

Langley School Pump Station and Force Main Project Community Meeting

May 10, 2021

Presented by:
Wastewater Design and Construction Division

Department of Public Works and Environmental Services
Working for You!



A Fairfax County, VA, publication
May 2021

Introduction

- Introductions
 - Matthew Doyle, PE, CCM
 - Branch Chief, Wastewater Design and Construction Division
 - 15 years with Capital Facilities, Department of Public Works and Environmental Services (DPWES)
 - Lizzy Merin,
 - Engineer II
 - Project Manager for this project for Fairfax County
 - Black and Veatch (Designer)
 - Water/Wastewater Engineering Firm
 - David Hill, PE
 - Alana Gildner, PE

The Purpose

The project is located to the east of Langley High School and extends along Georgetown Pike.

- The Purpose
 - Inform the community about the upcoming project,
 - Phase 1 of the project is eminent
 - Gravity Sewer on Langley Lane
 - Force main from Langley High School to Georgetown Pike

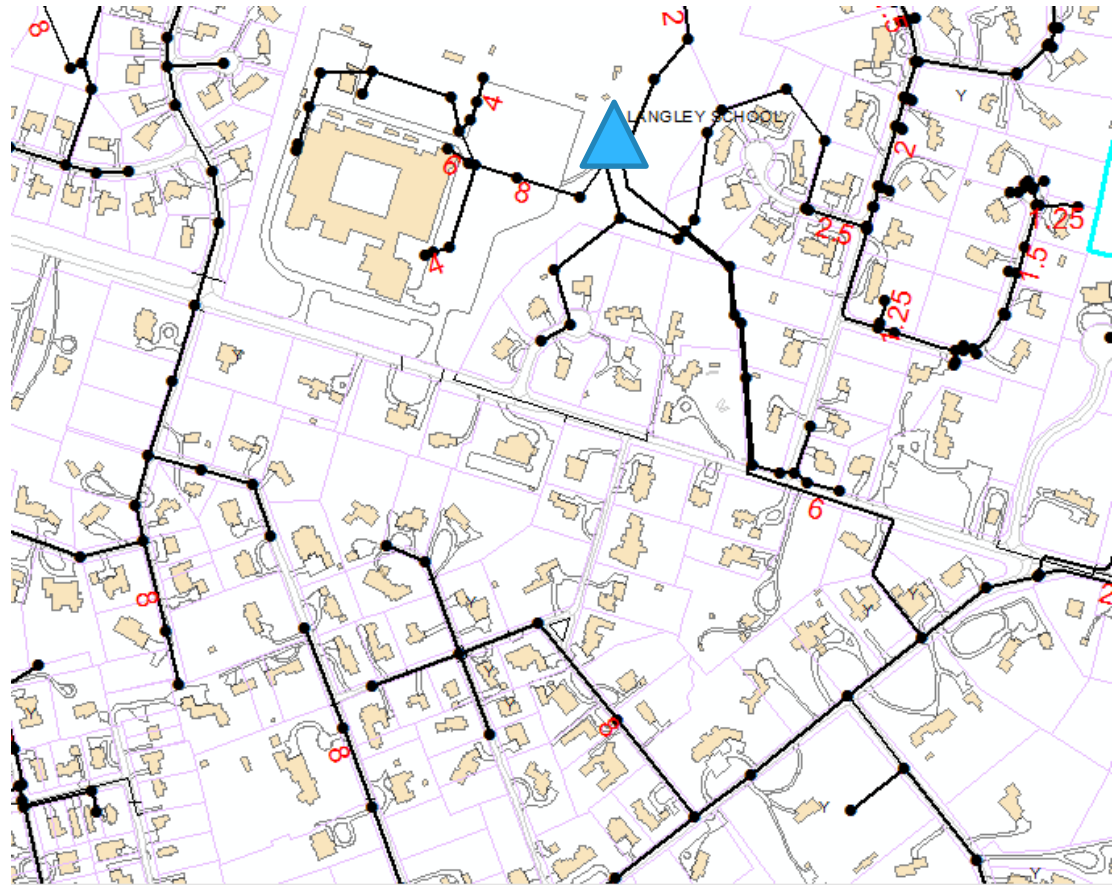


The red line shows the proposed force main. The blue line shows the existing force main that will be abandoned-in-place.

