top Deck West & East Contact Basin**
- **Form-up 2nd Pump Cans Encasements**

311- Post Chemical Facility 1 CS/SH :

- **Density Test to Classify Soil.**
- **Installation of Sentry Water barrier**
- **Clearing and Grubbing**
- **Mass Excavation**
- **Scarify and Recompact Soils.**



281-FILTER MODULE- Reinforcing Base Slabs B1B/B2B



281-FILTER MODULE- Pouring Base Slab B1B



281-FILTER MODULE- Reinforcing/Forming/Pouring Walls



281-FILTER MODULE- Shoring for Top Deck



281-FILTER MODULE- Forming/Reinforcing Top Deck-D3



281-FILTER MODULE- Drone Shots- Top Deck Work/ Backfilled BWW Channel



TPS - A1 & C1 Top Deck Concrete Pour



TPS – Form up 2nd Encasements at Pump cans



311 Post Chemical- Density Test to Classify Soils



311 Post Chemical-Installation of sentry water Cable barrier



311 Post Chemical-Clearing and Grubbing



311 Post Chemical-Mass Excavation



CENTRAL PLANT- Phase 1 (East Half)





Construction Progress—Phase 2- Central Plant

282 -FILTER MODULE 2:

- Mass Excavation & GW Dewatering system Installation
- FD Pump Can Delivery



282-FILTER MODULE 2- Earth Work/ GW Dewatering System Installation



282-FILTER MODULE 2- FD Pump Can Delivery





Construction Progress – North Plant

- **Facility 213 – F/R/P Slabs-on-grade (SL-1 and SL-3), Rough-In embedded electrical conduit**
- **Facility 214 – F/R/P Containment Area SOG (SL-3 and -6) and Walls (W4 and -8) and Electrical Room Footing and Walls**
- **Facility 222 – F/R/P Vault Walls, placement of 78 inch RW 90* ELL**
- **Facility 241 – Completion of Stem Wall for N/S Corridor**
- **Facility 242 – F/R/P SOGs (SL-9, -17, -22), PDR Pipe Installation**
- **Facility 252 – Excavation and subgrade prep for inlet and outlet boxes**
- **Facility 611 – F/R/P Cross Collector walls, Place mud slab**

