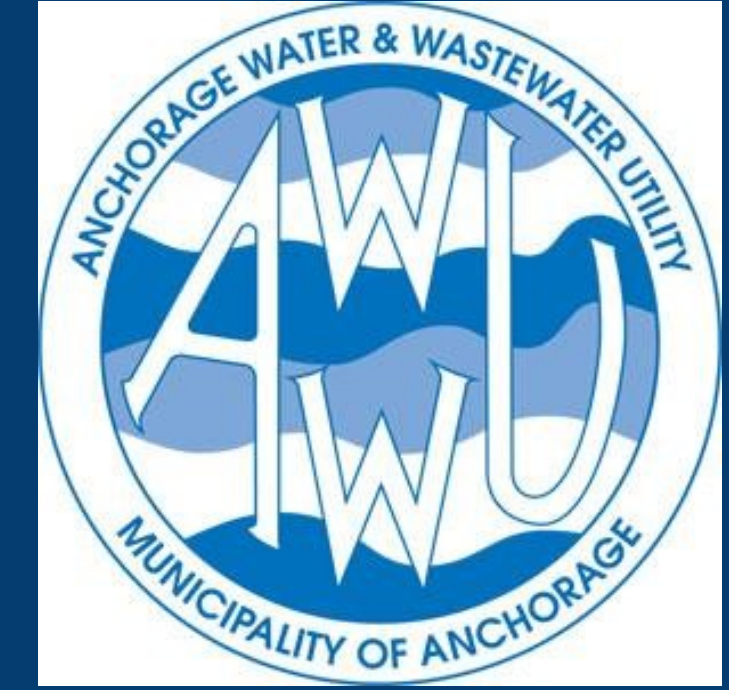
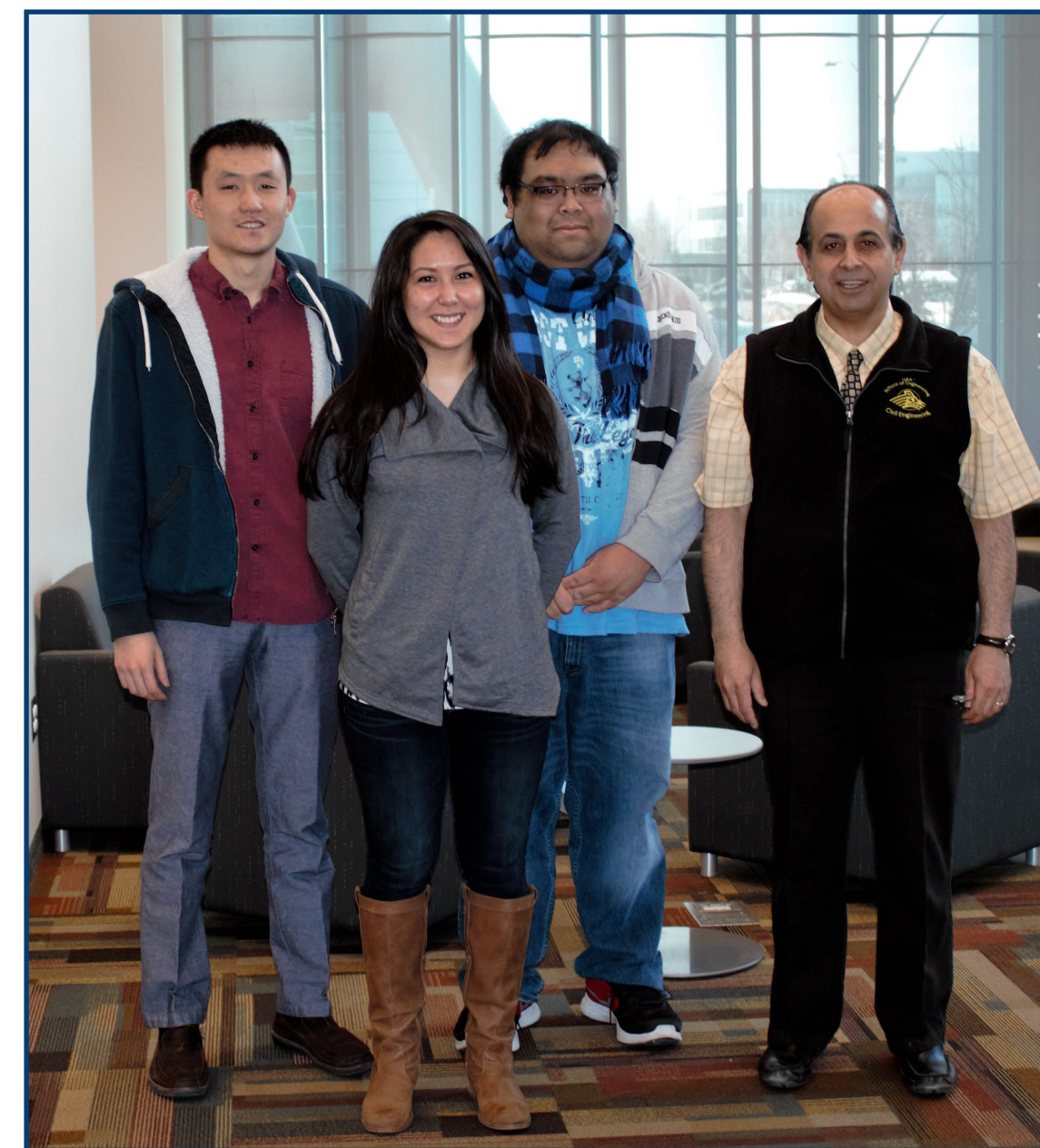