EXISTING WASTEWATER SYSTEM

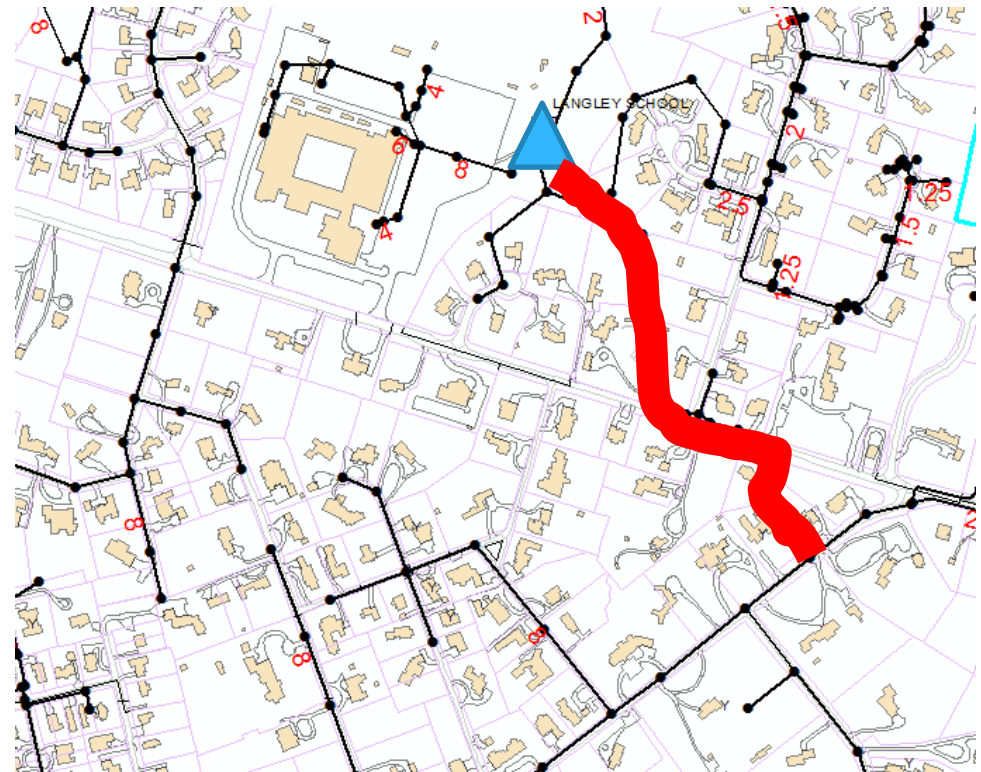
Phase 1: Existing Gravity Sewer

- The Gravity Sewer (Drain by Gravity to the Lowest Point)
 - Various Diameters
 - Various Ages
 - Various Material Types
 - two pipes that need To be replaced and/or repaired



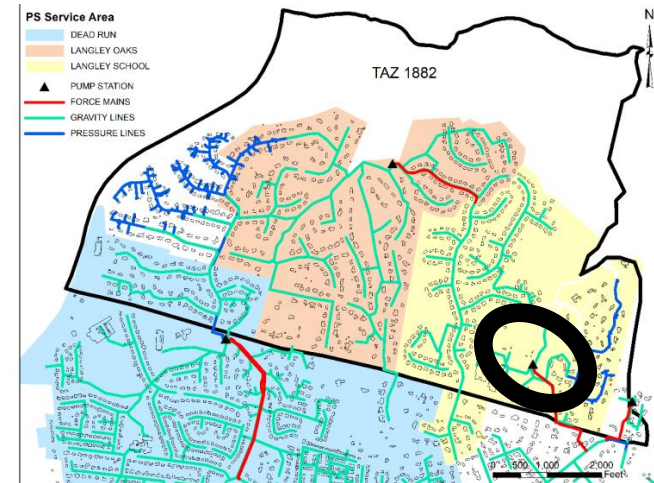
Phase 1: Existing Forcemain

- The Forcemain (Pressure Pipe)
 - Forcemain Alignment shown in red on the map
 - Nearing the end of its useful life (50-70 year life span)
 - Built in 1966
 - 6" Diameter, Cast Iron
 - Showing its age,
 - Travels along easements
 - Many backyards
 - Wooded Alignment
 - Approximately 4-6 feet deep,



