**PROJECT DESCRIPTION**

PKZ Engineering is working with AKM Consulting Engineers to design a groundwater well and PFAS treatment facility, providing clean water for the South Montebello Irrigation District.

**SITE DESCRIPTION**

Proposed Treatment Site

South Montebello Irrigation District

**PFAS BACKGROUND**

Per- and Polyfluorinated Substances
- Carcinogenic & harmful to organic life
- Stems from adhesives, plastics, non-stick, and other consumer goods
- Considered as “forever chemical” due to its non-biodegradable nature

CA PFAs Notification & Response Levels:
- PFOA: 5.1 ppt & 10 ppt
- PFOS: 6.6 ppt & 40 ppt
- PFBS: 0.5 ppb & 5 ppb
- PFHxS: 3.0 ppt & 20 ppt

**WELL DESIGN**

Testings Done:
- Drilling pilot hole
- Isolated zone testing
- Alignment test
- Caliper test
- Sieve Analysis

Well Screen/Casing Material:
- ASTM A778 304L Stainless Steel

Well Screen:
- Louvered, 0.080-inch slot size

Gravel Pack:
- CEMEX Lapis Lustre Medium Aquarium

**PUMP DESIGN**

- Design flow of 3000 GPM
- Discharge pressure of 70 psi
- Variable dynamic head ranging from 323 to 430 feet
- Flowserve 17” MQ-“L” 4 Stage Pump with 12 5/14 inch diameter bowl
- Above ground motor

**TREATMENT DESIGN**

- Cartridge filtering at 5 microns
- Employs a lead & lag system
- Lead tanks filter out all of the PFAS
- Lead & lag tanks swap once PFAS reaches notification level
- GAC was assessed as a alternative for ion exchange resin
- Resin was chosen due to a shorter empty bed contact time

**PROFESSIONAL TEAM**

**PROJECT MANAGER:** PASHA WYNANT

**PROJECT ENGINEERS:**
- ZACH WHARTON
- KRISTINE NGUYEN

**INDUSTRY ADVISOR:** ZEKI KAYIRAN, P.E.

**FACULTY ADVISOR:** ADEYEMI ADEYELU, PH.D.