



**CITY OF HOUSTON**  
Houston Public Works

# DESIGN-BUILD SERVICES

# Northeast Water Purification Plant Expansion

April 22, 2020



**Houston Waterworks Team**

# Drone Site Map: April 15, 2020





# Construction Progress – EWP 4 Raw Water Corridor

- **Storm Drainage work at sta 142+50**
- **Temporary Road Construction in West Corridor**
- **Pulling shoring at sta 128+50**
- **Cathodic Protection Installation**



# Storm Drainage Work at STA 142+50



# West Corridor Temporary Road Construction





# Construction Progress – Influent Pump Station (IPS)

- **Bridge Caps**
- **Pump Can Delivery**
- **Phase 3 Deck Complete**



# Bridge Cap

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# Pump Can Delivery





# Phase 3 Deck Complete





# Construction Progress – Site Electrical

- **MDB111A & B Eastward Duct Bank Placement**
- **In-Plant Trench Cleaning, Duct Bank Placement and Concrete Pour**



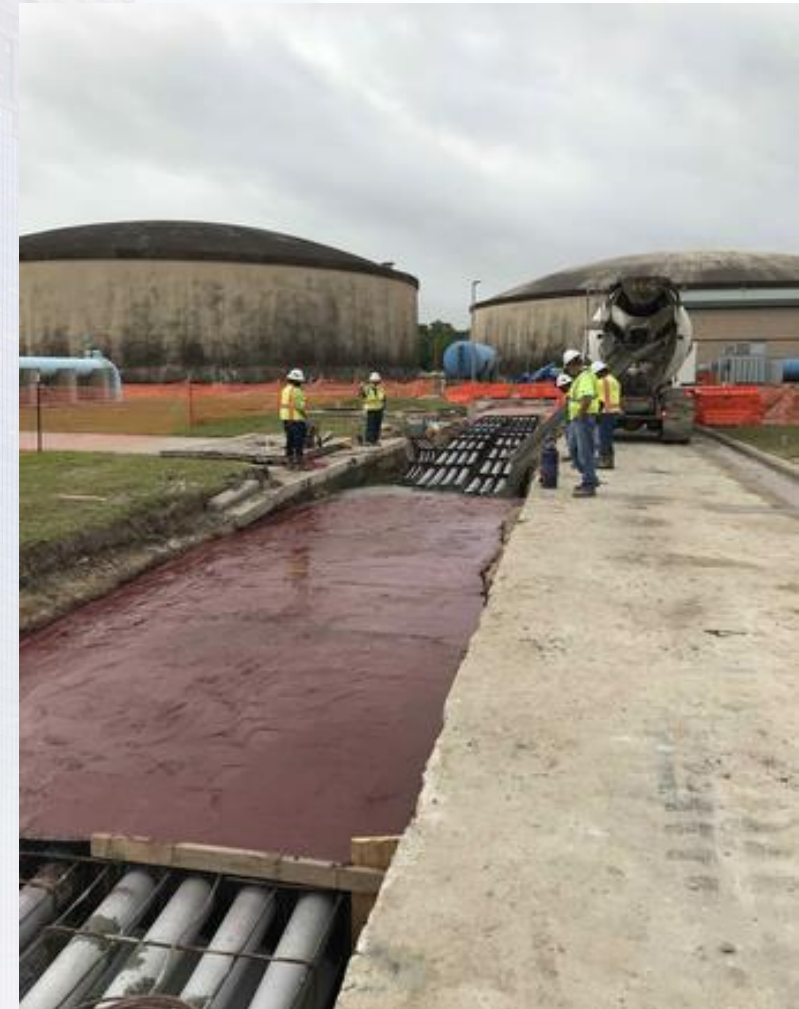
# MDB111A & B Eastward Duct Bank Placement