Phase 2: Existing Pump Station

- The Pump Station Building and Site
 - The station pumps wastewater away for the surrounding community
 - Built in 1966 with a major re-build in 1993
 - 0.43 Million Gallons Per Day
 - Two Pumps, Generator and other Associated Equipment
 - The Age and Condition Prompts a full replacement of the station, Phase 2 expected to begin in 2022.
 - Approximately 80' x 80' site (+/-)

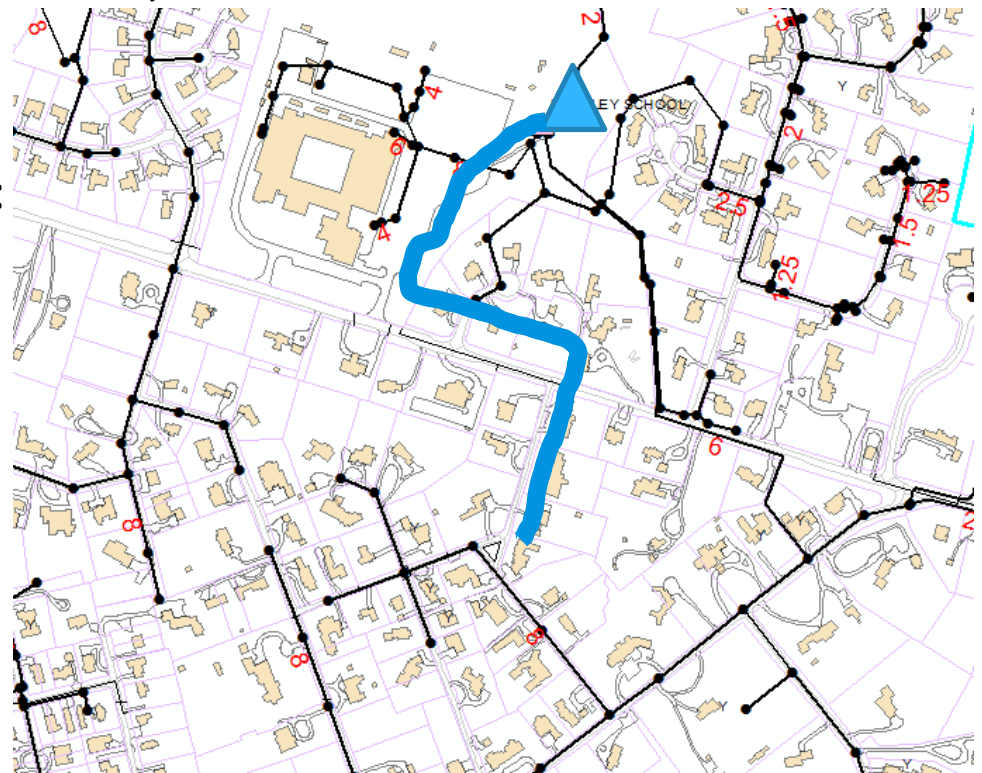


Background Information

- Background and Various Documents
 - 2019 Comparison of Alternative Force Main Alignments
 - Horizontal Directional Drilling (HDD)
 - Recommended Open Trenching
 - 2020 Preliminary Engineering Report
 - Relocate the Existing Forcemain into the VDOT ROW (in the street)- Phase 1
 - Replace existing gravity sewer (Same location)- Phase 1
 - Abandon the Existing Forcemain in place – Phase 2
 - Replace the existing Pump Station (Same location)- Phase 2

