



CITY OF HOUSTON
Houston Public Works

DESIGN-BUILD SERVICES

Northeast Water Purification Plant Expansion

August 4, 2021





2021 HWT Summer Intern Presentations



Site Drone Map
July 28, 2021





Construction Progress – Intake Pump Station (IPS)

- Chlorine Dioxide and PPW lines installation on the access bridge
- Installing 4-inch discharge piping
- Pump seal water panel frames installation
- Exterior access stairs installation at IPS
- HVAC duct and air conditioner unit installed inside building 152



Vertical Turbine Pump motors installation



Installing 4-inch discharge piping



Pump seal water panel frames installation



Exterior access stairs installation at IPS



HVAC duct and air conditioner unit installed inside building 152





Construction Progress – Site Electrical

- Placement of 271/272 Transformers
- 312 Transformer Pads
- 401 Transformer Pads

Placement of 271/272 Transformers



312 Transformer Pads



401 Transformer Pads

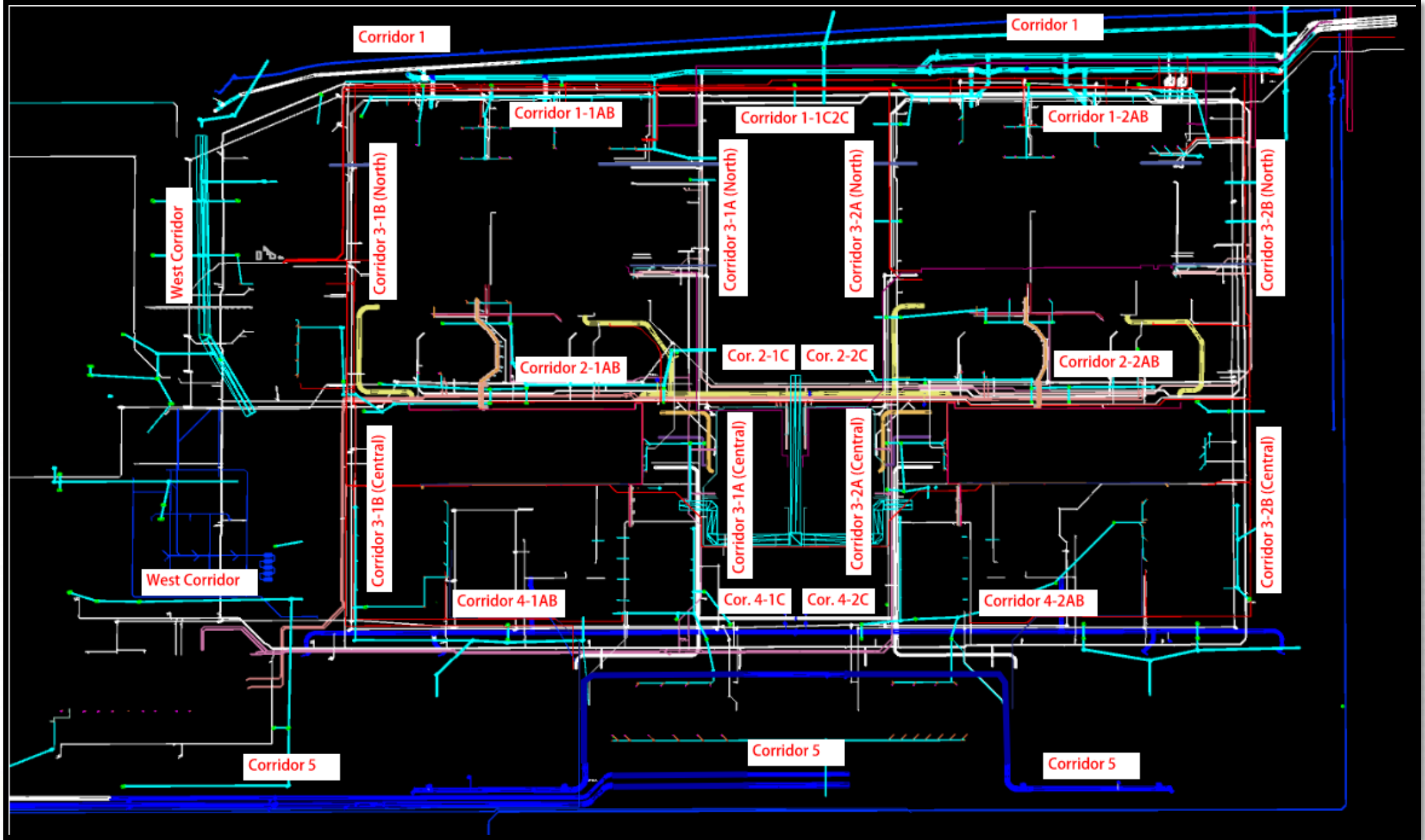




Construction Progress – Yard Piping

- Fusion welding and stringing the 42” HDPE bypass piping for RW tie-ins along north fence in Corridor 1
- Completing 108” RW pipe connection at wye and KGVs in Corridor 1
- Installing 36” CRCY piping in Corridor 1-1C2C/North Road
- Installing 24” PW pipe in Corridor 1-1AB/North Road
- Installing Storm RCP and manholes in Corridor 1-1AB/North Road