# MDB111A & B Eastward Duct Bank Placement



# In-Plant Duct Bank Placement and Concrete Pour

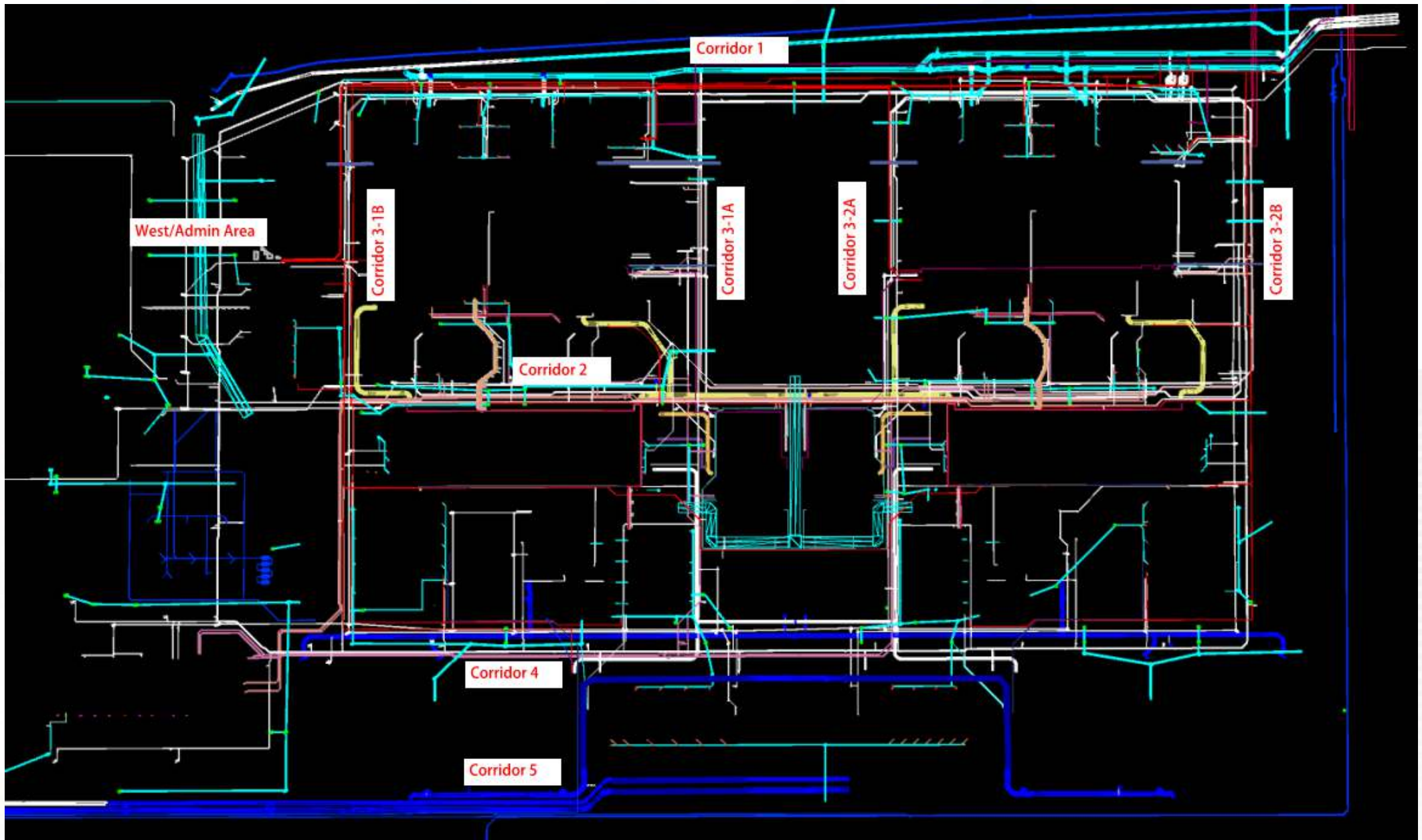




# Construction Progress – Yard Piping

- **Installing and welding 108” RW steel pipe in Corridor 1**
- **Installing 12” PW ductile iron pipe in Corridor 3**
- **Installing 24” PDR ductile iron pipe and manhole in Corridor 3**
- **Installing and welding 84” & 96” FW steel pipe in Corridor 4**
- **Installing 2-16” CEN ductile iron pipe in Corridor 4**
- **Installing and welding 120” FW steel pipe in Corridor 5 and by HSPS**
- **Grouting interior of 8x4 Storm Box Culverts in Admin area**