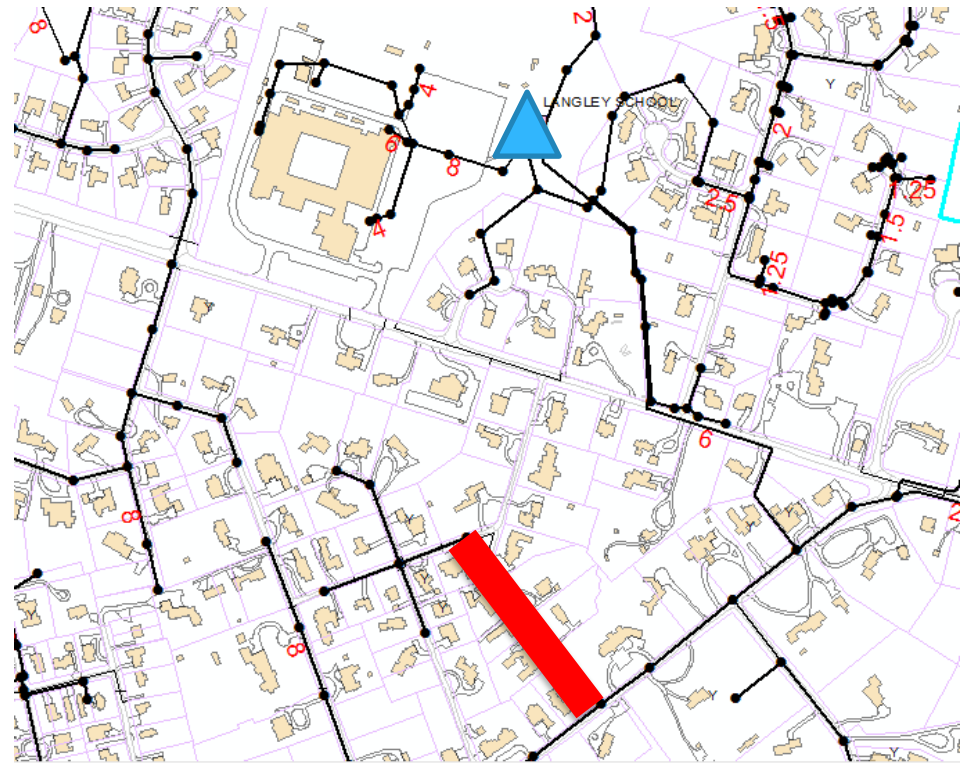
New Forcemain coming Fall 2021!

- The New Forcemain (Pressure Pipe)
 - Removal of two trees on Langley Lane at owner's request, and 4 on adjacent to our PS driveway.
 - New 6" Ductile Iron Pipe (80-year life)
 - 4—6 feet below the ground
 - Keep it in the paved roads
 - New Asphalt Replacement for:
 - Pump station Access Road
 - High School Entrance
 - Georgetown Pike
 - Langley Lane (Full Width)