- Completed 24” DEC lines tie-ins at Fac 601 in C3-1A Central
- Installing 8” PPW piping at Fac 601 in C3-1A Central
- Installing 3/4” Sample (SA) Lines North of Admin Building/West Corridor
- Installing 12” PW pipe in South of Admin Bldg/West Corridor
- Installing Storm RCP/PVC and manholes to Fac 401/111 in Corridor 5
- Welding, grouting, and installed bend of the 84” FW distribution line in Corridor 5





Fusion welding and stringing the 42" HDPE bypass piping for RW tie-ins along north fence in Corridor 1



Completing 108" RW pipe connection at wye and KGVs in Corridor 1



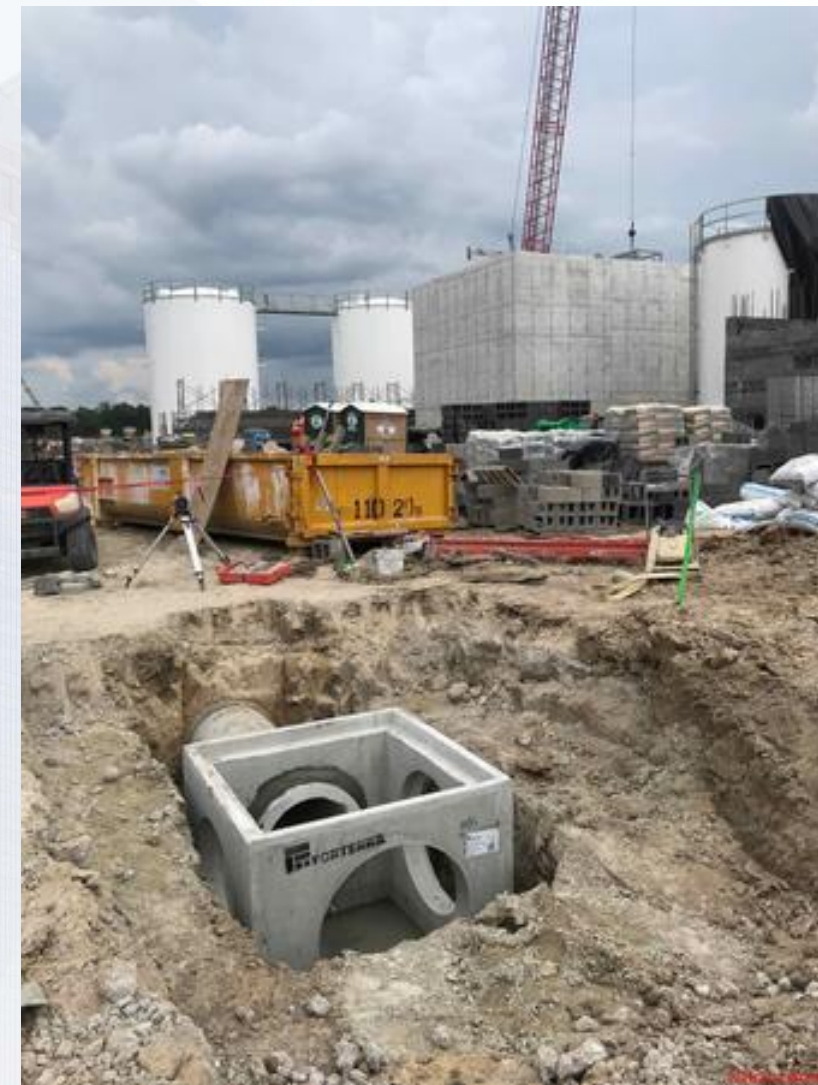
Installing 36" CRCY piping in Corridor 1-1C2C



Installing 24" PW pipe in North Road in Corridor 1-1AB



Installing Storm RCP and manholes in Corridor 1-1AB



Completed the 24" DEC tie-ins at Fac 601 in C3-1A Central



Installing 8" PPW piping at Fac 601 in C3-1A Central



Installing 3/4" Sample (SA) Lines North of Admin Building/West Corridor



Installing 12" PW pipe South of Admin Bldg/West Corridor



Installing Storm RCP/PVC and manholes to Fac 401/111 in Corridor 5



Welding, grouting, and installed bend of the 84" FW distribution line in Corridor 5





Construction Progress – Central Plant

281-FILTER MODULE 1 :

- **Installing UD Anchor Rods & Blocks**
- **Gallery Plumbing/Process Piping**
- **Pouring Electrical Equipment Pads**
- **Setting LCPs & PLCs.**