# Installing 108" RW steel pipe, and preparing to set wye in Corridor 1





# Installing 12" PW piping in Corridor 3



# Installing 12"/16"/24" SPD and 24" PDR piping, and set Manhole 604 in Corridor 3



# Installing 96" FW steel pipe and tee in Corridor 4



# Installing 2-16" CEN piping in Corridor 4



# Installing 120" FW steel pipe by HSPS



# Installing 120" FW steel pipe in Corridor 5



# Grouting interior of 8x4 Storm Box Culverts in Admin area





# Construction Progress – Site Civil

## Temporary Parking and Staging:

- Grubbing & compacting
- Laying geotextiles
- Placing crushed rock for shoulders/walkways
- Placing TxDOT 247 Flex Base for parking and staging areas





# Grubbing & compacting shoulders, and parking/staging areas



# Laying geotextiles



# Placing crushed rock on shoulders/walkways



# Placing TxDot 247 Flex Base for parking/staging areas





# Construction Progress – Central Plant

## 281-FILTER MODULE 1 :

- Forming/Reinforcing/Pouring Walls.
- Reinforcing/Pouring Filter 2 Slab.
- Forming/Reinforcing Filter 1.
- Reinforcing Lower Manifold Deck 5/6.
- Forming/Shoring Lower Manifold Deck  $\frac{3}{4}$ .
- Installing BWA Pipe supports.

## 291-TRANSFER PUMP STATION 1:

- Wall A4 Concrete Pour 2nd Lift
- Pump Can Area Backfill
- Continued Installing Double Containment Plumbing Pipes under Analyzer Room
- Install 36" Overflow Pipes Block-outs

## 311-POST CHEMICAL FACILITY 1 SH/CS :

- Installation of Electrical Underslab Conduits.
- Preparation and Pour of Seal Slab Containment areas.

## 312- POST CHEMICAL FACILITY 2 LAS

- 312 Facility Excavation Continues

## 282 -FILTER MODULE 2:

- Forming/Reinforcing East Half of IC Vault
- Bypass Vault Slab Reinforcing/Pouring