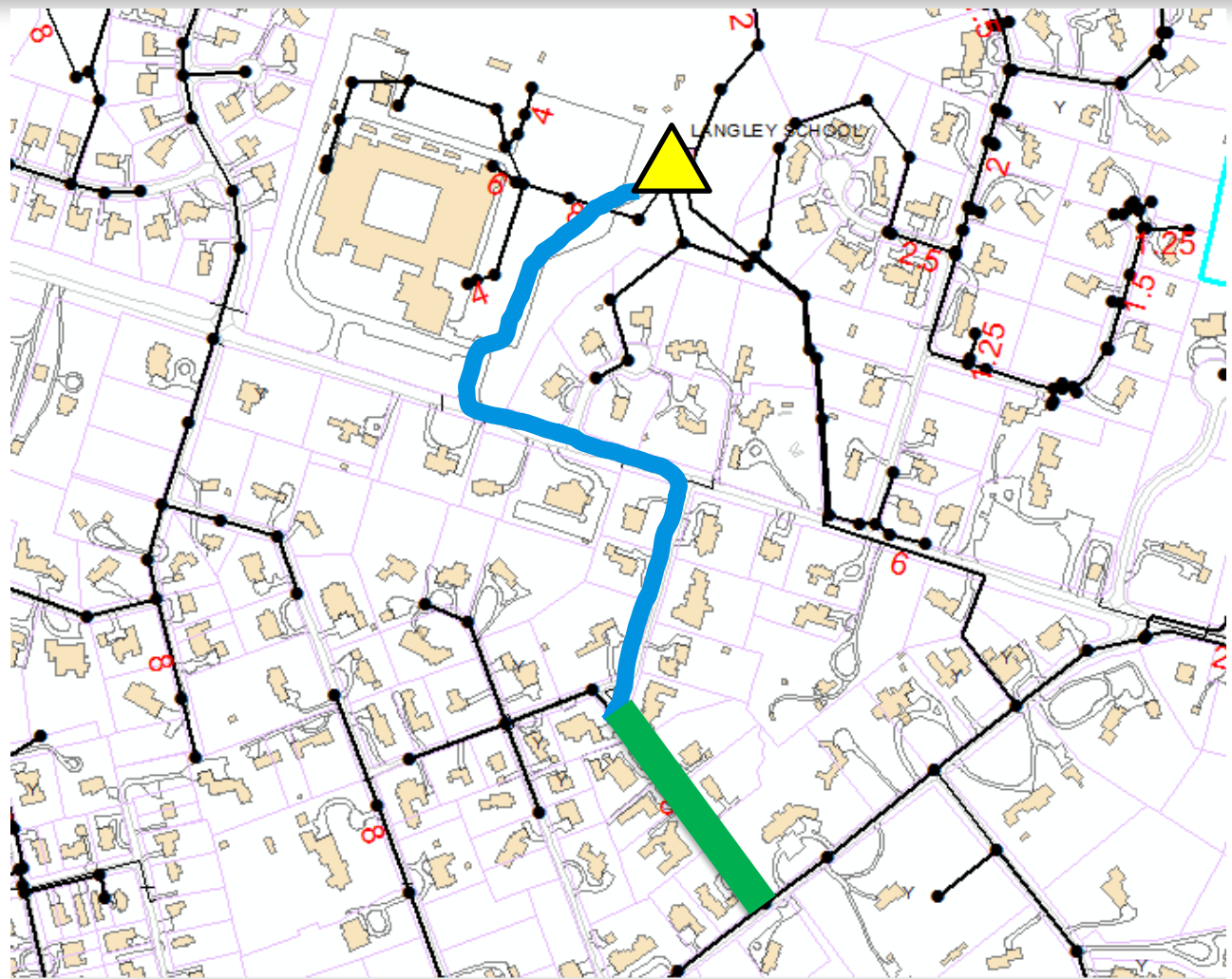


New Gravity Sewer coming Fall 2021!

- The Gravity Sewer (Drain by Gravity to the Lowest Point)
 - New 12" PVC Pipe (80-year life)
 - Same Location
 - New Asphalt Replacement for:
 - Langley Lane (Full Width)



Overall Summary

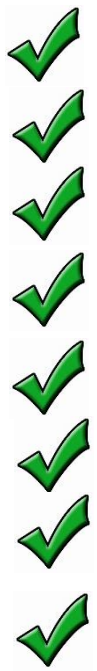


Project Schedule

Project Timeline

TIMELINE

| Phases | Date |
|---|----------------|
| Notice to Proceed | June 2020 |
| Land Survey | July 2020 |
| Alternative Analysis | September 2020 |
| 50 percent Preliminary Engineering Report | October 2020 |
| Public Input and Open Discussion | November 2020 |
| Final Preliminary Engineering Report | December 2020 |
| Begin Detailed Design | December 2020 |
| Public Input and Open Discussion | May 2021 |
| Begin Construction Phase I Force Main | June 2021 |



Construction Timeline

- Start Construction in Langley High School Parking lot early summer to complete work on FCPS property by August 20th, 2021, for First Day of School August 23, 2021.
- Estimated construction time 180 days.
- Estimated substantial completion January 1, 2022.



