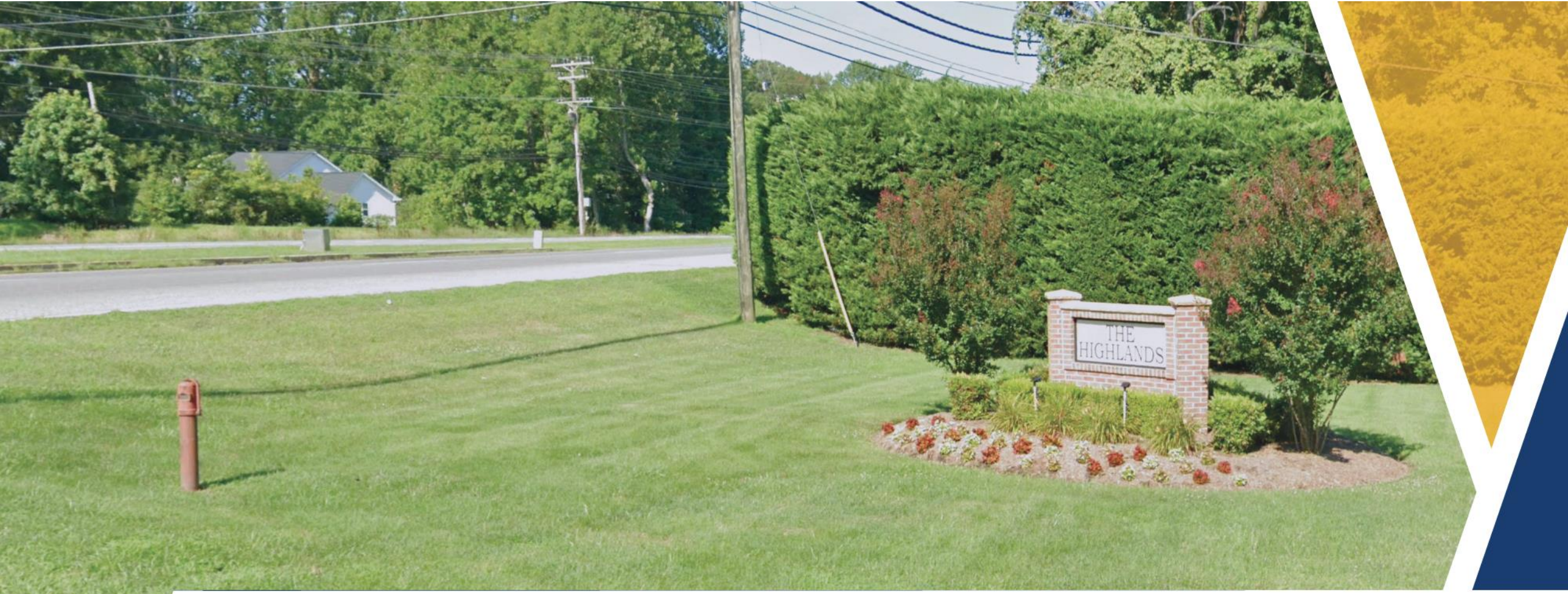

CALVERT COUNTY
Maryland

The Highlands

Grinder Pump Project

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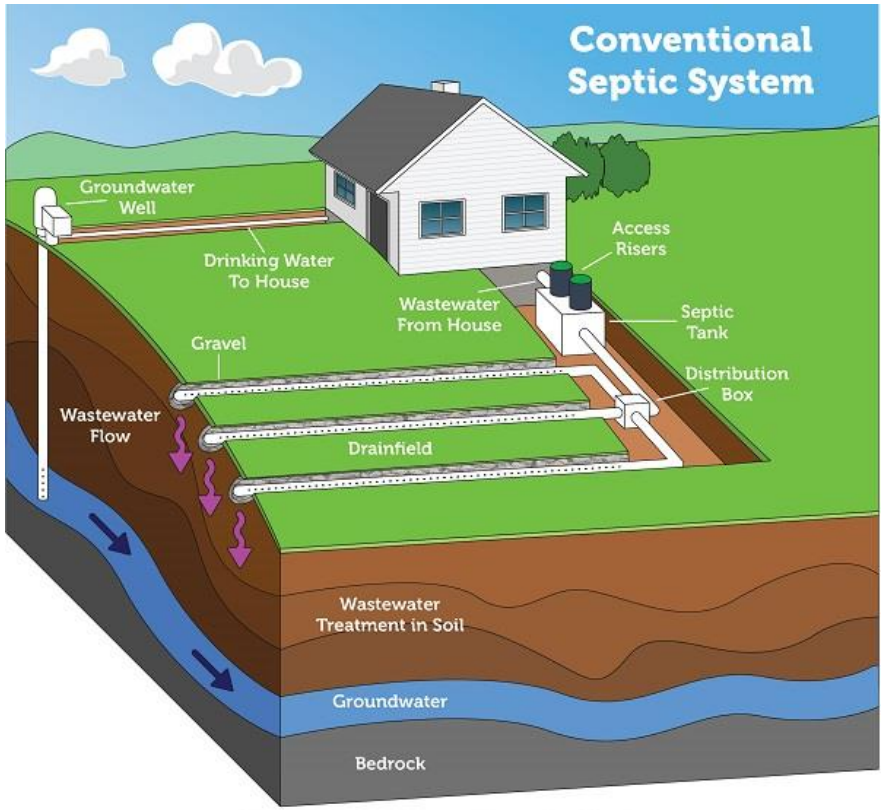
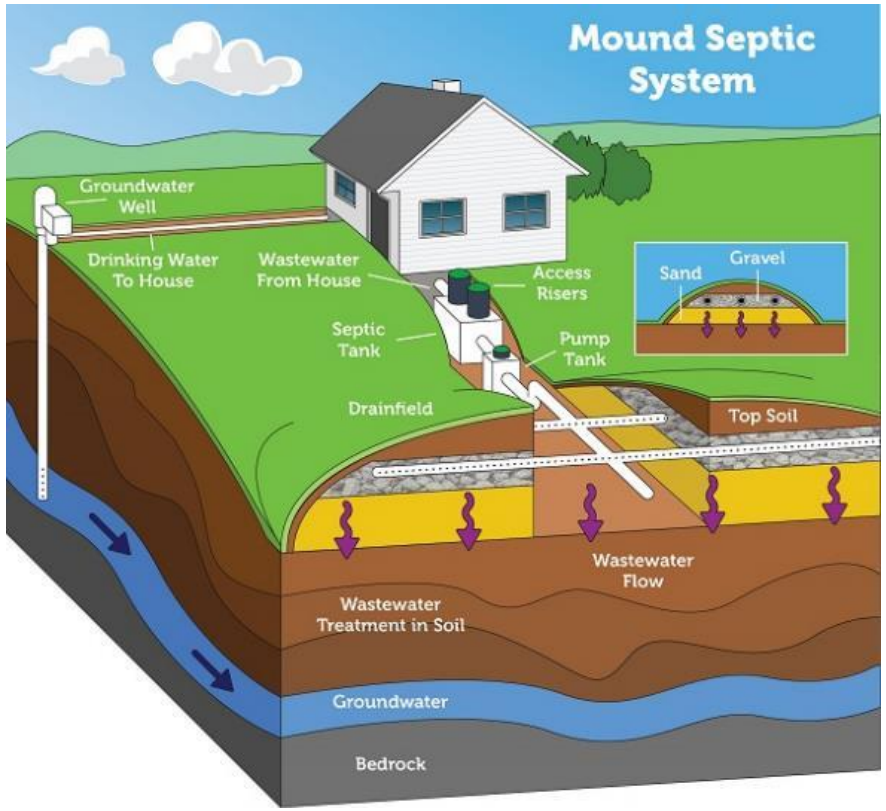
Agenda

- Existing on-site systems
- Project need
- Project status
- Project description
- Sample property maps
- Property/owner cost impacts
- Maintenance responsibilities
- Next steps
- Questions and answers