## 292-TRANSFER PUMP STATION 2:

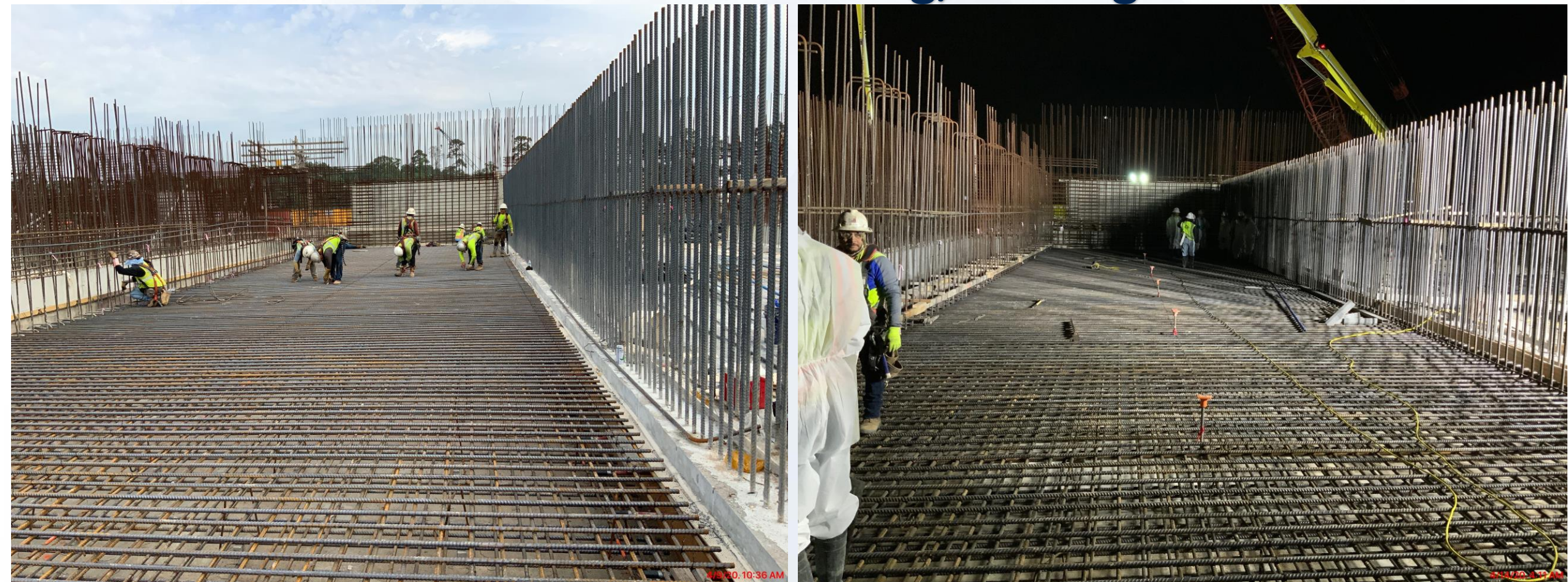
- Pump Can Area Excavation



# 281-FILTER MODULE-Reinforcing/Forming/Pouring Walls



# 281-FILTER MODULE- Reinforcing/Pouring Filter 2 Slab



# 281-FILTER MODULE- Lower Manifold Deck 5/6 Reinforcement





# 281-FILTER MODULE- Reinforcing /Forming Filter 1



# 281-FILTER MODULE- Forming/Shoring Lower Manifold Decks 3/4



4/21/20, 10:10 AM

# 281-FILTER MODULE- Installing BWA Pipe supports



# 291– Wall A4 2nd Lift Concrete Pour



# 