Facility 213 F/R/P Slabs-on-grade



Facility 214 Containment Walls and Stem Walls



Facility 222 Vault Walls and 78" RW Pipe



Facility 241 Stem Wall and North/South Corridor



Facility 242 Slab-on-grade and Mud Mat



Facility 242 Underground Piping Installation



Facility 252 Inlet Box F/R/P and Outbox Excavation



Facility 611 Cross Collector Wall F/R/P



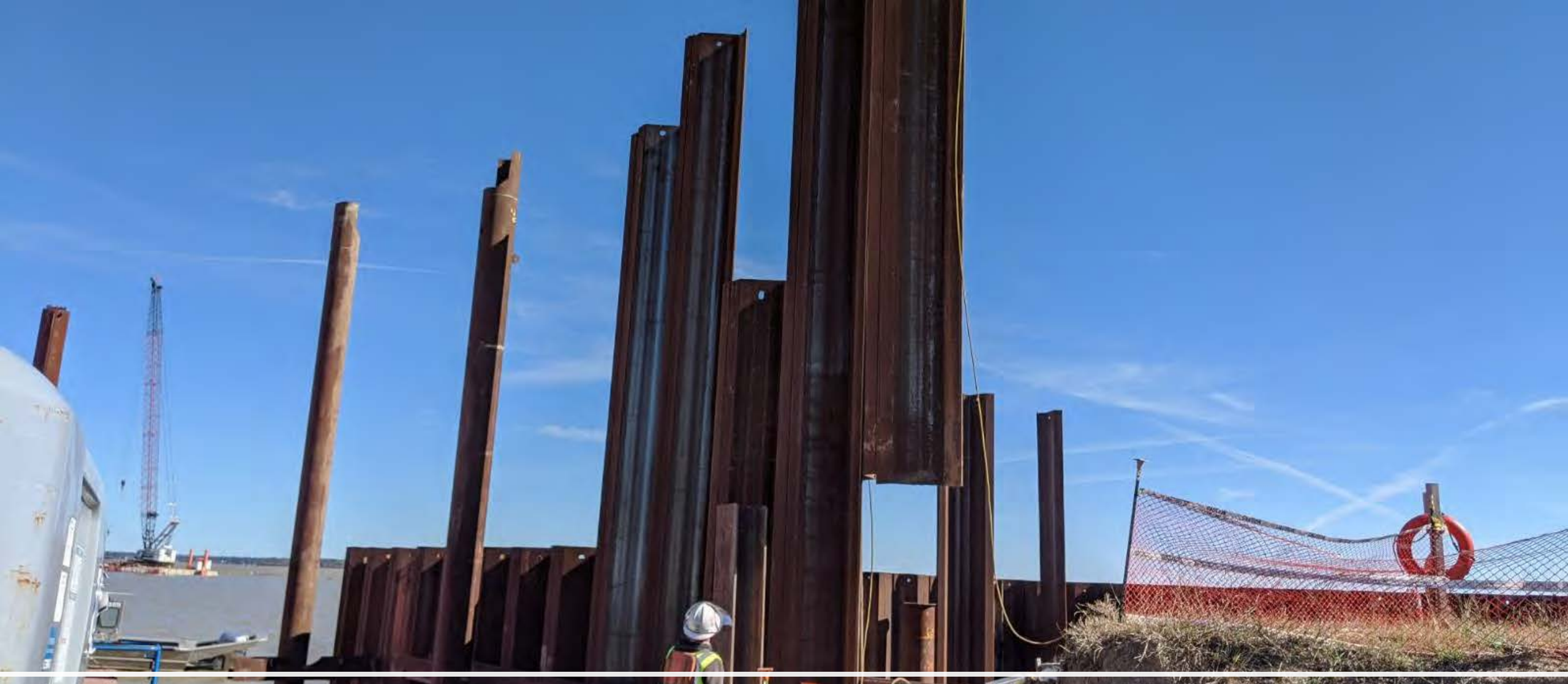


Construction Progress – EWP 6 IPS

- **Completion of Platform Piles**
- **Preparing To Drive 10' Pump Can Casings.**
- **Delivery of materials**

IPS Gingerbread Model





Driving sheet Piles





Top Piles Cutting to The Design Elevation

Piles Reinforcement





Platform

• formwork





Construction Progress – EWP 6 Substation Facility 102

- **Delivery and setting of transformers**
- **Installation of conduit duct banks**
- **Continue the installation of conduit duct banks**
- **Completion of the yard foundations**

Delivery and setting of transformers



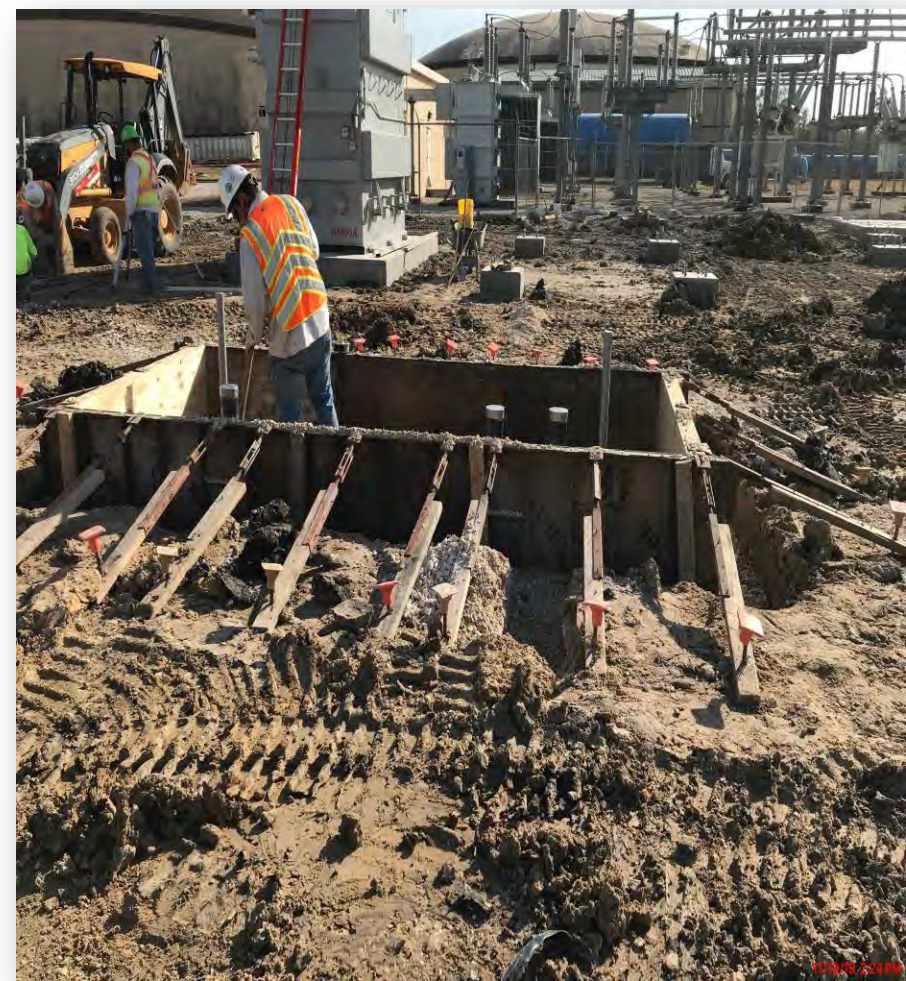
Installation of conduit duct banks




Continue the installation of conduit duct banks



Completion of the yard foundations





Construction Progress – BOP LREQ Basins Facilities 601/602

- **Facility 601/602 Excavation Progress**
- **Lower slab formwork and rebar install**
- **Lower wall rebar and formwork install**
- **Pour of the lower slab and lower walls**



