

# GRP PROGRAM CONSTRUCTION PROGRESS



**GRP Review  
Committee  
Meeting  
August 24, 2015**



**SJRA Board  
of Directors  
Meeting  
August 27, 2015**

# SURFACE WATER FACILITY CONSTRUCTION ADMINISTRATION

## Project Data Thru 7/31/2015

Contracted Amount:	\$190,704,740.00
Change Orders:	\$ 0.00
Estimate to Complete:	\$190,704,740.00
Amount Invoiced:	\$183,694,355.00
Percent Complete:	96.3%





Punchlist inspection with SJRA Staff and Engineers of Record



Continued concrete paving throughout the site



Carbon dioxide (CO<sub>2</sub>) system training for Operations Staff



Solids dewatering system in operation



Operations Staff monitors water quality daily

# PERMANENT ACCESS ROAD CONSTRUCTION ADMINISTRATION

## Project Data Thru 7/31/2015

Contracted Amount:	\$5,446,776.50
Change Orders:	\$0.00
Estimate to Complete:	\$5,446,776.50
Amount Invoiced:	\$312,708.75
Percent Complete:	6.0%







Access Road – Subgrade preparation for eastbound boulevard section



Access Road – Detention pond clearing and grubbing



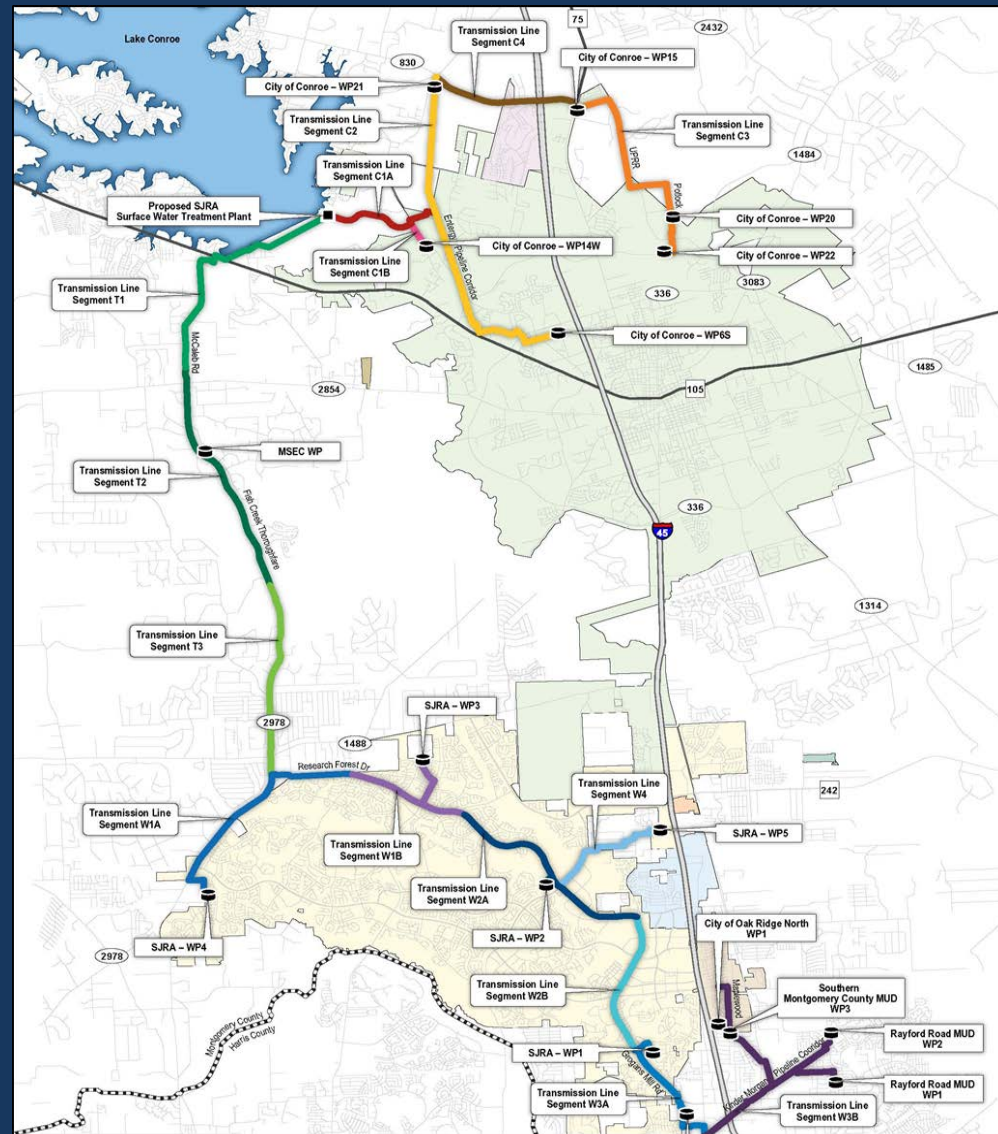
Access Road –Temporary bypass roadway installation