291– Install 36" Overflow Pipes' Block-outs



# 291– Pump Can Area Backfill



# 291– Install Double Containment Plumbing Pipes under Analyzer Room - Continued



# 311-PostChemical: Installation of underslab Elect. Conduits





# 311-PostChemical:Back fill and Seal slab Preparation at Tank Farm.



# 311-PostChemical:Back fill and Seal slab Preparation at Tank Farm.



# 311-PostChemical:Seal slab Preparation and Pour at Sump area



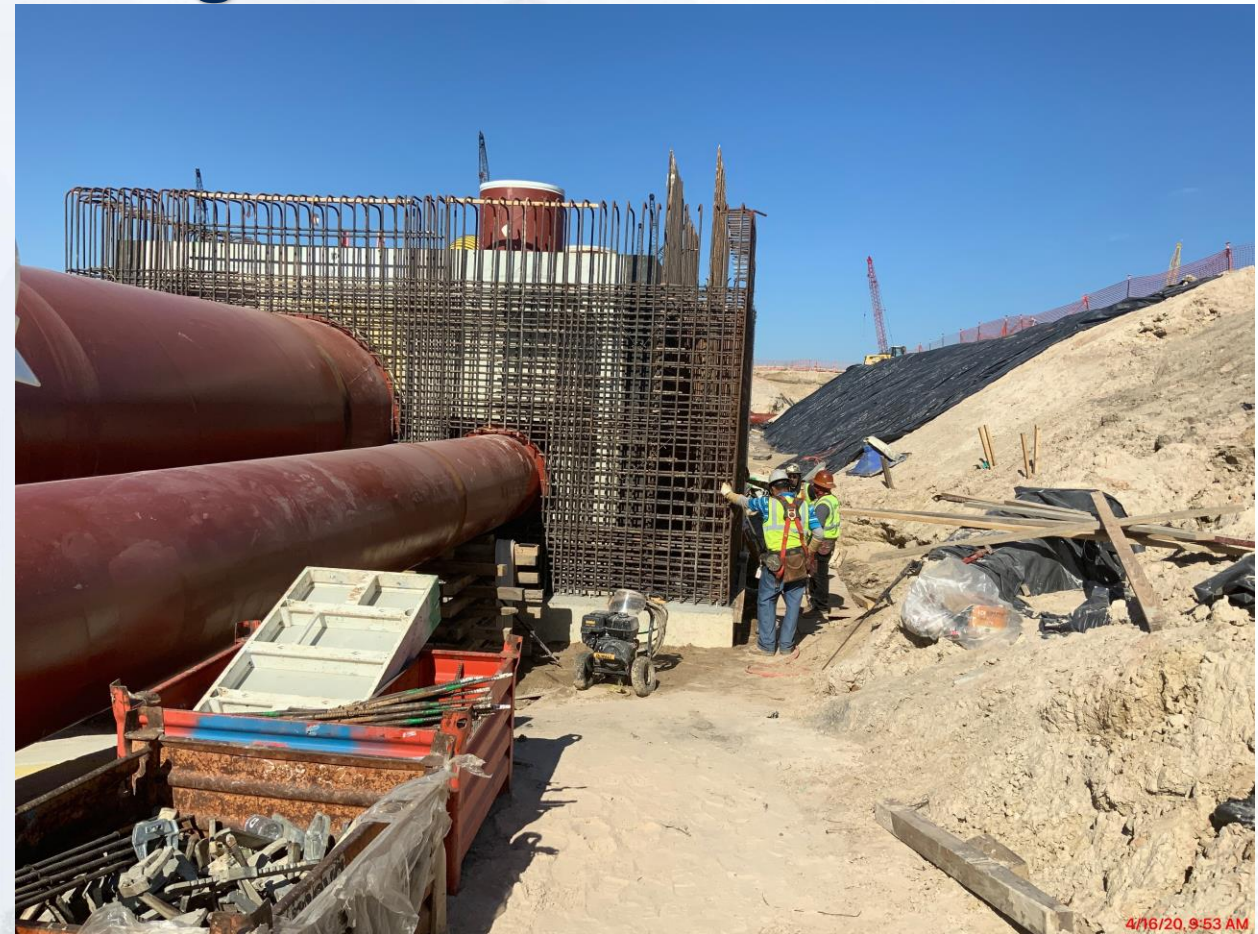
# 312-Post Chemical: Facility Excavation.