Facility 601/602 Excavation Progress



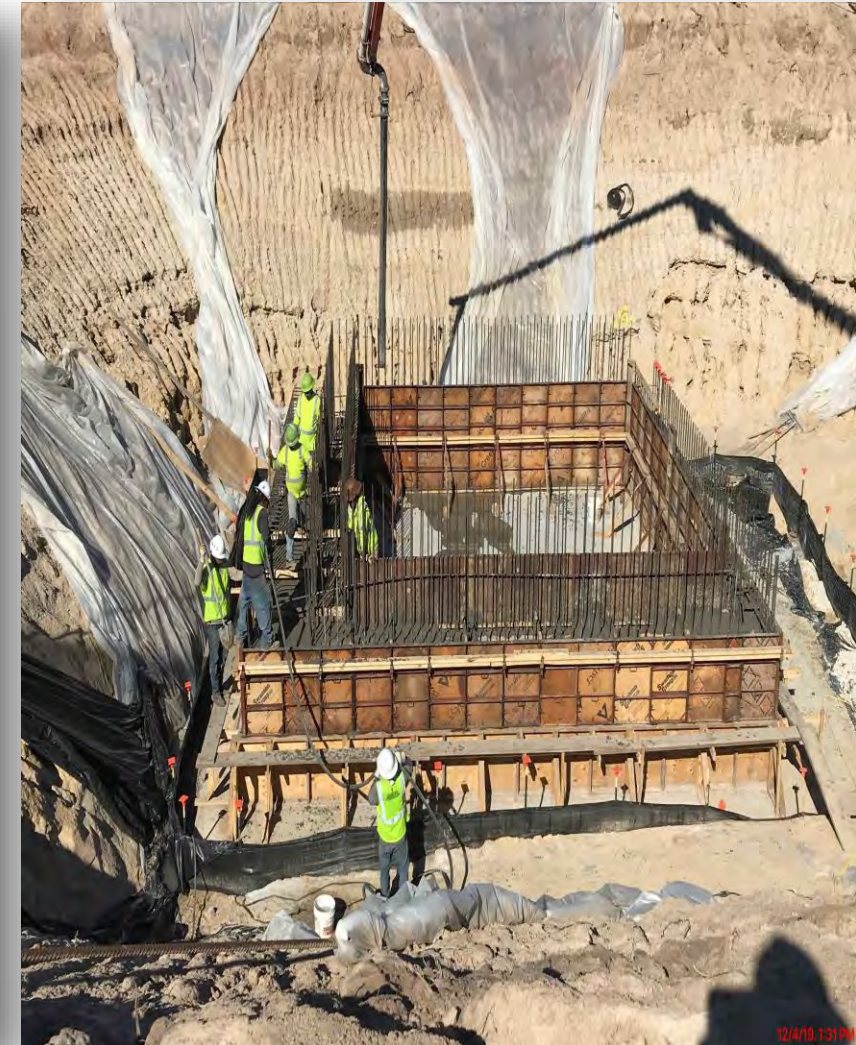
Lower slab formwork and rebar install



Lower wall rebar and formwork install



Pour of the lower slab and lower walls





Construction Progress – Yard Piping

- **Receiving and unloading ductile iron pipe and 66in Steel pipe deliveries**
- **Installing 10in SSG in admin area**
- **Installing 16-in CEN line**
- **Installing 24-in PDR Line and manhole**
- **Installing 14-in TSL line**
- **Installing 66-in RW steel pipe line**



Laying and backfilling 10in SSG Line



Laying, backfilling, & compacting 24-in PDR line and manhole



Excavating and laying 16-in CEN line



Excavating and laying 12in PW line



Reytec mobilizing, and delivery of 66in RW pipe



Excavating, laying, and backfilling 66in RW pipe





Construction Progress – Administration Building

- **Establish Positive Drainage sump**
- **Dig Geotechnical Exploratory Pits**
- **Begin over excavation to EL 40**

Establishment of Positive Drainage



Geotechnical Exploratory Pits



Begin over-excavation to EL 40





Construction Progress – South Plant

Ground Storage Tanks:

- Installation of 501 of 600 Vibro Stone columns (VSC's) at GST 362
- Installation of 446 of 600 Vibro Stone columns (VSC's) at GST 361
- Installing Sheet piles for the 102" pipes at GST 362
- Poured overflow box walls

Dewatering Building:

- Clear, Grub and installation of SWPP
- Excavation begun at Dewatering Building

High Service Pump Station:

- Excavate foundation for HSPS-1 to groundwater elevation
- Wire dewatering wells at HSPS 401&402 and energize



Ground Storage Tanks (Preload):



Installing Vibro Stone Columns (VSC's) at GST 361



Installing Sheet piles for the 102" pipe at GST 362



Removing formwork at the Overflow box

Dewatering Building(Alberici):



Clear, Grub, and Excavation

High Service Pump Station(PLW):



Installed dewatering wells at facility 401



Facility 401 Mass Excavation down to groundwater elevation