# SURFACE WATER FACILITY CONSTRUCTION PROGRESS

## Questions?



# SURFACE WATER TRANSMISSION SYSTEM CONSTRUCTION PROGRESS



# TRANSMISSION LINE SYSTEM CONSTRUCTION ADMINISTRATION

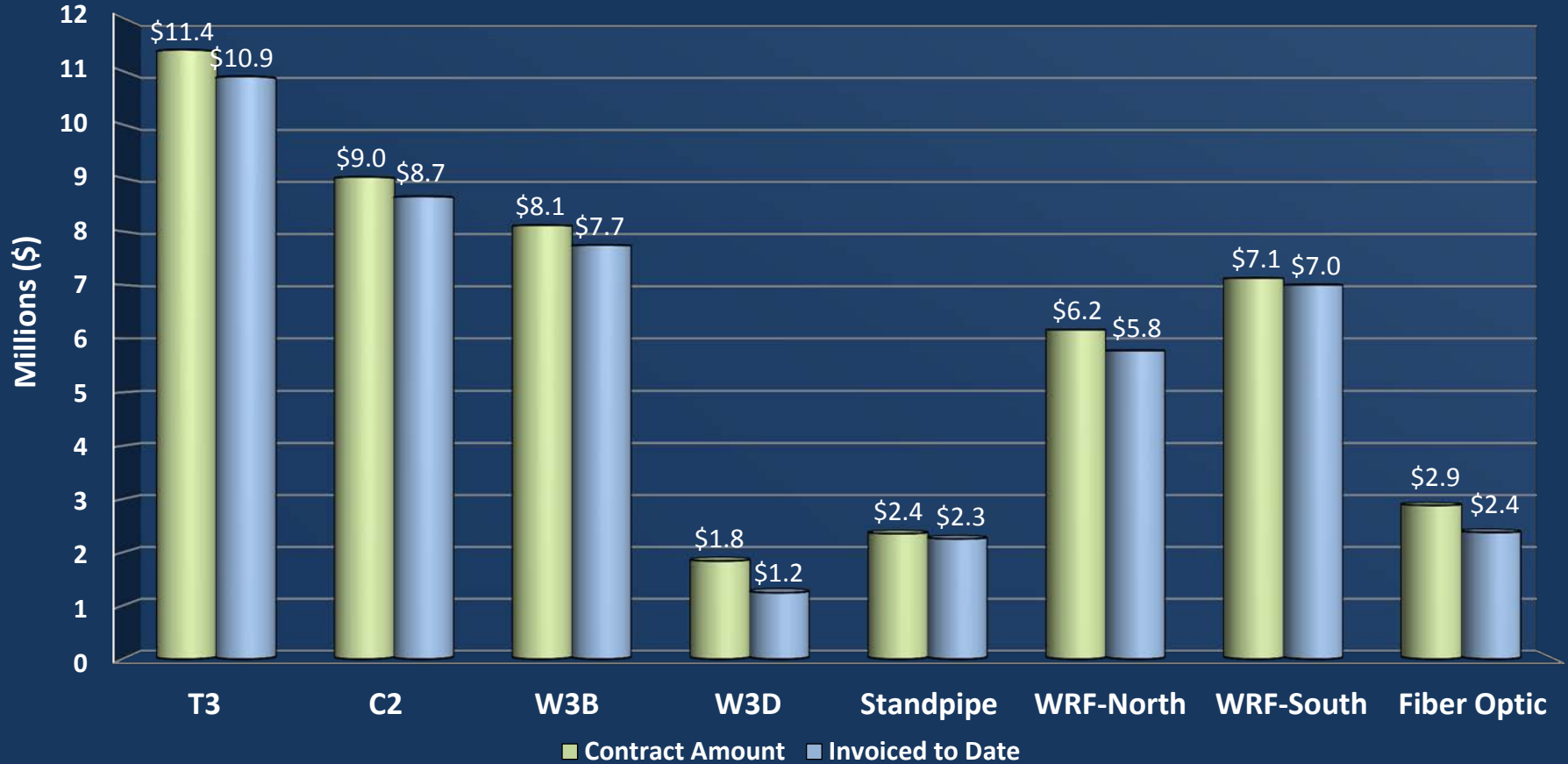
## Project Data Thru 7/31/2015

Original Contract Amount:	\$148,451,986.60
Change Orders:	(\$1,719,693.97)
Total Contract Amount:	\$146,732,292.63
Amount Invoiced:	\$142,763,501.78
Percent Complete:	97%