# 282- Bypass Vault Slab Reinforcing/Pouring



# 282-FILTER MODULE 2- Forming East Half of IC Vault



# 292 – Pump Can Area Excavation



# CENTRAL PLANT – 2nd PHASE







# Construction Progress – LREQ Basins Facilities 601/602

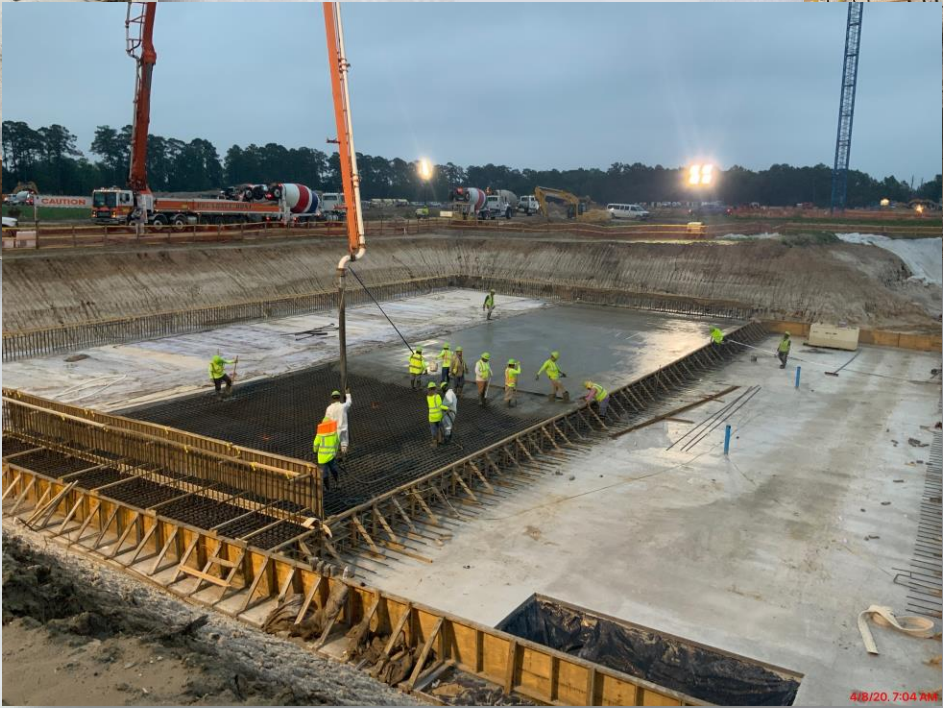
- **Rebar Installation and Pour for Main Base Slab #4**
- **Rebar Installation and Pour for Main Base Slab #5**
- **Rebar Installation and Pour for Main Base Slab #8**
- **Rebar Installation for Main Base Slab #6**



# Rebar Installation and Pour for Main Base Slab #4



# Rebar Installation and Pour for Main Base Slab #5



# Rebar Installation and Pour for Main Base Slab #8



# Rebar Installation for Main Base Slab #6





# Construction Progress – North Plant

## 221-Rapid Mix Train 1 :

- Forming/Reinforcing/Pouring Walls

## 222-Rapid Mix Train 2:

- RM-SL-4 FRP
- Erect Wall Rebar and Formwork

## 241-FlocSed Train 1

- 24" PDR installation

## 242-FlocSed Train 2

- Ported Wall PW-1 FRP
- Distribution Channel Wall FRP
- Slab-on-Grade FRP

## 252-Ozone Contractor 2:

- Preliminary Leak Testing of Inlet and Outlet Box
- Damp Proofing and Backfilling Inlet Box

## 502-Gravity Thickener Complex 2

- Basin #4 Underdrain and Mud Mat Prep
- Service Bldg Walls FRP
- Thickened Sludge Sump Walls Basin #3 FRP