Community Impacts

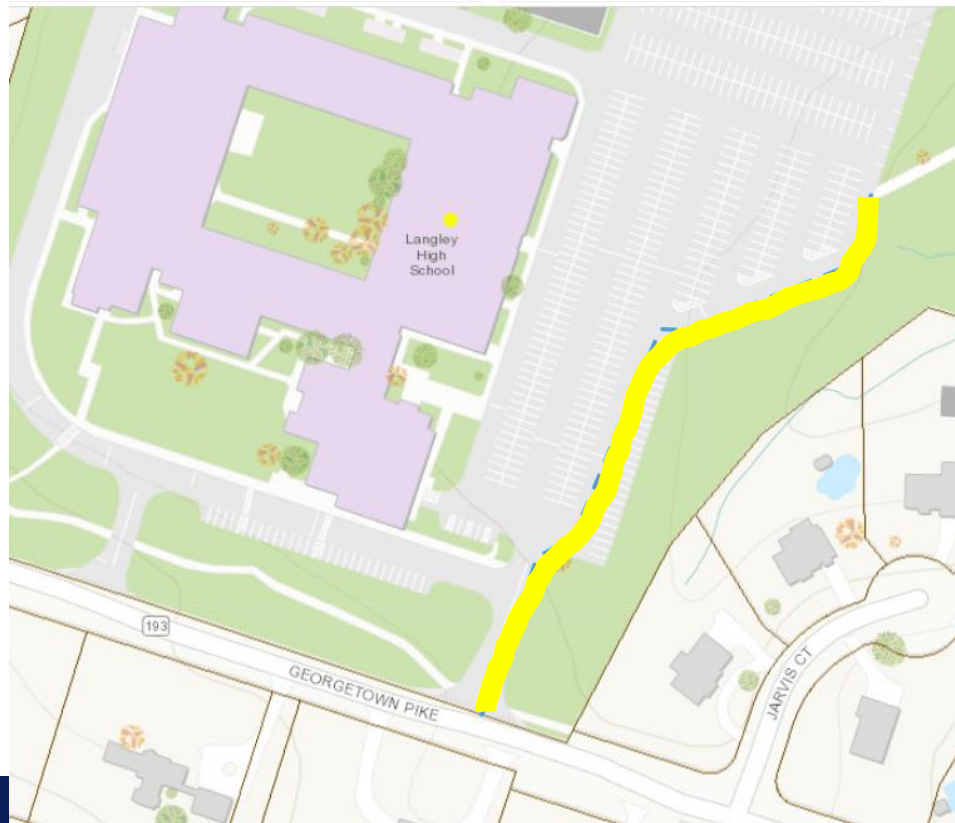
- **Construction Milestone:**

1. Langley high School Parking Lot- the eastern portion of the parking lot will not be available; traffic will be rerouted.

- Finish this work before students come back to school.

It is estimated that approximately 42 parking spots will be inaccessible during construction.

Construction in this area is anticipated to have minor impacts to the overall flow of traffic in the school parking.



Community Impacts

- Construction Milestone:
- 2. Georgetown Pike Eastbound Lane Closure and reroute:



Community Impacts

- School entrance into Georgetown Pike



Figure 8 – High School Parking Lot Entrance Site Photo and Approximate FM Alignment

Community Impacts

- Georgetown Pike



Figure 12 – Georgetown Pike Site Photo 1 and Approximate FM Alignment

Community Impacts

- Georgetown Pike



Figure 13 – Georgetown Pike Site Photo 2 and Approximate FM Alignment

Community Impacts

- Georgetown Pike onto Langley Lane
- All residents shall always have access to at least one entrance/exit to/from Langley lane (either via Georgetown Pike or Chain Bridge Rd).



Figure 14 – Georgetown Pike Site Photo 3 and Approximate FM Alignment

Community Impacts

- Construction Milestone:
- 3. Forcemain on Langley Lane

-The entire width of the road will be closed during construction.
-This is not a dead-end street so the road will always be accessible from two different ends. A detour plan was developed as part of the design drawings.
days



Community Impacts

- Forcemain on Langley Lane

- The contractor can restore portions of road after the FM is installed; meaning only short spans of Langley Lane will be closed at a time.
- All but one of the properties along the FM alignment have double driveways which allows for access to the properties at all times.