UPDATE HAULED WASTE DISPOSAL STATION

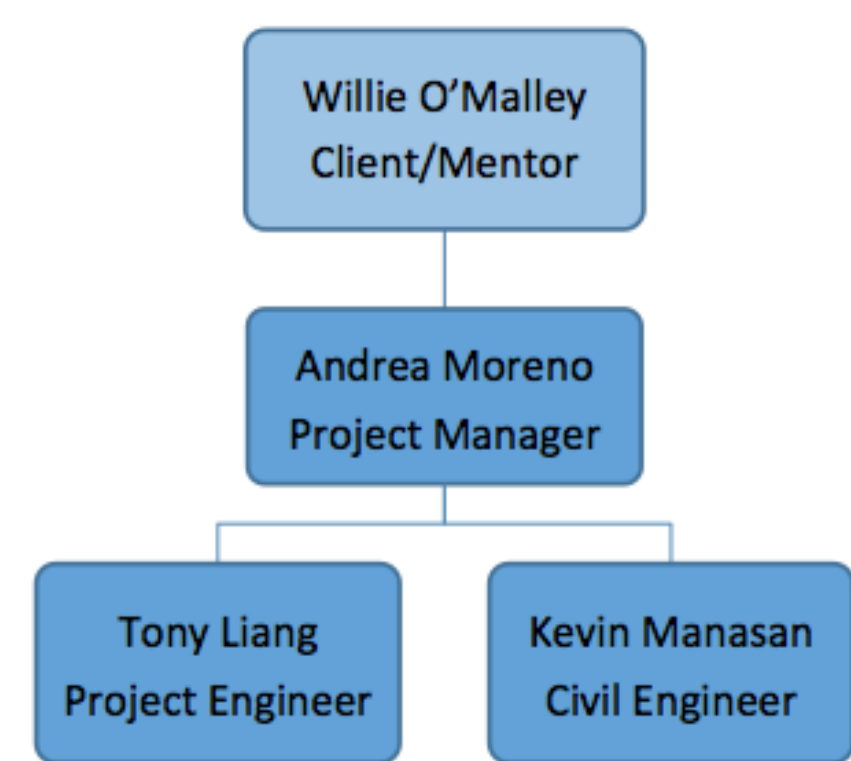
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MEET THE TEAM