## 611-Liquid Residuals Clarifier Facility 1:

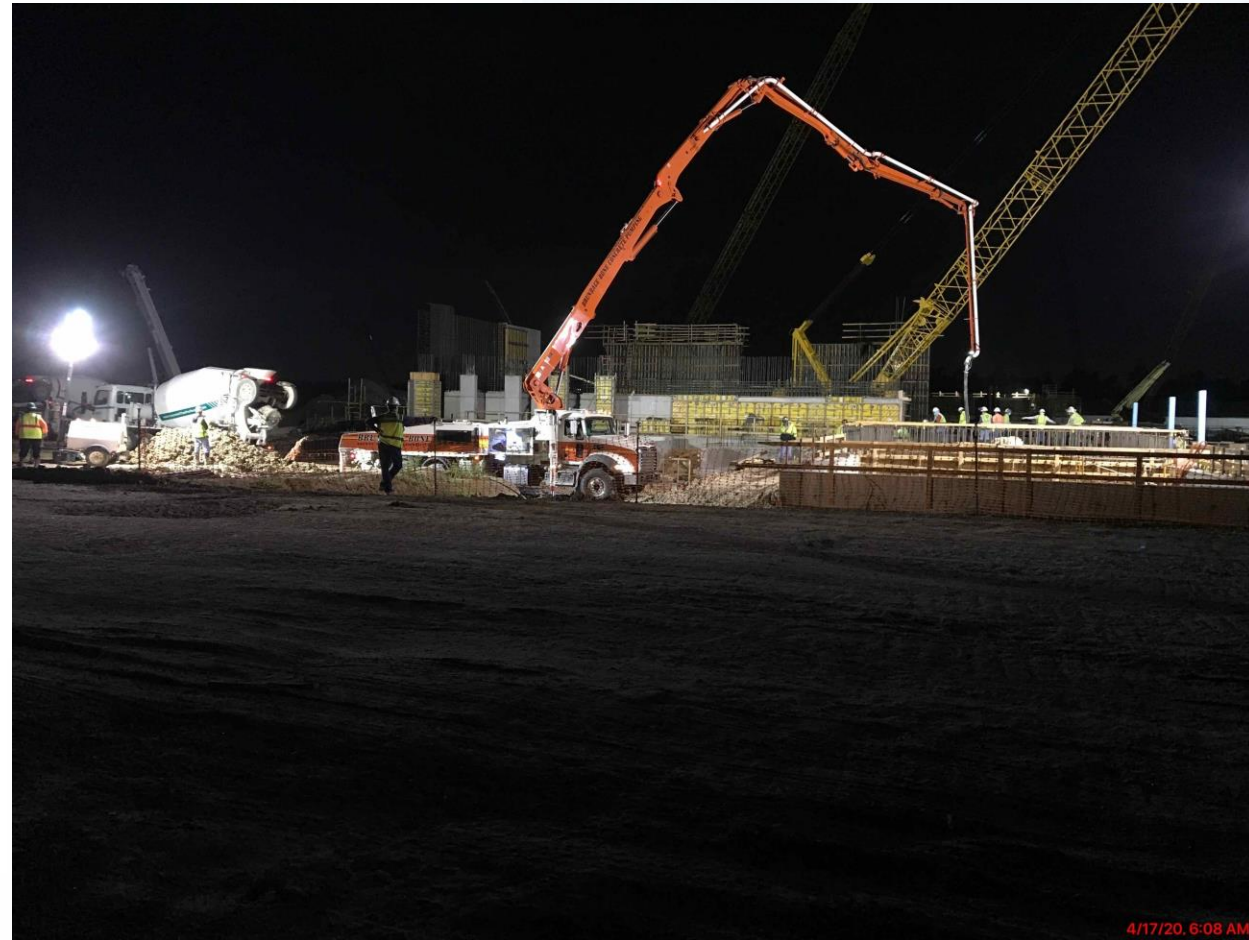
- Valve Vault of OF sump FRP
- Slab-on-Grade FRP



# Facility 221 Wall F/R/P and Setting 78 inch RW Pipe



# Facility 222 RM-SL-4 Mud Placement





# Facility 242 Ported Wall F/R/P



# Facility 242 96" CW Pipe Encasement



# Facility 242 SL-15 Rebar Placement



# Facility 502 Basin #3 TSL Sump and Service Bldg Walls F/R/P



# Facility 502 Basin #4 Underdrain Gravel and Service Bldg Sump



# Facility 611 SL-8 F/R/P



# Facility 502 Service Bldg FRP





# Construction Progress – South Plant

- **Backfilling and pressure testing the 84" pipe at GST 361**
- **Removing shoring at GST 362 102" pipe**
- **SOG rebar installation and concrete curing at Facility 520**
- **CMU mockups installed and reviewed at Facility 111**
- **Grouting pump cans at HSPS 401**



# Backfilling and pressure testing the 84" pipe at GST 361



# Removing shoring at GST 362 102" pipe



# SOG rebar installation and concrete curing at Facility 520



# CMU mockups installed and reviewed at Facility 111



# Grouting pump cans at HSPS 401





# Construction Progress – Administration Building

- Formed Footings and Grade Beams in the MB
- Installed PDR Line in the AB
- Poured Seal Slab in Breezeway

# Forming of Footings and Grade Beams in the MB



# Installation of the PDR pipe in the AB





# Placement of Seal Slab in the Breezeway