291-TRANSFER PUMP STATION 1:

- **Install Stairs Between 281 & 291**
- **Install AG Plumbing Piping System**
- **Place Conduits & Pull Boxes on T-Supports**
- **FRP CO2 Mixing Pump Slab**
- **Form Up and Reinforce East Concrete Stair Landing**
- **Pulling Wire at Electrical Room**

282 -FILTER MODULE 2:

- **Reinforcing /Forming EastWalls.**
- **Pouring East Walls.**

292-TRANSFER PUMP STATION 2:

- **Delivery and Installation of West Exterior 84" BFV**
- **Overflow Channel Slab Form up and Reinforce**



CENTRAL PLANT- 1st PHASE OVERALL



281-FILTER MODULE- Installing UD Anchor Rods & Blocks Installation



281-FILTER MODULE – Filter Gallery Process & Plumbing Piping



281-FILTER MODULE- Electrical Equipment Pads



281-FILTER MODULE- Setting LCPs & PLCs



291-TPS – Aerial View (08/03/2021)



291-TPS – Install Stairs Between 281 & 291



- 291-TPS – Install AG Plumbing Piping System



291-TPS – Place Conduits and Pull Boxes on T-Supports



291-TPS – FRP CO2 Mixing Pump Slab



291-TPS – Form Up and Reinforce Concrete East Stair Landing



291-TPS – Pulling Wire at Electrical Room





Construction Progress – Central Plant

311 – POST CHEMICAL FACILITY SH/CS :

- Application of CR Coatings interior Containment walls
- F/R/P Concrete pedestal supports
- Installation of FRP Duct Work
- Installation of Chemical Metering Pumps
- Mock up installation of SH Metering Pumps
- Installation of above ground electrical conduits.

312 – POST CHEMICAL FACILITY FA/LAS/PEC/SB :

- Installation of CMU Blocks
- Installation of CMU Glass Block
- Installation of TPO roofing

313 – POST CHEMICAL FACILITY 3 FA/LAS/PEC/SB :

- Mass excavation of containment and building.
- Electrical stub up survey.
- Installation of electrical Ductbank.

314 – POST CHEMICAL FACILITY 4 SH/CS :

- F/R/P Concrete Slabs for containment and building.



311 – Aerial view –08/03/2021



311 – Chemical Resistant Coatings Application



311 – F/R/P Concrete Pedestal Support .



311 – Install FRP Ductwork .



311 –Chemical Metering Pumps Mock up and Installation



311 –Above Ground Conduit Installation



312 - Overall view 08/03/21



312 – TPO Roofing Installation.