Existing On-site Systems



Conventional Septic System



Mound Septic System

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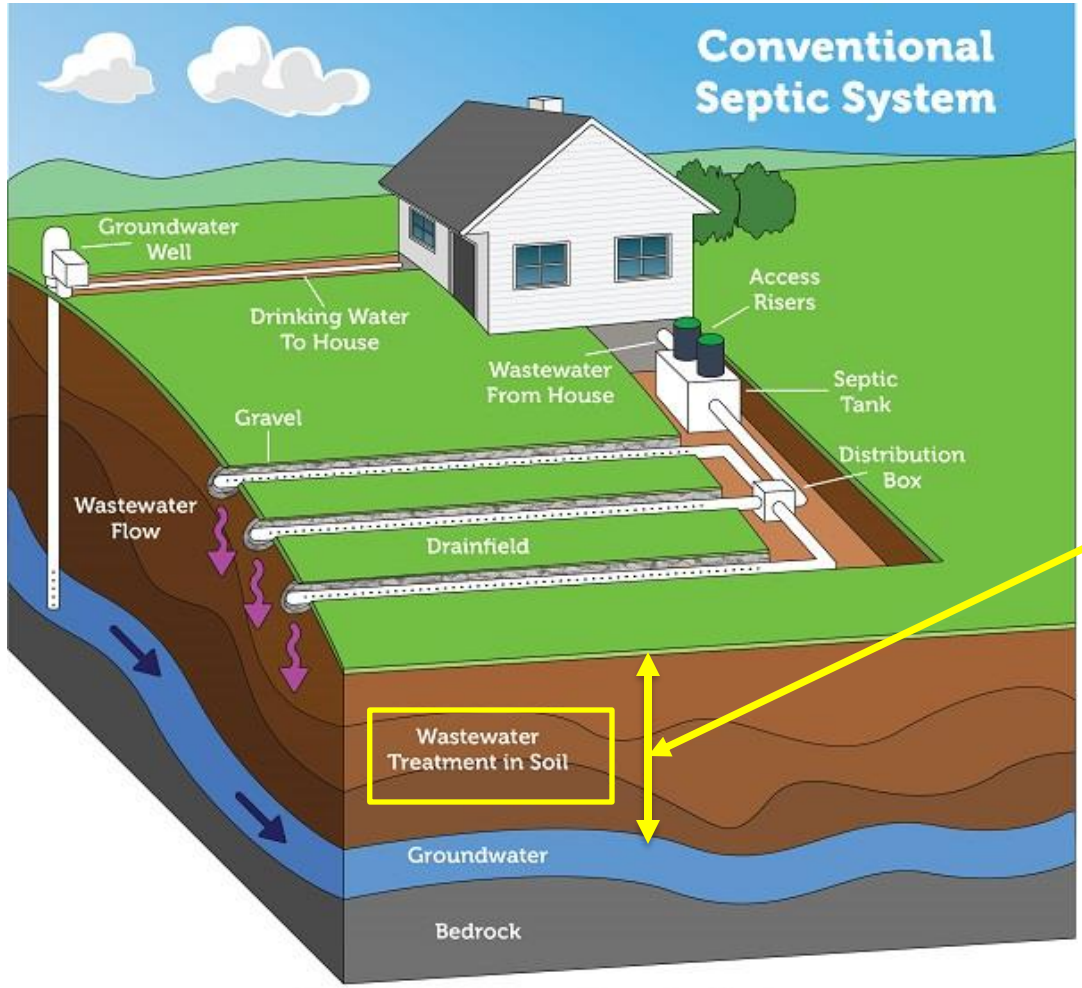
Existing On-Site System Cont.



On-site systems rely on:

- Soils under the disposal bed that allow the wastewater to "perk" down to the groundwater within an acceptable rate
- Adequate depth to groundwater to allow treatment of wastewater prior to entering groundwater

Typical issues:

- High groundwater conditions lead to inadequate treatment
- Clayey soils prevent wastewater from percolating, creating ponding issues.

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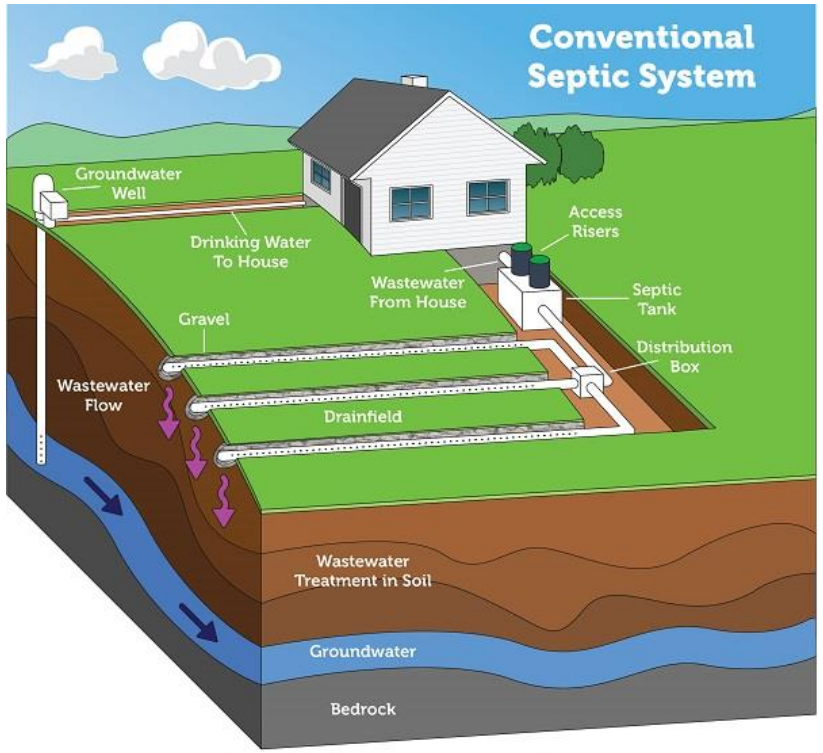
Project Need



