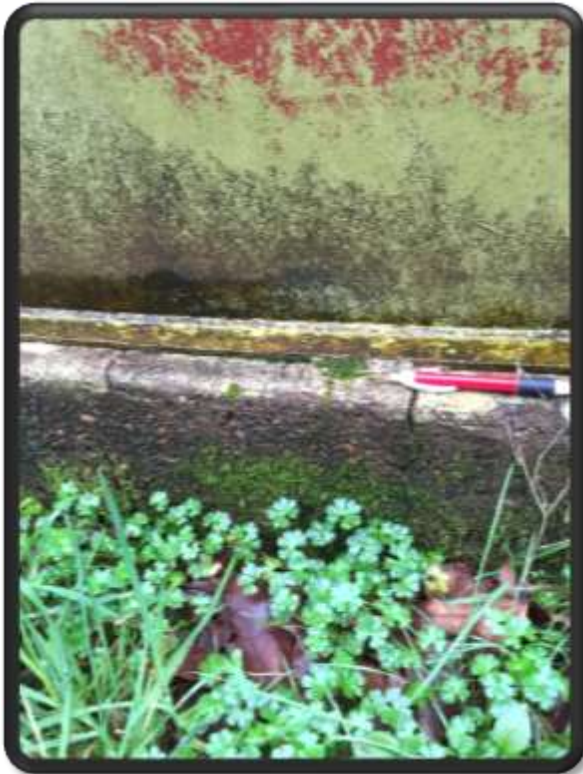




City of Lafayette Tank Recoating Project

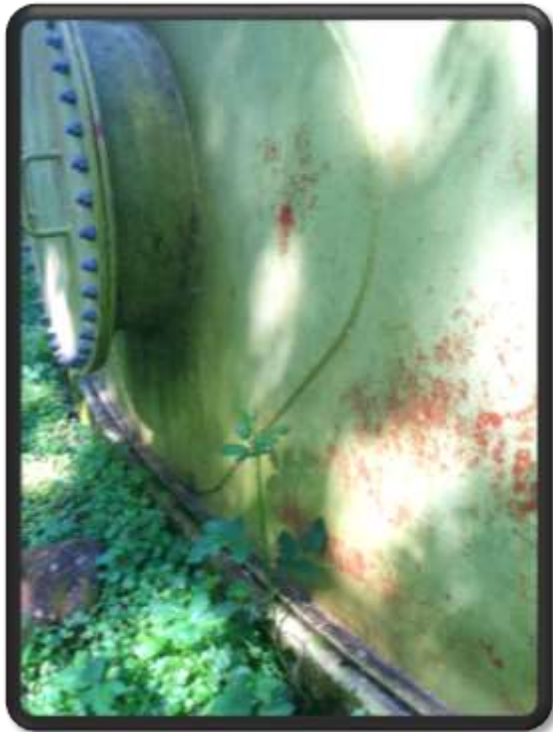
TANK ISSUES

- Separation from foundation
- Concrete foundation cracks



TANK ISSUES

- Base coat showing
- Last painted in 1978



TANK ISSUES

- Internal corrosion
- Last painted in 1978



TANK ISSUES

- Safety climb



TANK ISSUES

- Ground level access – only one existing
- Latest AWWA D100-11 two recommended
- Additional cost \$10k

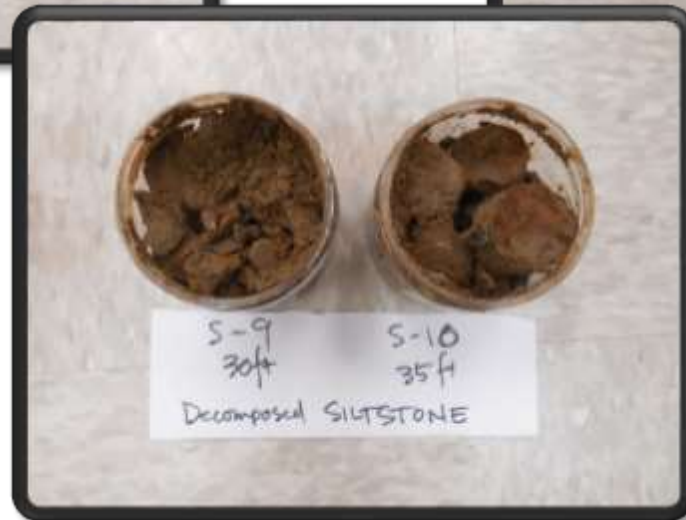


STEP ONE

- Hired GRI to perform a geotechnical evaluation
- Slope stability concerns



STEP ONE



CONCLUSION

- 7.5' of fill, 5' of weathered basalt, 2.5' of clayey silt
- No obvious indications of deep-seated instability
- Vertical deformation from fill settlement
- Perhaps shallow soil creep
- Cracks in concrete appear to occur at the transition from cut to fill