312 – Underside Deck coating



CENTRAL PLANT- 2nd Phase Overall



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313- Overall view 08/03/21



313 – Mass Excavation and Ductbank Installation



314- Overall view 08/03/21



314–F/R/P SOG A2 and A3 at Containment Area

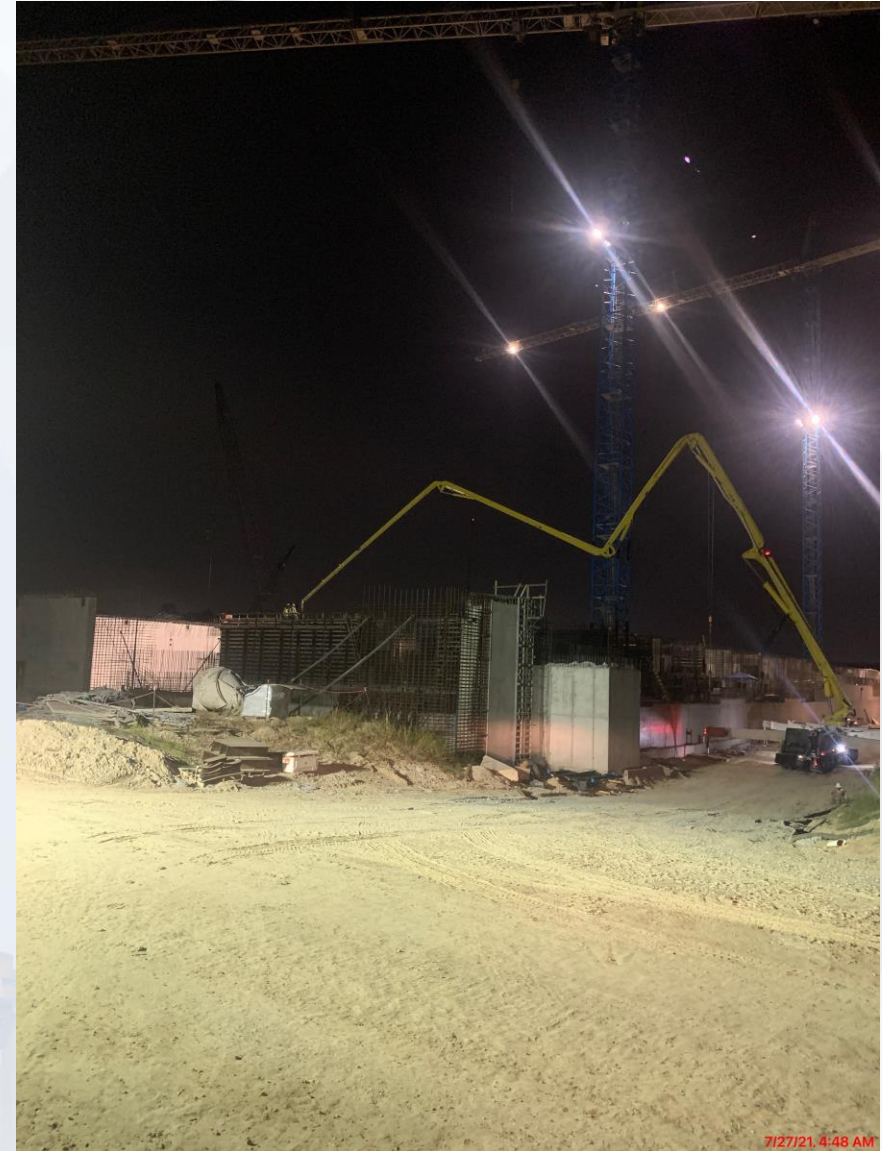


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282-FILTER MODULE 2- Reinforcing/Forming East Tall Walls



282-FILTER MODULE 2- Pouring East Walls



292-TPS – Aerial View (08-03-2021)



292-TPS – Delivery and Installation of West Exterior 84" BFV



292-TPS – Overflow Channel Slab Form up and Reinforce





Construction Progress – LREQ Basins Facilities 601/602

- **601 – Backfill West of 601**
- **601 – Prep and installation of handrails West of 601**
- **601 – Installation of 24" DEC line**
- **602 – Installation of rebar wall P5**



601 – Backfill West of 601



601 – Prep and installation of handrails West of 601



601 – Installation of 24" DEC line



602 – Installation of rebar wall P5





Construction Progress – North Plant

201-Chlorine Dioxide Facility 1:

- Area-B SOG Cleanup

212-Pretreatment Chemical Facility 2:

- Lime Slurry Tanks Handrail

213-Pretreatment Chemical Facility 3:

- Area-B North & West Walls CMU

242-Flocculation & Sedimentation Train 2:

- Mixer Shafts Installation

252-Ozone Contactor 2:

- Ozone Ventilation Ports

261-Ozone Generation Facility 1:

- Area-A North Wall CMU

271-Pretreatment Service Building 1:

- Electrical Equipment Set

272-Pretreatment Service Building 2:

- Structural Steel Installed

502-Gravity Thickener Complex 2:

- Service Building – Pump Level Wall Finishing

611-Liquid Residuals Clarifier Facility 1:

- Plate Pack Storage
- Mixer Shafts Installation



201-Chlorine Dioxide Facility 1: Area-B SOG Cleanup



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212-Pretreatment Chemical Facility 2: Lime Slurry Tanks Handrail



213-Pretreatment Chemical Facility 3: Area-B North & West Walls CMU



242-Flocculation & Sedimentation Train 2: Pull Boxes/Vertical Shafts Installation



252-Ozone Contactor 2: Ozone Ventilation Ports



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261-Ozone Generation Facility 1: Area-A North Wall CMU