- The typical lifespan of a septic system is 25 years; many systems have already exceeded or are approaching the end of their useful life. ***
- There have been multiple cases of failing septic systems in the community, with holding tanks often required if a system fails. The average annual cost of pumping out a holding tank is approx. $7,000/year *Assumes pump out of tank once a month at $600/pump out).
- 93% of existing systems (214 properties) do not meet current codes.***
- 97% of existing systems have inadequately sized drain fields.***
- There are currently 3 homes on holding tanks.
- The health department projects that 32% of homes (74 properties) will ultimately require a holding tank and 35% of homes (79 properties) will require specialized experimental systems. ***
- Special taxation district proposed in January 2020 to finance construction of a central wastewater collection system.

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*** *Source: January 2020 Highland HOA, Inc. petition for special taxing district/Calvert County Health Department September 2019 Research*

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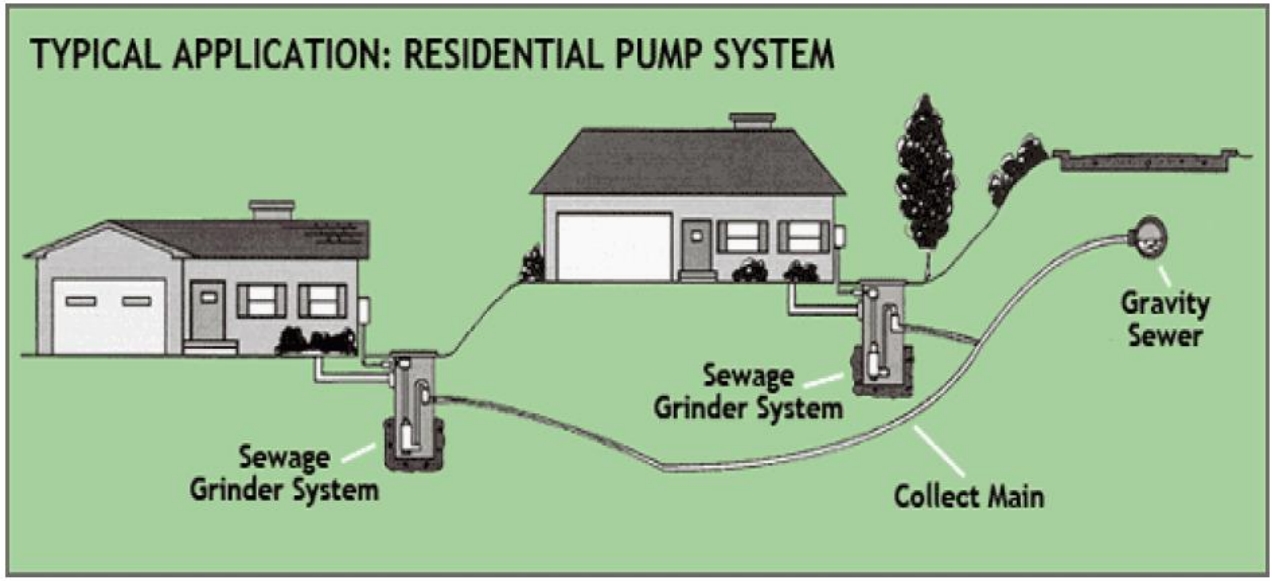
Project Status

- Coordination with private utility companies
- Development of preliminary collection system plans
- Development of preliminary layouts for individual grinder pumps
- Estimate of probable construction cost
- Coordination with HOA board
- Coordination with MDE regarding potential funding
- Public information meeting (today)

Project Description



Grinder pump system:

- No central large pump stations are required
- Individual grinder pump system installed in new tank at each home (Grinder pump control panel, electrical disconnect also installed at each home)
- Installation of county owned “common” sewer in the road right of way, which discharges to existing sewer system in the Chesapeake Lighthouse development
- Connection from the grinder pump to the county owned “common” sewer main in the street
- Connection of existing sewer house connection into new grinder pump
- Abandonment of existing septic tank
- Pumping solids out of new tank is not required for maintenance