# SURFACE WATER TRANSMISSION SYSTEM

## CURRENT PROJECTS UNDER CONSTRUCTION - PROJECT DATA



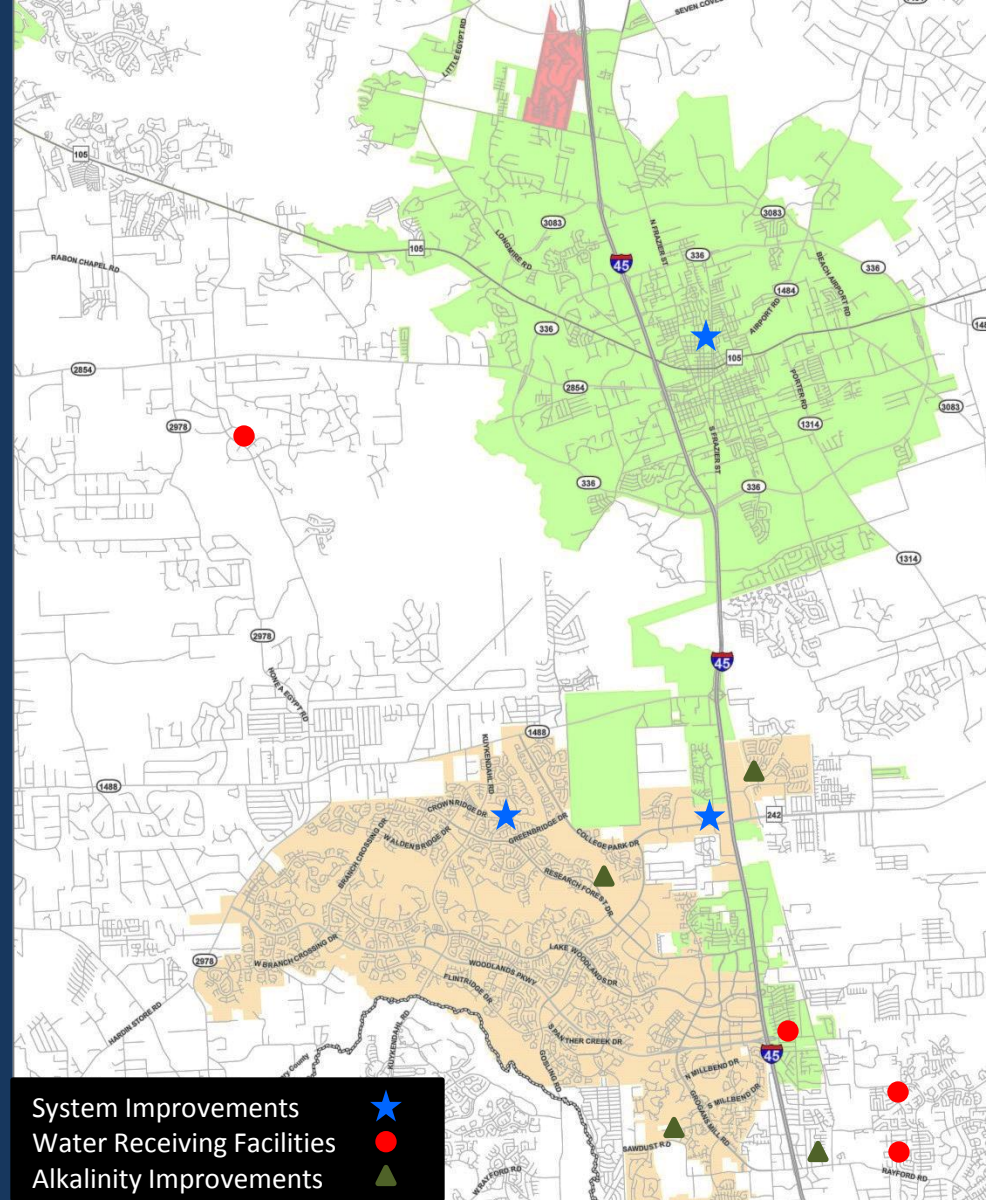
# SURFACE WATER TRANSMISSION SYSTEM PROJECT STATUS

Line	Overall % Complete	Testing % Complete	Substantial Completion	Final Completion
