



2022 Corrosion Test Station

Rehabilitation Project

Operations Committee

August 19, 2022



History and Introduction

- MMWD implement Corrosion Control program in 1962.
- Goal of the Corrosion Control program
 - Eliminate corrosion as limiting factor in the life of MMWD facilities.
- Corrosion Control is a vital piece of MMWD's Mission Statement.
- Documenting and maintaining the corrosion control program has been identified as an objective in the Strategic Plan.

Growth of Corrosion Control 1990 vs 2022

	1990	2014	2016	2022
Total Test Stations	2800	6400	6653	6977
Total Systems	1300	2029	2442	2430
Miles Protected	224	400	423	~450
Tanks	50	105	108	111
Plants	4	4	4	3

Program Responsibilities

- Monitoring & Maintenance
- Provide support and training
- Design
- Capital Projects



Monitoring and Maintenance

- Passive systems (magnesium anodes) - 6 year cycle
- Impressed Current systems (rectifiers) - 6 month cycle
- Tank interiors (typically passive type) - 12 month cycle
- Troubleshooting
- Repairs & corrective maintenance



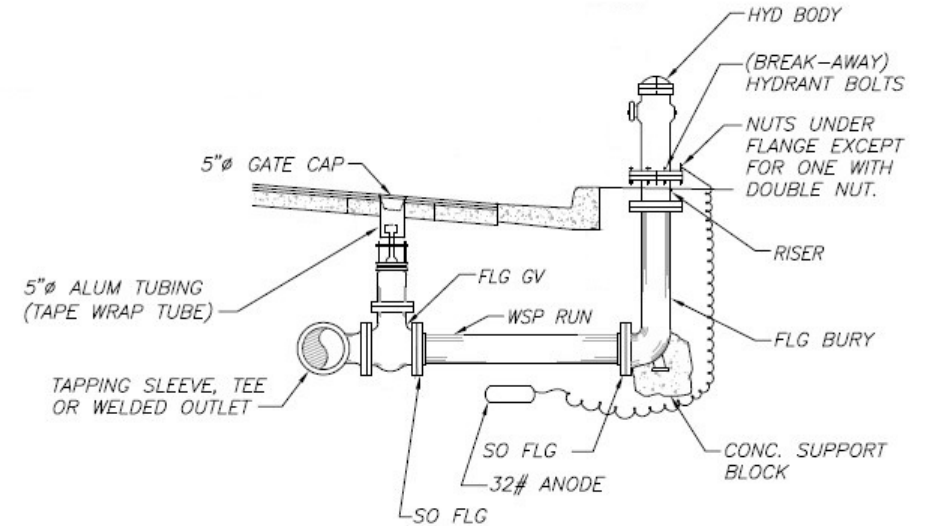
Support and Training

- Support and training for District maintenance crews, M&E workers, Control Techs, inspectors, meter repair workers
- Educate contractors

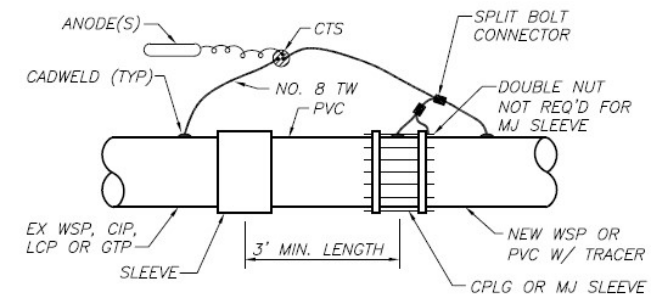


Design

- All new piping, tanks have corrosion control
- Cathodic protection systems
 - Review drawings – insulators required, test stations required, wiring details.
 - Determine number of anodes required
- Coatings
 - Review/recommend materials (intended service & regulatory compliance)
 - Review/write specifications



HYDRANT



NONMETALLIC PIPE INSULATOR

Capital Projects

- Develop capital projects using data from monitoring and maintenance
- Corrosion Test Station Rehab
 - Replace depleted magnesium anodes
- System Corrections
 - Replace failed insulators
- Rectifier Anode Replacement
 - Replace depleted impressed current groundbeds
- Cathodic Protection of Existing Pipelines
- Remote Monitoring
- Tank Coating



Benefits of Corrosion Control

- Helps prevent leaks
- Preserves infrastructure
- Extends the useful life of facilities
- Saves money



Corrosion Control Program

- MMWD has had an active corrosion control program since 1962
- At implementation, leaks on steel piping exceeded 200 per year, currently approximately 8 per year.
- An active Corrosion Control program is a vital piece of the District Mission Statement, Vision and goals
- Corrosion Control makes economic sense

Summary

- Installation of 60 magnesium anodes
- Capital Improvement Program
- Engineers Estimate = \$66,000
- Project is scheduled to last - 73 days
- Completion Date – November 18,2022
- Review and Refer to the Board