271-Pretreatment Service Building 1: Electrical Equipment Set

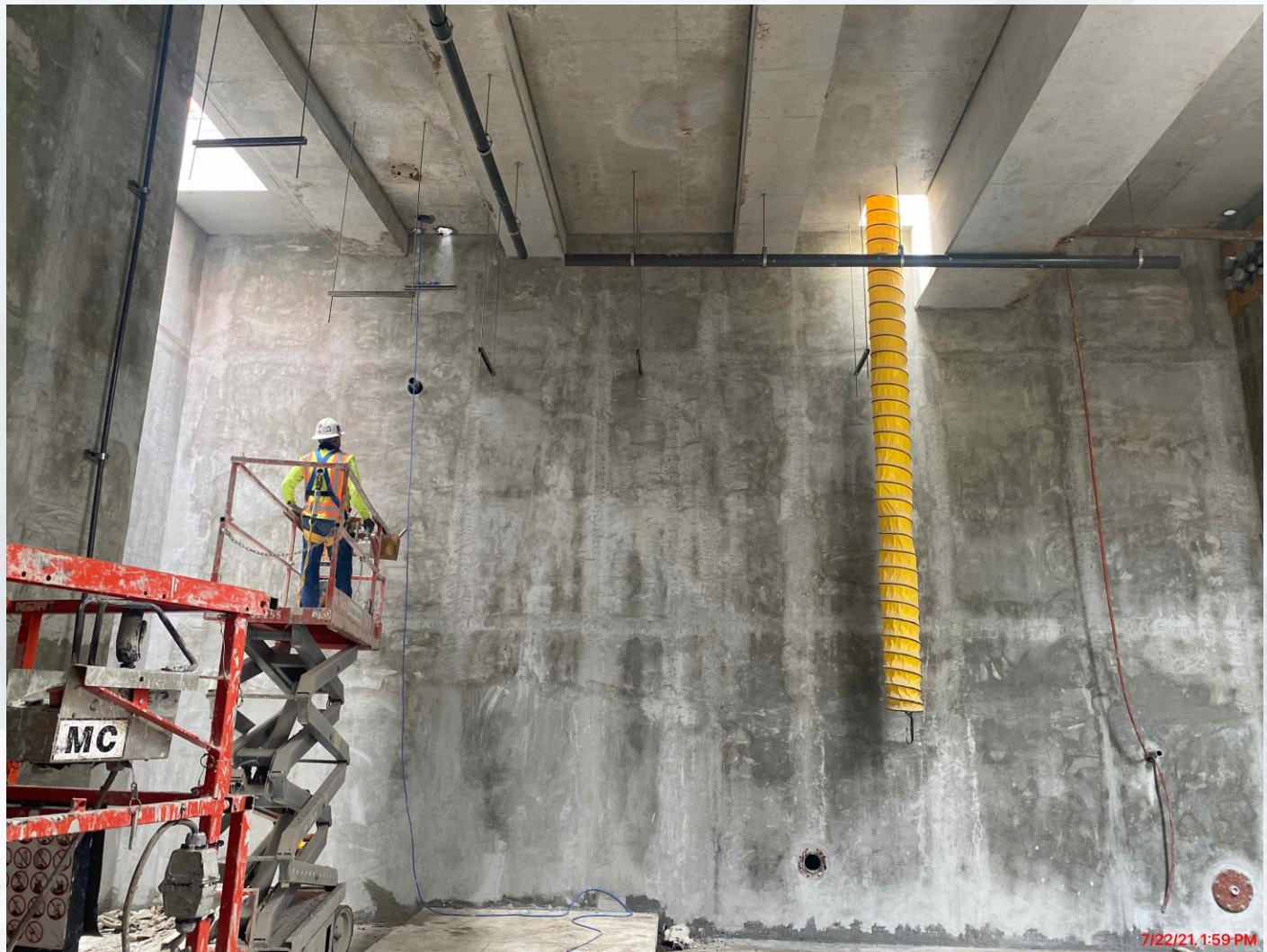


272-Pretreatment Service Building 2: Structural Steel Installed



502-Gravity Thickener Complex 2: Service Building – Pump Level Wall

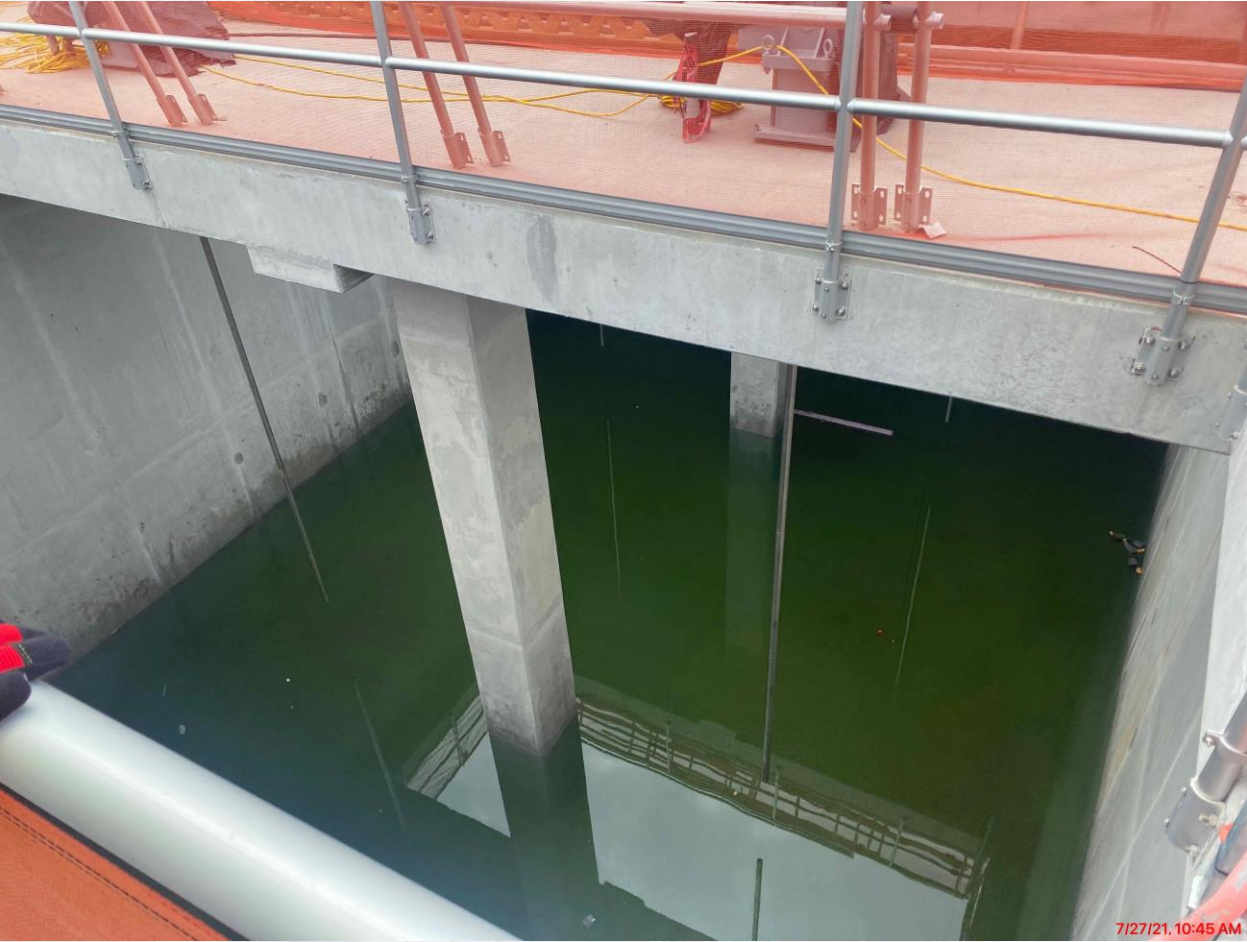
Finishing



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611-Liquid Residuals Clarifier Facility 1: Plate Pack Storage/Mixer