T3	96%	100%		
C2	96%	100%	✓	
W3B	95%	100%	✓	✓
W3D	68%	50%		
Standpipe	96%	100%	✓	
WRF-North	94%	100%	✓	
WRF-South	98%	100%	✓	
Fiber Optic	82%	80%		



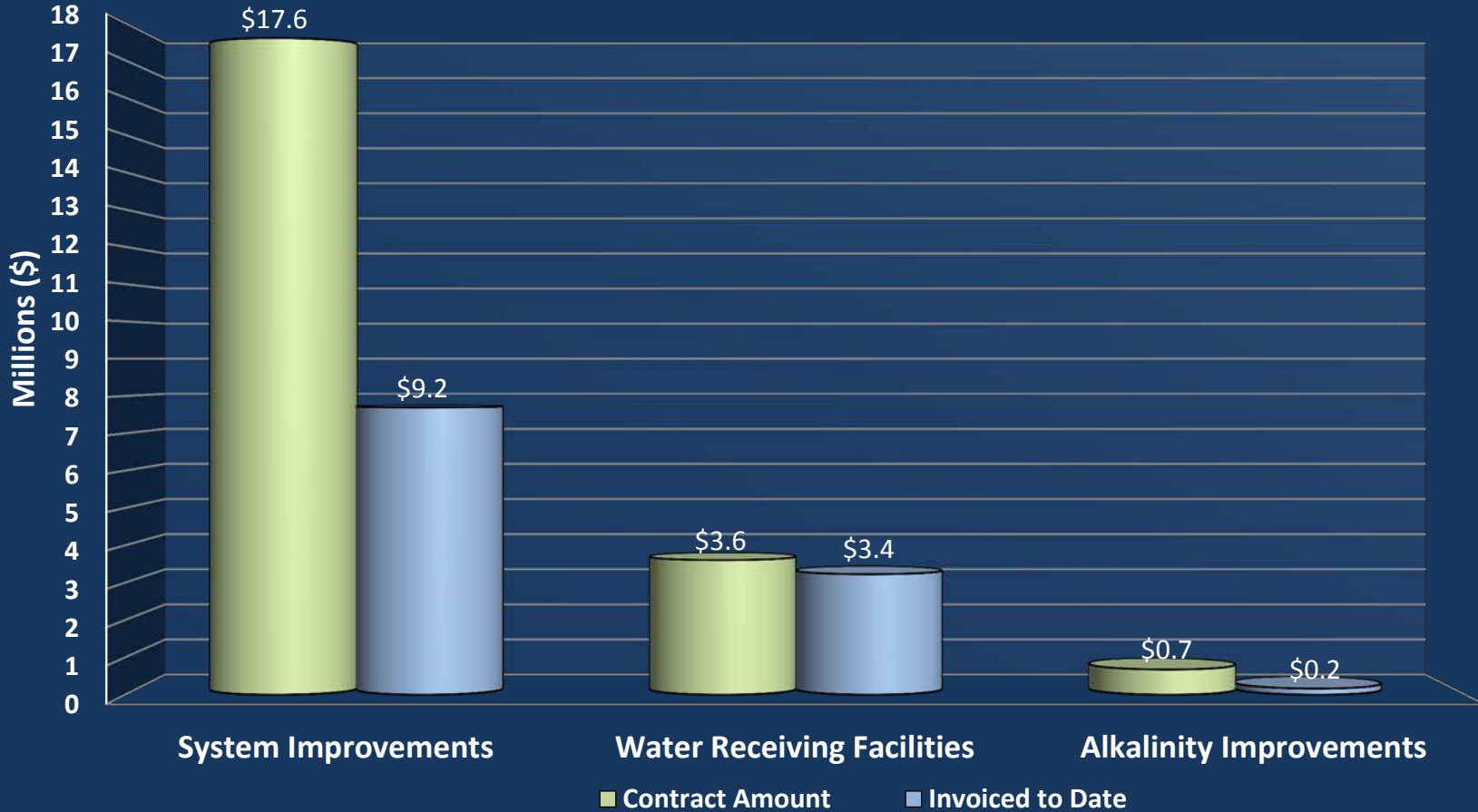
# Facility Improvements By GRP Participants (Contract Amount)