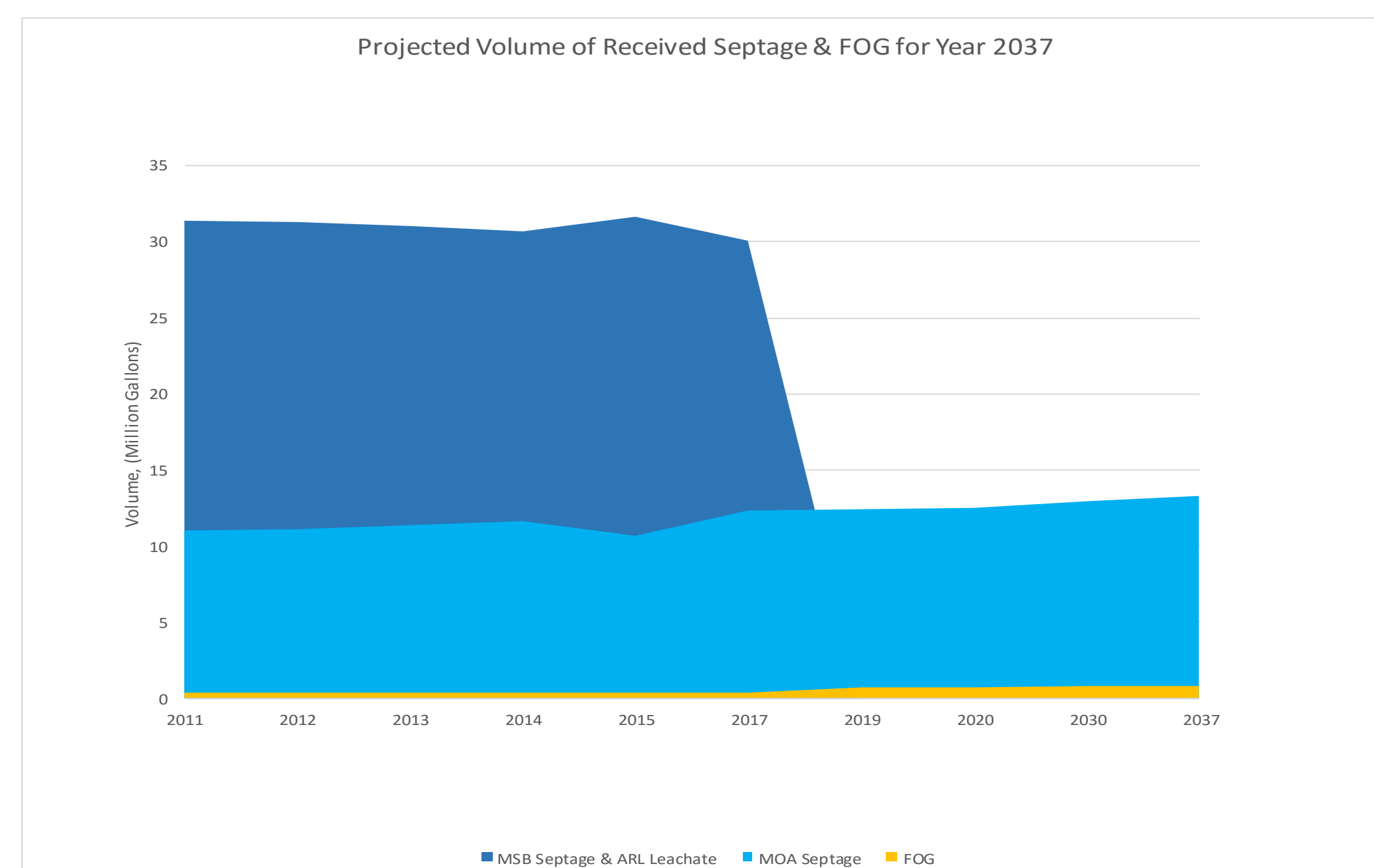


Left to Right: Tony Liang, Andrea Moreno, Kevin Manasan, Dr. Osama Abaza



PROJECTED FLOW & POPULATION

Population projection for the year 2037 was used considering the 20-year design life requirement. Flow projections up to that time determined the equipment size, dumpster pick-up frequency, estimated volume of solids, grease, and grit to select the proper equipment to handle such issues.



BACKGROUND

Anchorage has two hauled waste disposal stations; one located on 94th & King Street and the other on Turpin Street along the Glenn Highway. These two stations collect septage, leachate, and various unauthorized materials hauled in from throughout the Municipality of Anchorage (MOA) & the Mat-Su Borough (MSB). The dumping of these unauthorized materials has created problems for Anchorage Water and Wastewater Utility (AWWU), including sanitary sewer overflows and inaccurate flow measurements. These issues have caused a large increase in operation and maintenance costs. AWWU has recommended an upgrade of the King Street hauled waste disposal station for a 20-year design life with two considerations:

- 1. Removal of Waste from the Mat-Su Borough:** In 2019 the MSB plans to construct their own disposal station. Currently the Turpin Street location accepts all of the Mat-Su Borough waste. With the MSB's waste out of the picture, AWWU plans to use the King Street location as MOA's main waste station with Turpin as a back-up.
- 2. Removal of Leachate:** In 2019 the Anchorage Regional Landfill will construct a segment of pipe that will discharge directly to the sewer collection system rather than getting hauled to the waste disposal station.