STEP TWO

- Improvement Design
 - Recoat interior
 - Recoat exterior
 - Foundation improvements
 - Safety improvements

ASIDE

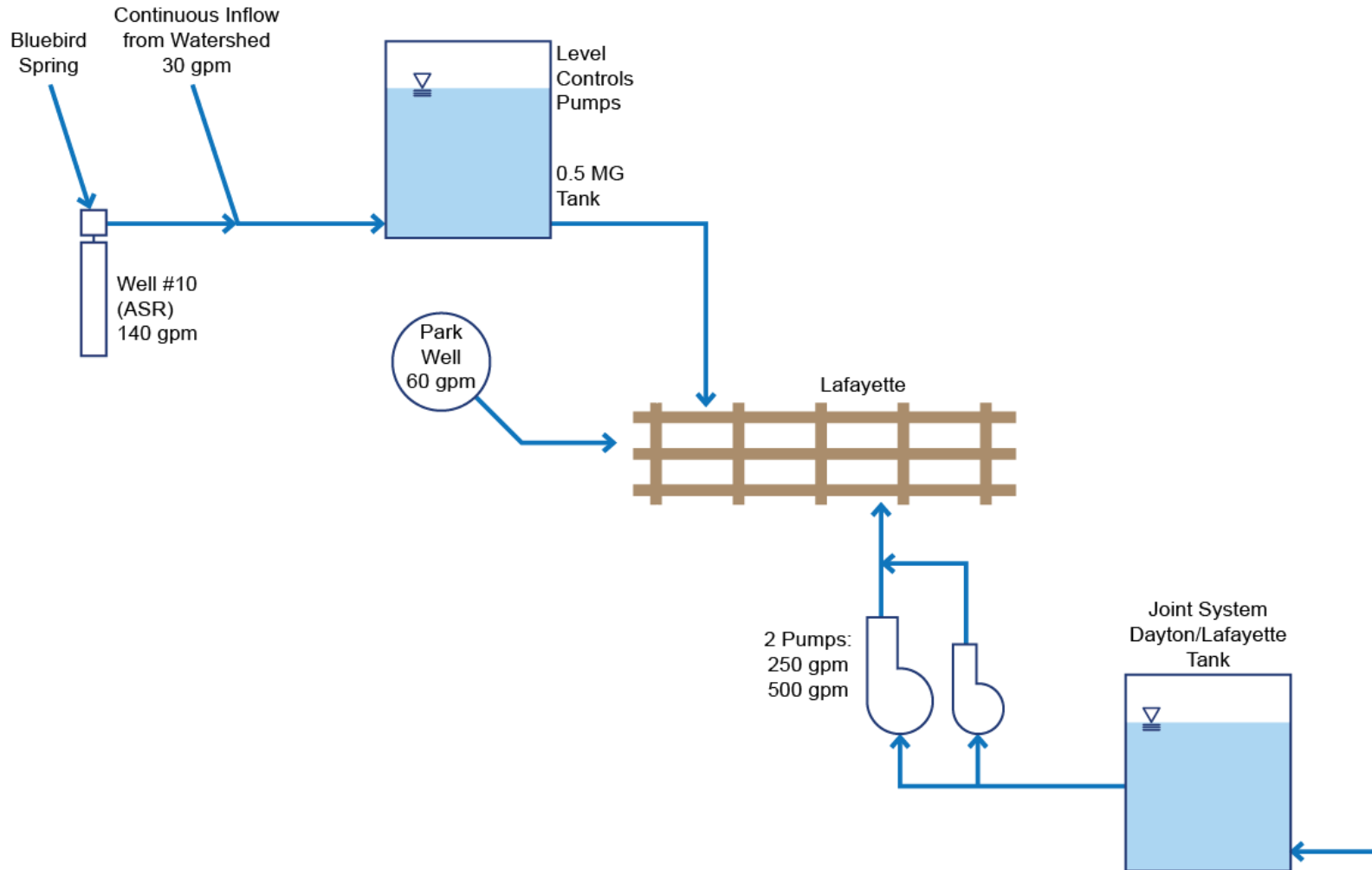
- Tank maintenance program
 - Utility Service Co., Inc.
 - Tested the coatings:
 - Interior coal tar
 - Exterior alkyd with lead