System Improvements	\$ 17,593,931.55
Water Receiving Facilities	\$ 3,603,916.98
Alkalinity Improvements	\$ 674,997.00
<b>Total System Improvements</b>	<b>\$ 21,872,845.53</b>



System Improvements ★  
Water Receiving Facilities ●  
Alkalinity Improvements ▲

# FACILITY IMPROVEMENTS BY GRP PARTICIPANTS





New pump building and generator at Conroe Water Plant No. 6

# SURFACE WATER TRANSMISSION SYSTEM PROJECT CLOSEOUT - JULY 2015

Line Segment	Contractor / Consultant	SJRA Board Approved Contract Value	Completed Contract Value	Net Change in Contract Value
<b>CONSTRUCTION CONTRACT CHANGE ORDERS</b>				
C1A	Garney	\$3,869,767	\$3,617,293	(\$252,474)
T2	Texas Sterling	\$13,475,718	\$13,061,258	(\$414,460)
<b>ENGINEERING CPS WORK ORDER AMENDMENT</b>				
C2	Schaumburg & Polk	\$182,329	\$110,785	(\$71,453)

# SURFACE WATER TRANSMISSION SYSTEM CONSTRUCTION PROGRESS

## QUESTIONS?



**GRP SURFACE  
WATER TREATMENT  
AND TRANSMISSION  
SYSTEM SCADA/I&C**

# GRP SCADA SYSTEM OVERVIEW

**Control Rooms: 2**  
**Servers: 19**  
**Network Switches: 94**

**SJRA Programmed PLCs: 29**  
**Vendor Programmed PLCs: 14**

**Total Inputs and Outputs (I/O): 8,500 points**  
**Hard I/O: 2,100**  
**Virtual (Network) I/O: 6,400**

# GRP SCADA SYSTEM DEVICES

## INSTRUMENTS

- Pressure: 225
- Flow Meters: 92
- Level Transmitters: 40
- Chlorine Analyzers: 23
- Turbidity Meters: 12
- pH and ORP: 12
- Vibration: 24
- Particle Counters: 9

## NETWORKED DEVICES

- VFDs: 55
- Valves and Gates: 70
- Power Meters: 34
- MPRs: 9
- MCCs: 12
- Remote I/O Units: 191
- Vibration Monitors: 9
- Computer Gateways: 53