PROJECT LOCATION

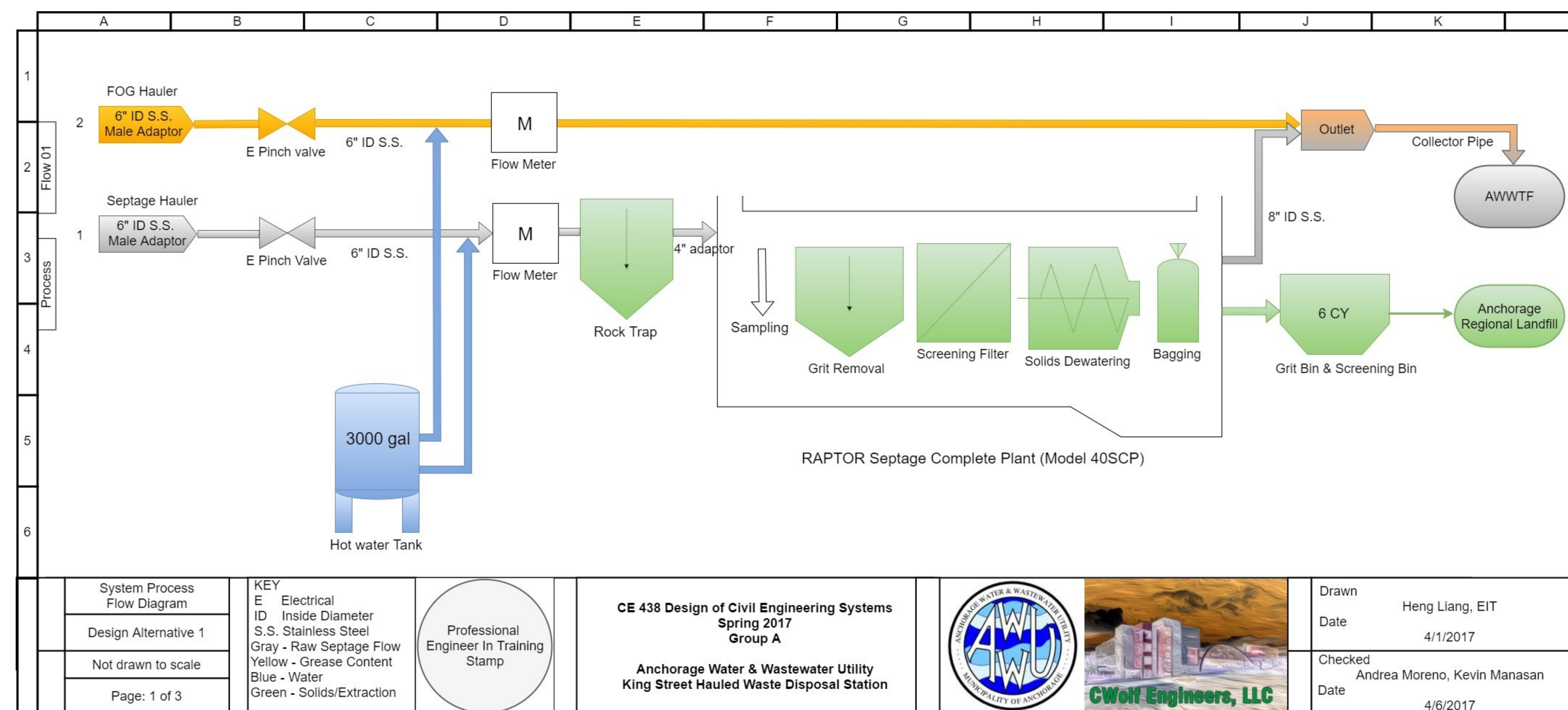


ISSUES TO ADDRESS & DESIGN CONSIDERATIONS

- Fat, oil, and grease (FOG): Clogs smaller diameter pipes. Should it be handled on site or at AWWTF?
- Screenings: O&M costs for waste stations. Can it be collected before it causes an issue? How often will it need to be collected?
- Truck traffic: Will one or two septage intake lines be required for truck traffic? Add a line for FOG?
- Determine new building size: With new additions to the disposal station, what are the new dimensions?