ASIDE #2

- Safety improvements
 - City tried to have a local fabrication shop provide the work separately.
 - Provided design and quote
 - Non responsive with regard to fabrication, so added into the tank project



CHALLENGES



CHALLENGES

- Only one tank
 - Fire flow
 - Daily demand cycle
 - System pressure
 - Surge control
 - Pump control
 - Continuous inflow
- Disinfection
- Overflow

CHALLENGES - FIREFLOW

- Options
 - Old tank
 - Ponds
 - Tanker truck
 - Agreements
 - Timing
 - Outreach
 - Backyard Burning



CHALLENGES – DAILY DEMAND

- Daily fluctuations
 - Morning
 - Evening
- No data
- WA criteria: $(PDD-Q)(150 \text{ min}) = \text{volume}$
- $(879-500)(150) = 42,000 \text{ gallons}$

ASIDE

- City park well rehabilitation
 - Rehabilitation of well
 - New pump
 - Increased flow
 - Electrical upgrade
 - Control upgrade
- Electrical and control work staged



CHALLENGES – DAILY DEMAND

- Temporary storage
- Baker tanks
- 20,000 gal each
- Three tanks



CHALLENGES – TANK SITE

- Temporary storage site work
- Soil stockpile



CHALLENGES – BAKER TANKS

- Separate contract
- Review access
- Special coating
- Coordination



CHALLENGES – BAKER TANKS

- Access road
- Trees and debris
- Curves and surface



CHALLENGES – BAKER TANKS

- Access



CHALLENGES – TEMPORARY PIPING



CHALLENGES

- Pressure
- Pump control
- Continuous inflow
- Surge control



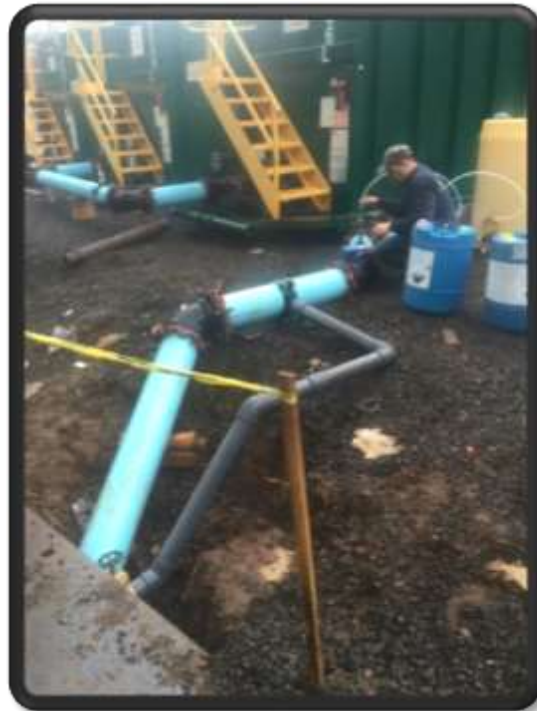
ASIDE & CHALLENGE

- Control system upgrade
- Same time as earthwork
- Then transfer to the temporary system



CHALLENGES

- Overflow
- Prior to chlorination



DOOR PANEL

- Speed up production



INTERNAL INSPECTION

- Floor and walls



THINGS WE DID

- Separate Contract for Baker Tanks
- Scheduled work after October
- Adjusted schedule of two other projects
 - Delayed completion of the well project
 - Expedited control changes
- Allowed exterior to be done with full tank
- Allowed door panel
- Tanker for fire department
- Agreement with winery

THINGS WE DID

- Manually adjusted ASR injection
- Extra staff time
 - Early morning check
 - Early evening check
- Notified the public
- No back yard burning
- Coordination with Dayton

AS LUCK WOULD HAVE IT

- Very wet winter
 - Sigh of relief from fire Chief
 - Still filled up the ASR
- Very cold winter
 - Site access challenges
 - Slowed progress
 - Still completed before high demands

Questions & Discussion