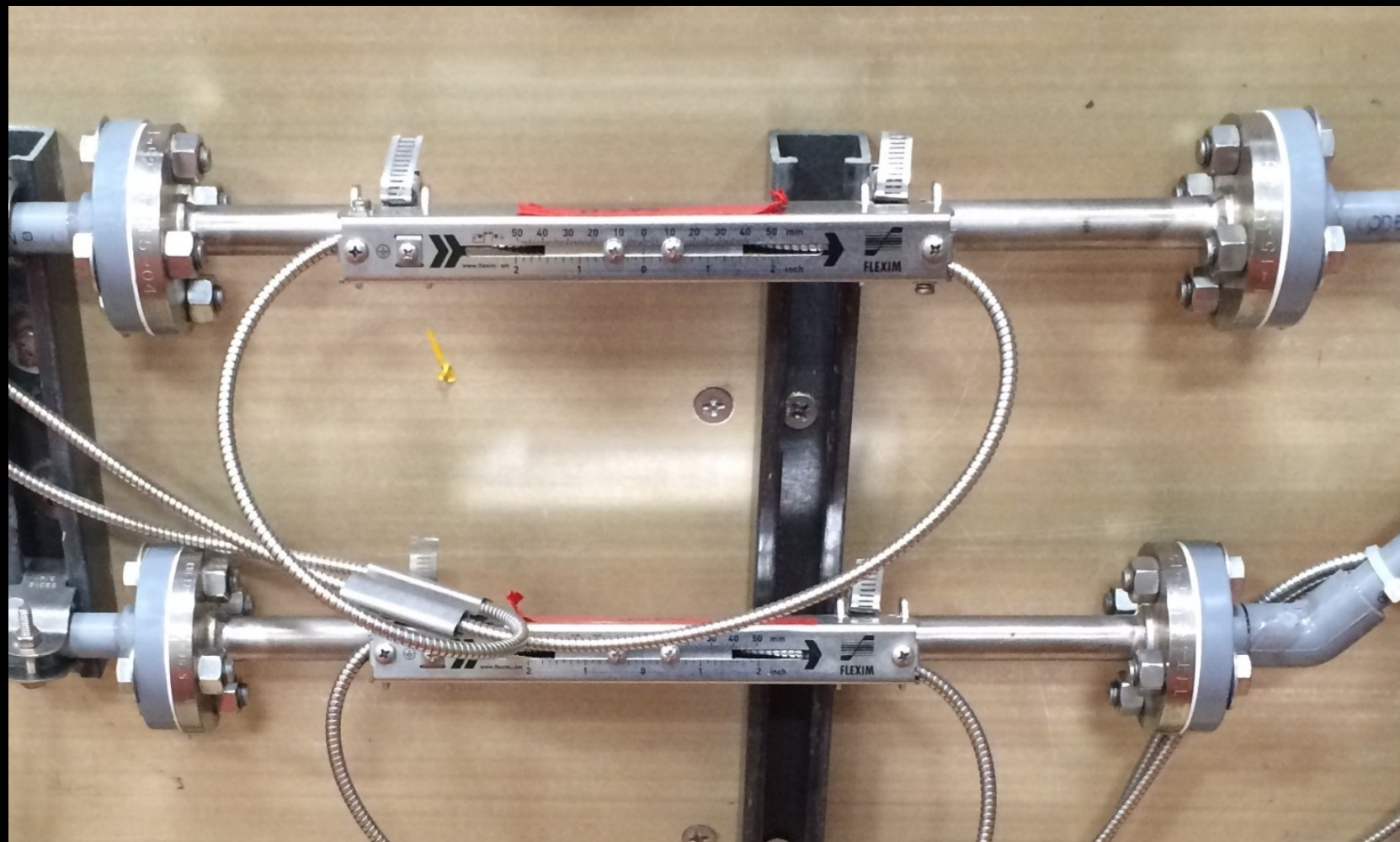
Flow meters ranging from 54-inch to 3/8-inch



Flow meters on the membrane system



Flow meters for chemical supply system



Flow meters for measuring low flow systems



Pressure gauges and transmitters



Level transmitters (lake and chemical tank)