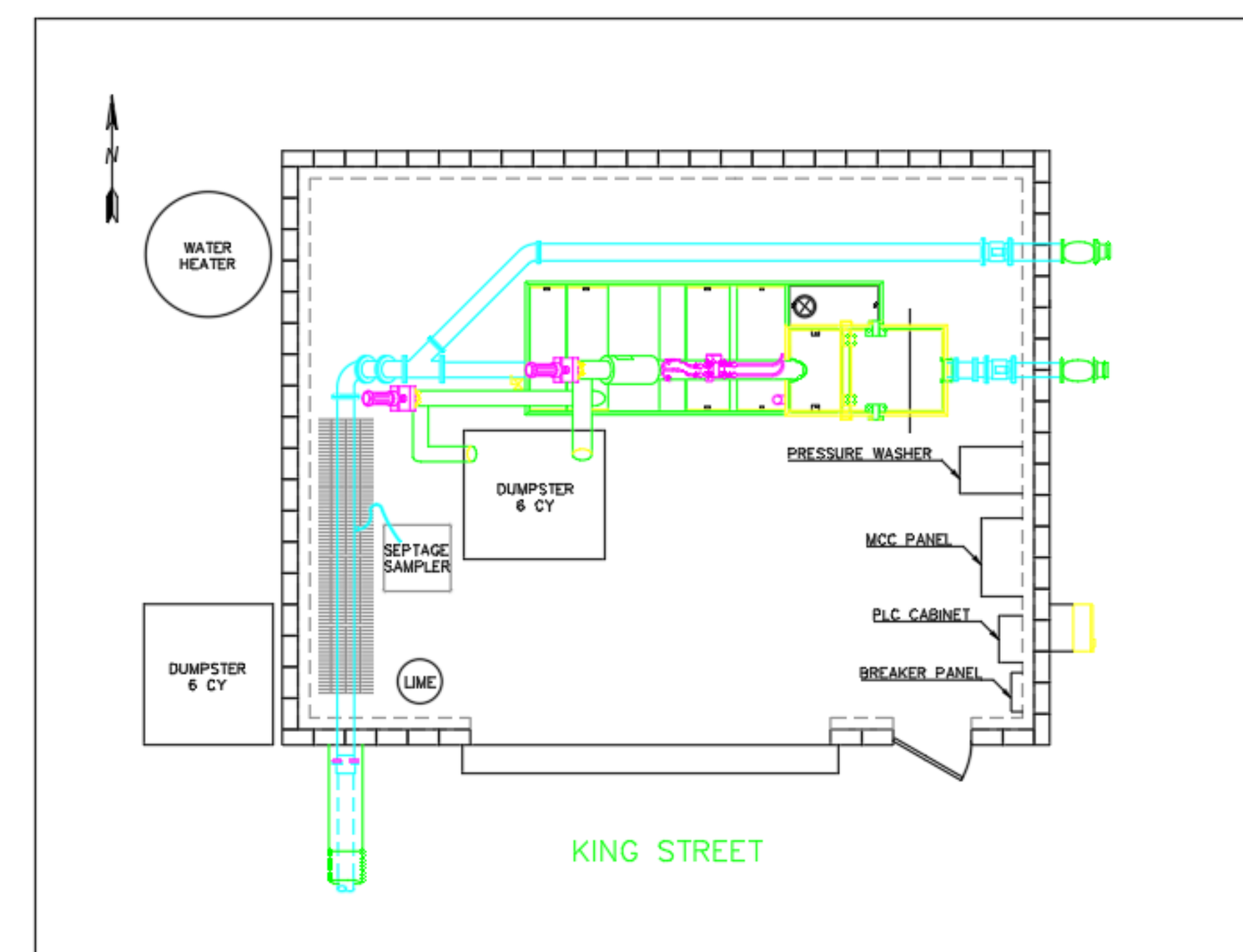
RECOMMENDED SOLUTION

- This option addresses issues with the following:
- Washes and collects grit & screenings into trash bins
 - Rock trap and grit separator
 - Hot water injector for flow meter and dewatering



RECOMMENDED SYSTEM DESIGN & BUILDING LAYOUT

- Hot water injection at the influent pipe
- Small collection system
- Pre-fabricated septage receiving plant
- High flow rate and low retention time
- Low efficiency of FOG removal
- 825 sq. ft. building



CONCLUSIONS

Total 2037 Projected Volume: 13.3 Million Gallons
 Number of Intake Lines: One Septage/One FOG
 Peak Week Screenings/Grit (S/G) Volume Removed: 1.4 cy/1.7 cy
 Peak Week (S/G) into Sewer Interceptor: ~0 cy/2.6 cy
 FOG: Handle at the AWWTF but accept on-site
 Dumpster Pick-Up: Collect once a week
 Estimated Construction Cost: \$1.25 Million