
February 4, 2020
Rebuilding Our Foundation for a Brighter Future
The Department of Public Works and Utilities
Utility Operations (Water & Sewer)

2019 Annual Report

Andrew J. Barnes, P.E.
General Manager of Public Utilities/City Engineer
The Public Utilities Division is charged with the task of providing water transmission, distribution, and storage; wastewater collection and conveyance; and Stormwater Management administration.
Public Utilities – Infrastructure Overview

Public Utilities Division - Water

➢ ~225 miles (1.2 Million Feet) of water mains (from 2” to 20”)
➢ ~1,500 Fire Hydrants
➢ 2 Pressure Zones
➢ 6 Storage Tanks (11.3 MG)
➢ 2 Pump Stations
➢ Estimated Total Infrastructure Replacement Cost = $500,000,000 (min.)

Public Utilities Division - Sewer

➢ ~200 miles (1.0 Million Feet) of sewer mains (from 4” to 48”)
➢ 3,000+ Manholes
➢ 18 Pump Stations
➢ 2 MG Equalization Basin
➢ Estimated Total Infrastructure Replacement Cost = $300,000,000 (min.)
Public Utilities – Accomplishments (Water)

➢ Fully compliant with all EPA and VDH regulations
  ➢ Completed all sampling (monthly, quarterly, and UCMR4)
  ➢ Published Annual Water Quality Report
  ➢ Completed Triennial Lead & Copper Testing (no exceedance)
  ➢ Regular/Routine interactions with VDH officials

➢ 684 Work orders
➢ 28 Hydrants repaired or replaced
➢ 8 Lead Services Replaced
➢ 9 new water service connections

➢ 27 Water Main Repairs
➢ **No Boil Water Notices**

➢ In-house Hydrant flow testing
Overflow (spill) reports submitted to DEQ in a timely manner

18 sewer connections

1,324 Work orders

Major Repairs
- Old Wythe Street
  - 330’ of 8” sewer main (contractor assisted)
- Oklahoma Avenue
  - 50’ of 8” sewer main
- Walnut Blvd
  - 70’ of 8” sewer main

Numerous point repairs for cave-ins, slipped joints, and failed laterals.
Public Utilities – Accomplishments (General)

➢ Average Household Utility Cost = $0.013/ gallon (1.3 cents/gallon)
  ➢ Includes water, sewer, and capacity fees

➢ All Field staff received Trench Safety and Confined Space Training

➢ 70% of field staff have work zone safety and flagger certification

➢ Upgraded SCADA system at all sites

➢ 6,572 Utility Location Requests (811/Miss Utility)

➢ Utility Map Books (GIS) for field staff supervisors and locators

➢ Begun purchasing AWWA Manuals of Practice

➢ Two new Utility trailers for the work crews
Public Utilities – Current Events

➢ Winter Preparation
  ➢ Winter has been mild and main breaks have not been a major issue.
  ➢ Performing an inventory of all parts to ensure material and parts are available.
  ➢ Weatherizing all heavy equipment

➢ Getting training lined up for the next few months

➢ Assessing new Maintenance/Workorder Management System

➢ Material Contracts

➢ Reviewing website content

➢ Fire Hydrant Inspection/Maintenance Program
  ➢ Pre-planning, inspection, minor maintenance, documentation, record keeping, digital asset inventory
  ➢ 1500 hydrants in 250 working days will be a full-time job (about 1.5 FTE, actually)
Public Utilities – Current Projects

➢ Locks Water Main Replacement
  ➢ 7,650+ LF of 20” ductile iron pipe.
  ➢ VDH has issued a construction permit
  ➢ Still requires additional external approvals
    ➢ Historic/Cultural Resources through VDHR
    ➢ Floodplain due to CDBG/HUD funding
      ➢ Looking to reimburse and reprogram funding

➢ Prince George County Interconnection
  ➢ 450’ of 8” waterline to connect with PG.
  ➢ Consultant request for task order in the next few weeks
  ➢ Design by Spring.
  ➢ Construction IFB by summer (funding through current O&M budget)
  ➢ Scheduling contingency for permitting and approvals.

➢ Flow Meters at Pump Stations for I&I monitoring underway

➢ Poor Creek Force Main Replacement/Realignment
  ➢ Will begin design this calendar year

➢ Working on Project Priorities and Needs Assessment for future CIP
Public Utilities - Infrastructure Work

Rebuilding Our Foundation for a Brighter Future
Vehicle Purchases

New CCTV equipment (sewer inspection)

Continuing to build and maintain professional relationships with neighboring municipalities, vendors, and officials.

Updating GIS

Developing Standard Operating Procedures and mapping workflows

Prioritizing Preventive Maintenance

Developing Asset Management Plans and Asset Registries

EPA revising the Lead and Copper Rule this year
  ➢ Likely to need a full survey of services (beginning 2021)
  ➢ Replacement “quota” will be likely
Public Utilities - Challenges

➢ Staff Retention
  ➢ Vacancies for Pump Station Mechanic, Motor Equip. Operators, Crew Supervisor II.
➢ Corrective (reactive) maintenance vs. preventive (proactive) maintenance
  ➢ PM not fully supported at existing staffing levels
➢ Aging Infrastructure (and getting older)
  ➢ Lots of “Band-Aids”
  ➢ Need to better understand what we have
  ➢ Replacement projects impact businesses and residents
➢ Major projects require planning, engineering, funding, inspection, and project management.
➢ Records Management (project/staff needed)
  ➢ GIS missing key attributes
    ➢ Not accessible to field crews
  ➢ Old plans require research at CH Annex.
➢ Lacking internal Technical Capacity
Questions

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