Surface Water Treatment Plant chlorine analyzers



Water Receiving Facility chlorine analyzer

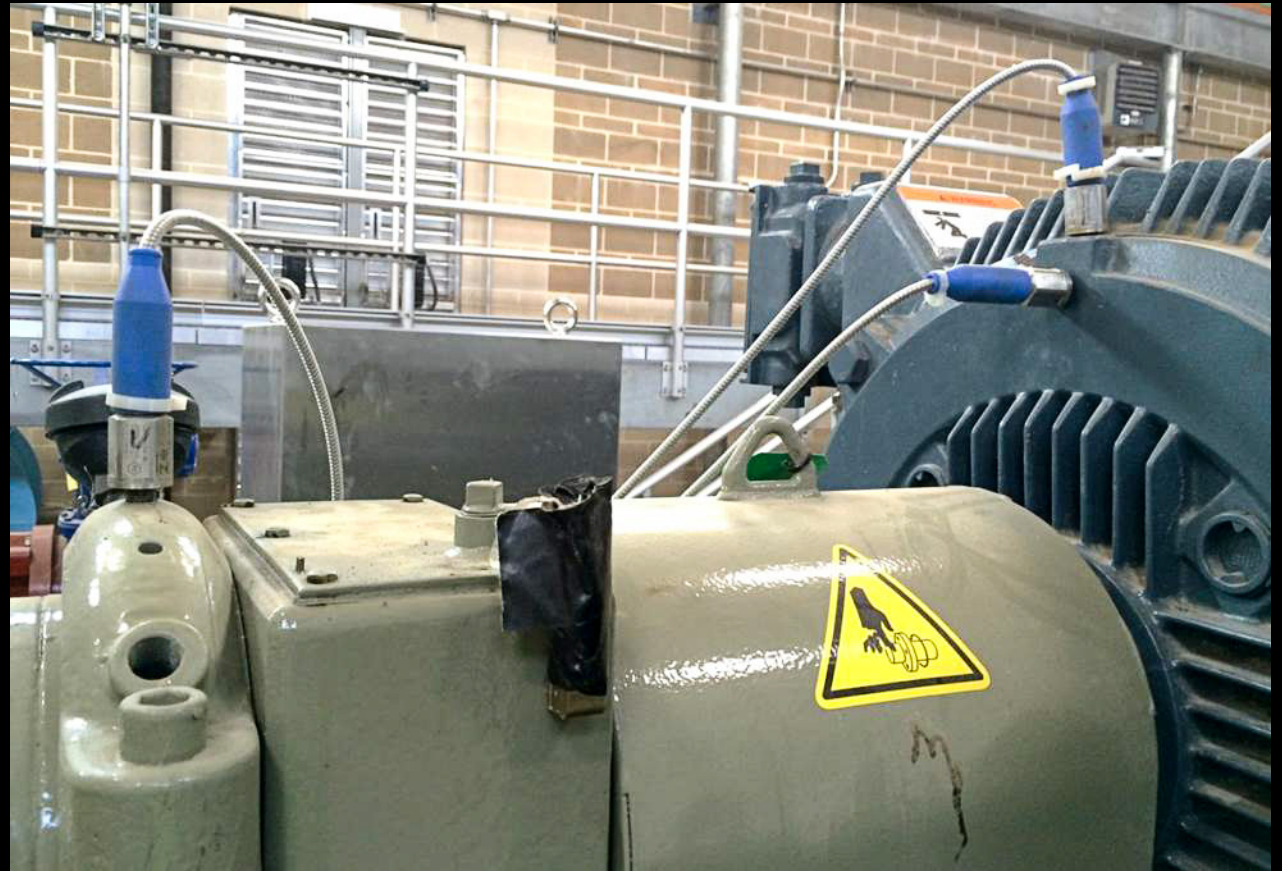




GAC control valves, flow meter, turbidimeter, and UV254 analyzer



Membrane rack with valves, flow meter, and particle counter



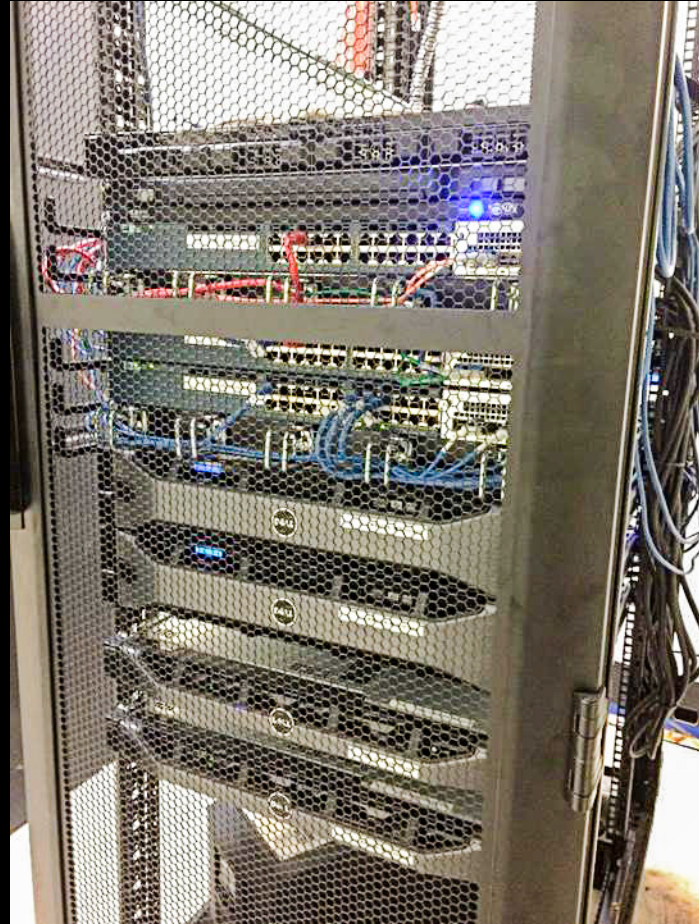
Vibration monitoring



Programmable Logic Controller (PLC) panel - Programmed by SJRA



Programmable Logic Controller (PLC) panels- Programmed by vendor



Server racks - Operations and Membrane Buildings



Membrane Building Control Room



Operations Building Control Room





The end result!

# GRP SCADA/I&C

## QUESTIONS?





**HANG  
IN  
THERE**