Figure 17 – Langley Lane Site Photo and Approximate FM Alignment

Community Impacts

- Forcemain on Langley Lane changing to Gravity Sewer
 - Work will be scheduled with the owner of property with a single entrance to minimize impact and inconvenience to the owner.
 - Contractor may use steel plates, or other means to maintain access to all property entrances. Construction in this area will only take a few days.



Figure 18 – Langley Lane and Ridge Street Site Photo and Approximate FM Alignment

Community Impacts

- Construction Milestone:
4. Gravity Sewer on Langley Lane



Community Impacts

- Gravity Sewer on Langley Lane- Sewer service will be offline for 12 hours or less as we reconnect you to the new pipe.



Figure 21 – Langley Lane Site Photo and Approximate GS Alignment

Community Impacts

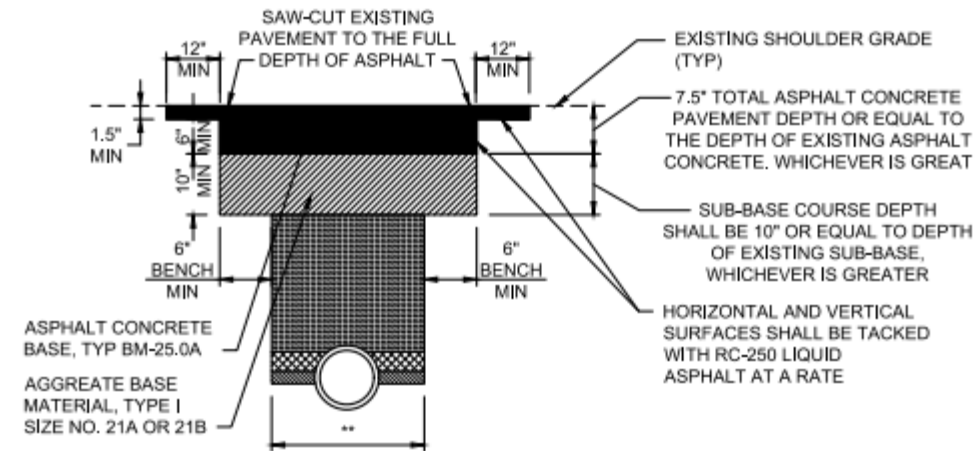
- Gravity Sewer on Langley Lane ends at Chain Bridge Rd- Sewer service will be offline for 12 hours or less as we reconnect you to the new pipe.
- All residents shall always have access to at least one entrance/exit to/from Langley lane (either via Georgetown Pike or Chain Bridge Rd).



Figure 22 – Langley Lane and Chain Bridge Road Site Photo and Approximate GS Alignment

Community Impacts

- Newly Repaved Street!- All asphalt that is disturbed shall be milled, overlaid and repaved to be brand new!
- Milled and overlaid



NOTES:

- * ASPHALT CONCRETE SURFACE MATERIAL:
SM-9.5A FOR ADT < 10,000
SM-9.5 FOR ADT > 10,000

Project Cost and Funding Source

- Project Cost and Funding Source
 - The project estimate is \$3.4 million.
 - The Langley School Pump Station project is included in the FY 2021 – FY 2025 Adopted Capital Improvement Program (with future fiscal years to 2030) identified as the Sanitary Sewer Replacement, Rehabilitation and Reinvestment Program.



Community Meeting

- More information available at:

<https://www.fairfaxcounty.gov/publicworks/capital-projects/langley-school-pump-station-and-force-main-project>

- Our bid ready signed, and sealed documents shall be uploaded in their entirety to the website by May 25, 2021.

- Future meeting notices will be posted here and not mailed to your address. We will post this presentation on the website,
- Our Contact Information:
 - elizabeth.merin@fairfaxcounty.gov
 - matthew.doyle2@fairfaxcounty.gov

Community Meeting

Thank you for listening !