Shafts Installation

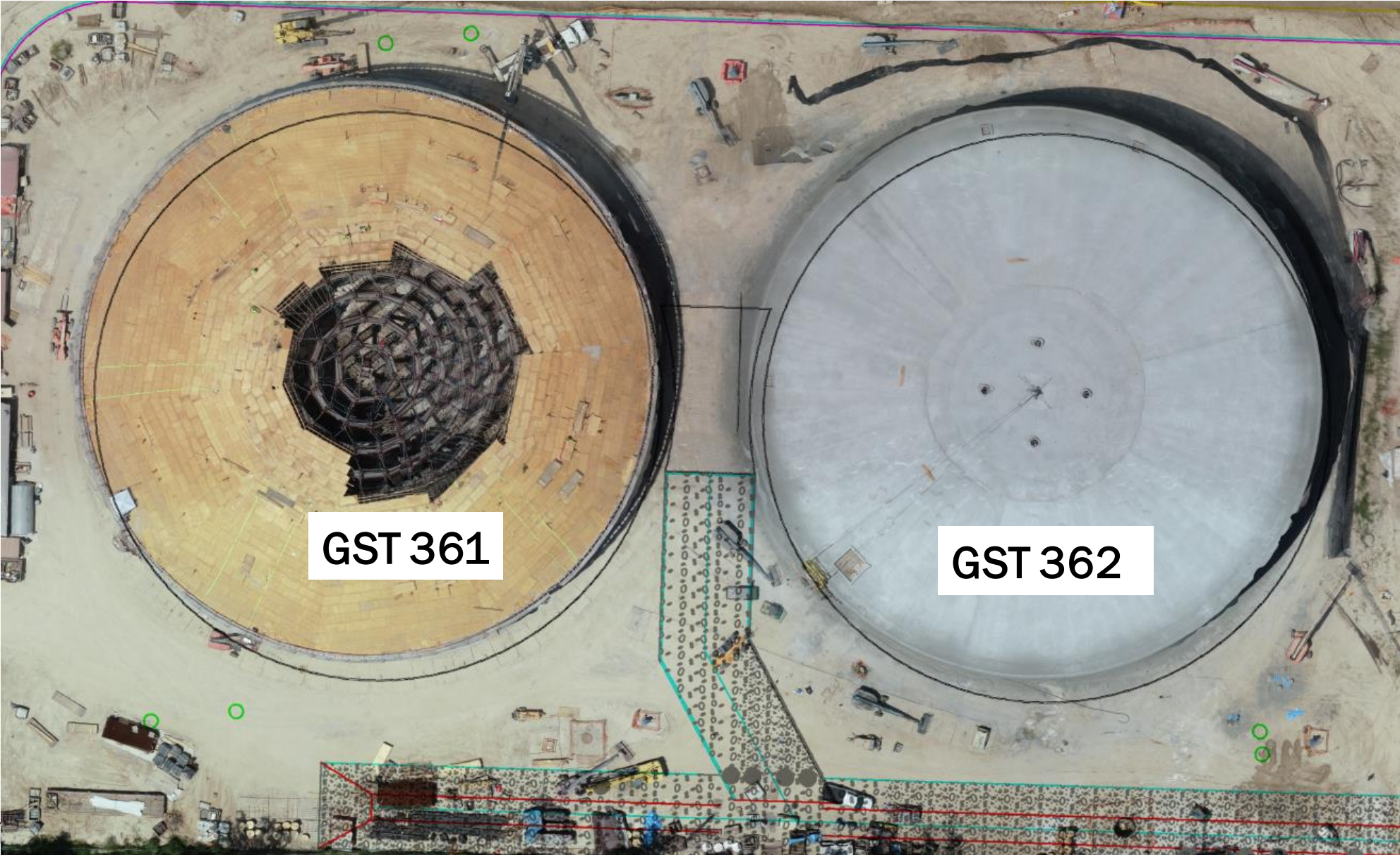




Construction Progress – South Plant

- 361 - Completed shoring erection.
- 361 – Completed dome decking, cleaning up before dome rebar installation.
- 361 - Continued shotcrete of diaphragm.
- 362 - Continued prestress and shotcrete.
- 401 – Bolts & detailing of structural steel.
- 401 – Continued installation of drainage pipes around the building.
- 401 – Prepping for installation of CMU.
- 402 – Continued installation of 78” buried pipe laterals to cans.
- 520 - Continued cleaning CMU at the electrical, mechanical, and other rooms.
- 520 - Continued fire protection piping and plumbing.
- 520 – Continued process pipe installation.
- 520 – Continued installation of translucent wall panels.
- 520 – Continued electrical support & conduit installation at 1st & 2nd floor.
- 510 – Continued handrail and process pipe installation.

