Corvallis Drinking Water Plant Effluent Metering

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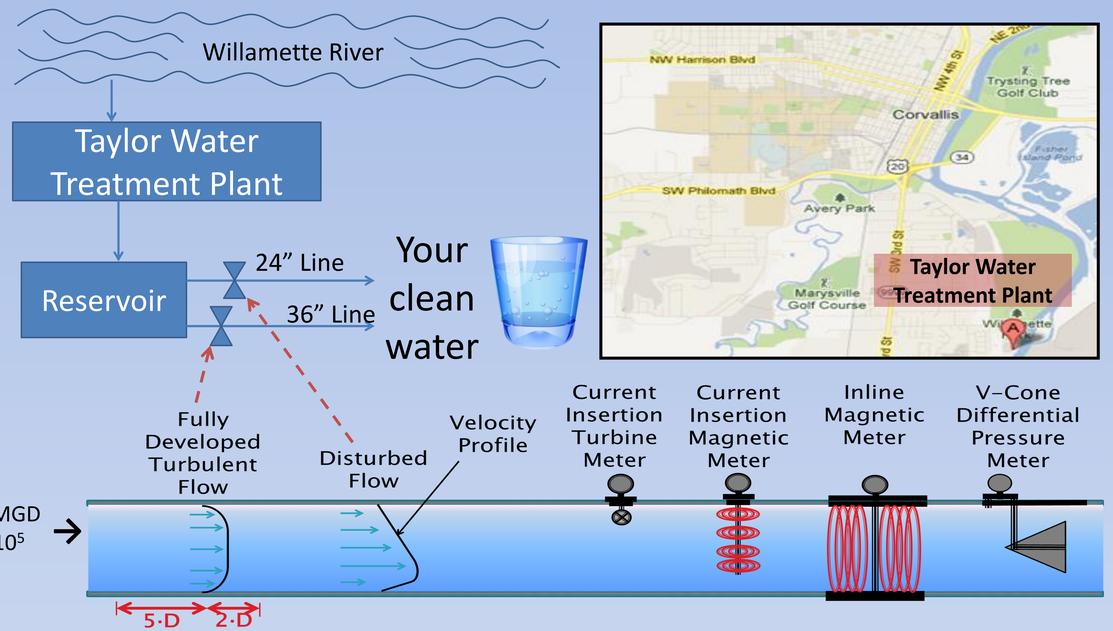
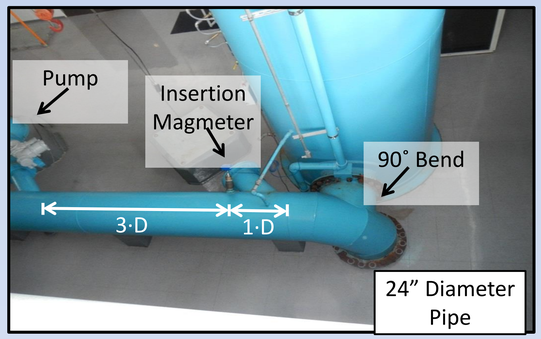
Issues:

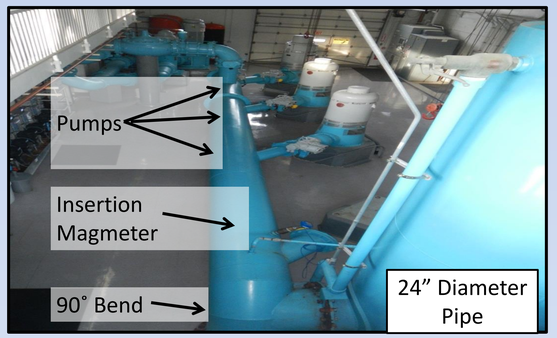
1. The City of Corvallis needs to accurately monitor drinking water effluent flow.
2. Typical flowmeters require 5 times the diameter of the pipe upstream and 2 downstream for developed flow. Corvallis' current meter locations do not meet this requirement, because the original meters were removed due to the growing water demands of the city.
3. Meters need to meet American Society for Testing and Measurement and American Water Works Association standards.

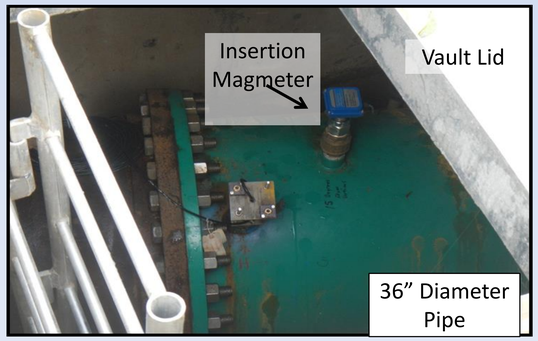
Objective:

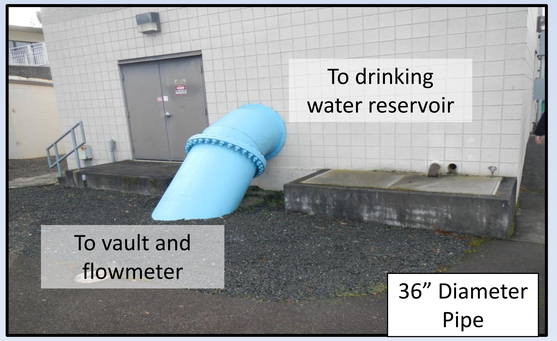
1. Evaluate 24" and 36" effluent lines to improve flow accuracy from approximately 5% to ≤1%.
2. Recommend a least two designs for replacement of existing flowmeters.
3. Provide engineering cost estimates to The City of Corvallis.
4. Submit design proposal to contractors for official bidding.





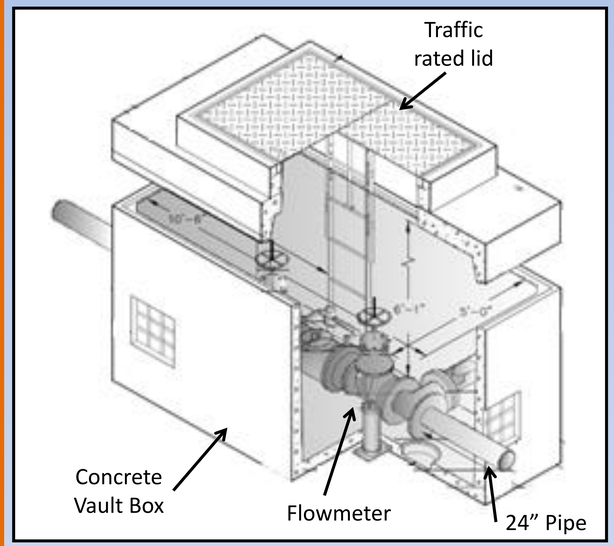






Vault:

An enclosed access point to reach an underground straight run of pipe.



Final Analysis:

Line	Meter Type	Accuracy	Cost
36"	Magmeter	>99%	$25,600
24"	V-cone	>98%	$14,800
24"	Magmeter in Vault	>99%	$57,400

Acknowledgments:

- Kirby Callis Keith Turner (City of Corvallis)
- Emery and Sons Construction, Whitney Equipment Co., Murrell Hickey & Associates, Oldcastle Precast, ADM Corn Processing, Ashland Water Technologies and Shell Oil
- Cities of: Salem, Medford, Eugene, Anacortes, Irvine, Hooper and Spanish Forks
- Dr. Philip H. Harding

References:

- CAD Drawing: Old Castle Precast y7) 5106-WA-TVWD
- Map: Google Maps