GST 361 & 362 AERIAL VIEW



GST 361

GST 362

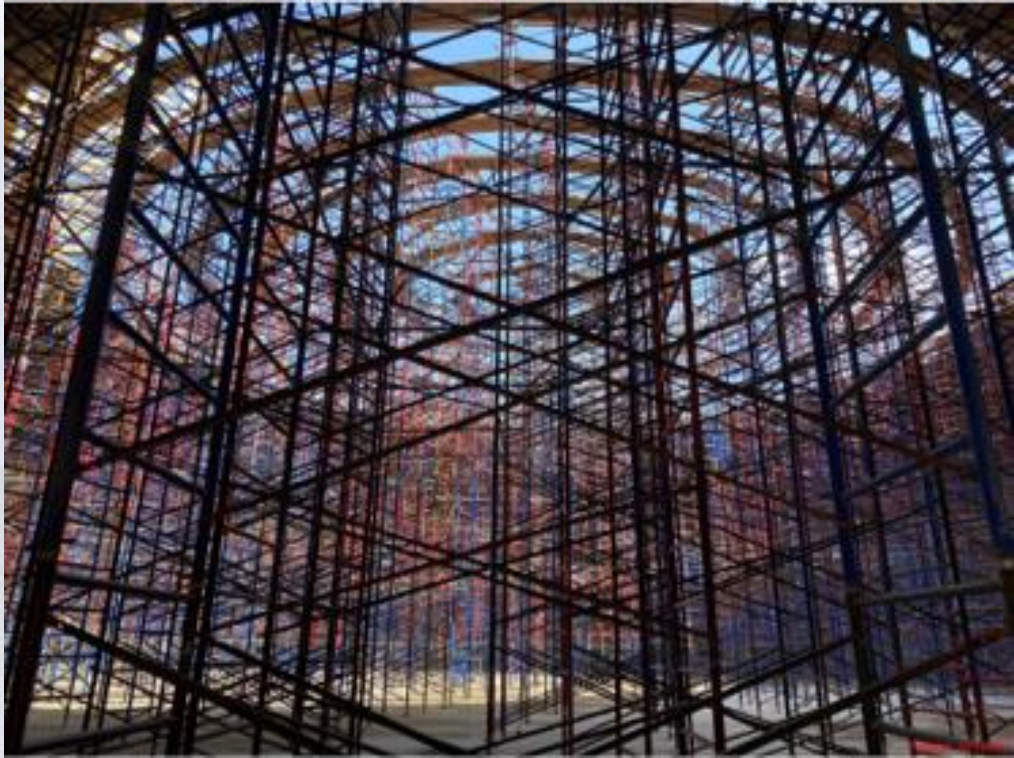


GROUND STORAGE TANK 361



361 - Continued shotcrete

GROUND STORAGE TANK 362



361 - Completed dome decking & shoring erection

GROUND STORAGE TANK 362



362 – Continued prestress

GROUND STORAGE TANK 362



362 – Continued shotcrete

HSPS 401, MSB 111, HSPS 402 AERIAL VIEW



HSPS 401

MSB 111

HSPS 402

HIGH SERVICE PUMP STATION 401



401 – Bolts & detailing of structural steel

HIGH SERVICE PUMP STATION 401



401 – Poured concrete slab at the electrical room and transformer pad

HIGH SERVICE PUMP STATION 402



402 – Continued installation of 78" buried pipe

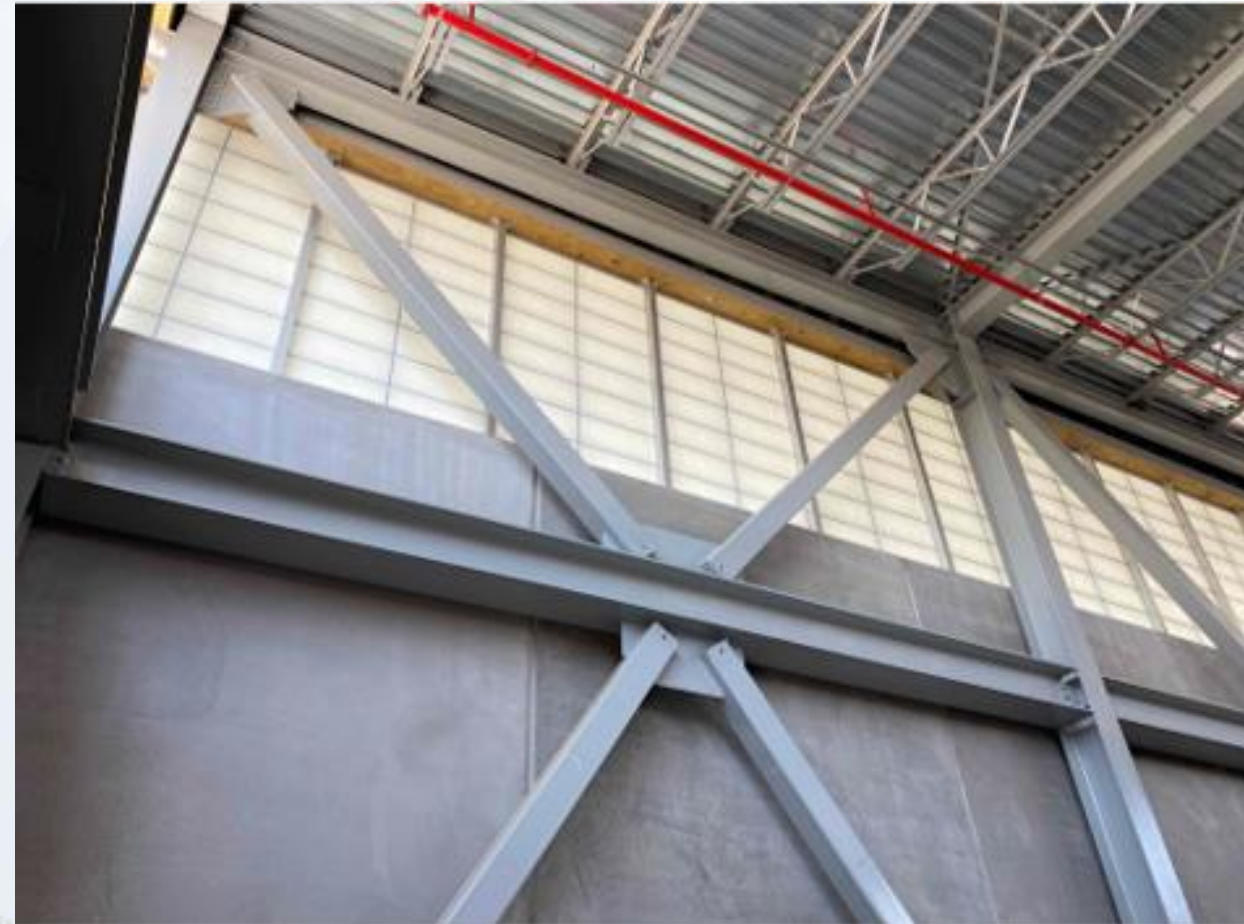
DEWATERING BUILDING 520 & THICKENED SLUDGE EQUALIZATION TANK 510 AERIAL VIEW



DEWATERING BUILDING 520



520 - Continued electrical support & conduit installation at the 1st & 2nd floor



520 – Continued installation of translucent wall panels

DEWATERING BUILDING 520



520 – Continued process pipe installation

THICKENED SLUDGE & EQ BASIN 510



510 – Continued handrail installation.

THICKENED SLUDGE & EQ BASIN 510



510 – Continued process pipe installation



Construction Progress – Administration & Maintenance Building

- Natural Gas Pipe Welding & Rough-In
- Installed Curtain Wall System Framing
- Installed Light Fixtures
- Painted & Primed Walls
- Pulled Telecom Wires

Natural Gas Pipe Welding & Rough-In



Installed Curtain Wall System Framing



Installed Light Fixtures



Painted & Primed Walls



Pulled Telecom/Data Wires