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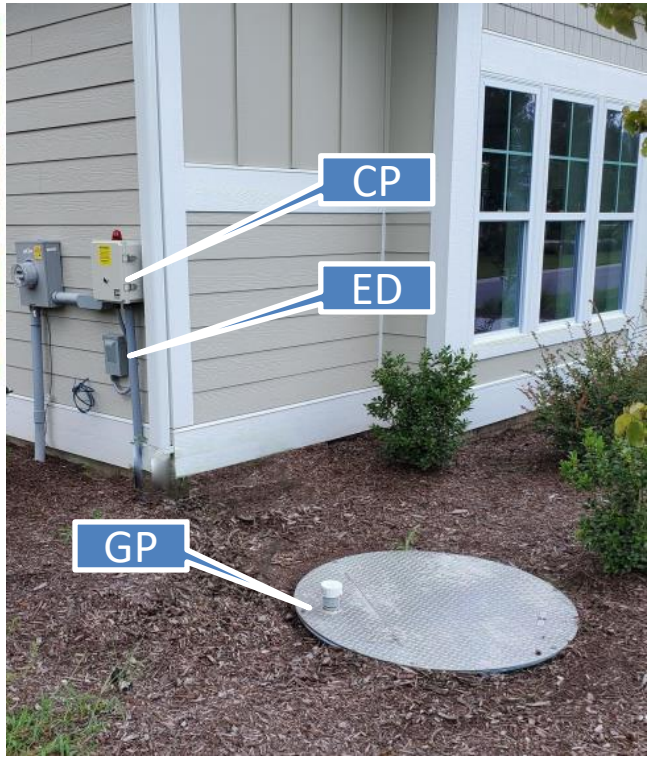
Project Description - Home

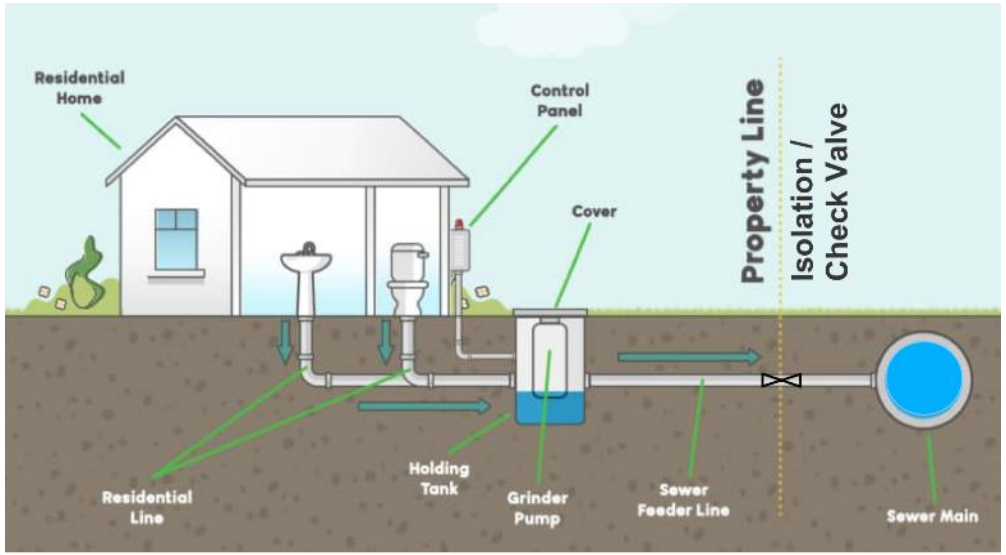
1). Grinder pump (Initial Installation)



Grinder pump system:

Individual grinder pump system with additional system components

1). Grinder pump (GP)
2). Control panel (CP)
3). Electrical disconnect (ED)
4). Buried check valve at property line to prevent backflow, with redundant check valve in the grinder pump station



Grinder Pump Maintenance

Typical components needing maintenance

1). Grinder pump:

- Typical lifespan: (5-15 years)**
- Pump replacement cost ($5,000-$6,000)
- Pump warranty options:
  - Standard : 2 Year limited warranty
  - Extended: 5 Year limited warranty at an additional cost of $1,000/pump

2). Level switch

- Typical lifespan: 10 years
- Replacement cost $2,000

** Pump lifespan highly dependent on individual use and what materials are disposed off in sewer system by the homeowner

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System Issue – Power Outages

- Grinder pump stations have limited storage
- Available storage is 40 gallons +/-
- Storage time dependent on wastewater usage
- Options to address power outages include:
  - Addition of an uninterruptable power supply (UPS) for each grinder pump. The UPS will power the control/alarm system for 2 hours +/-
  - Addition of a dedicated portable generator plug at the grinder pump panel. The generator can be stored on-site and then plugged in at the pump panel during an extended outage. The use of the generator may only be required 1-2 times a day to allow the pumps to operate & pump the tank down
- Both of these components would add project cost
  - Generator receptable = $750 per system
  - UPS (separate panel) = $1,700 per system

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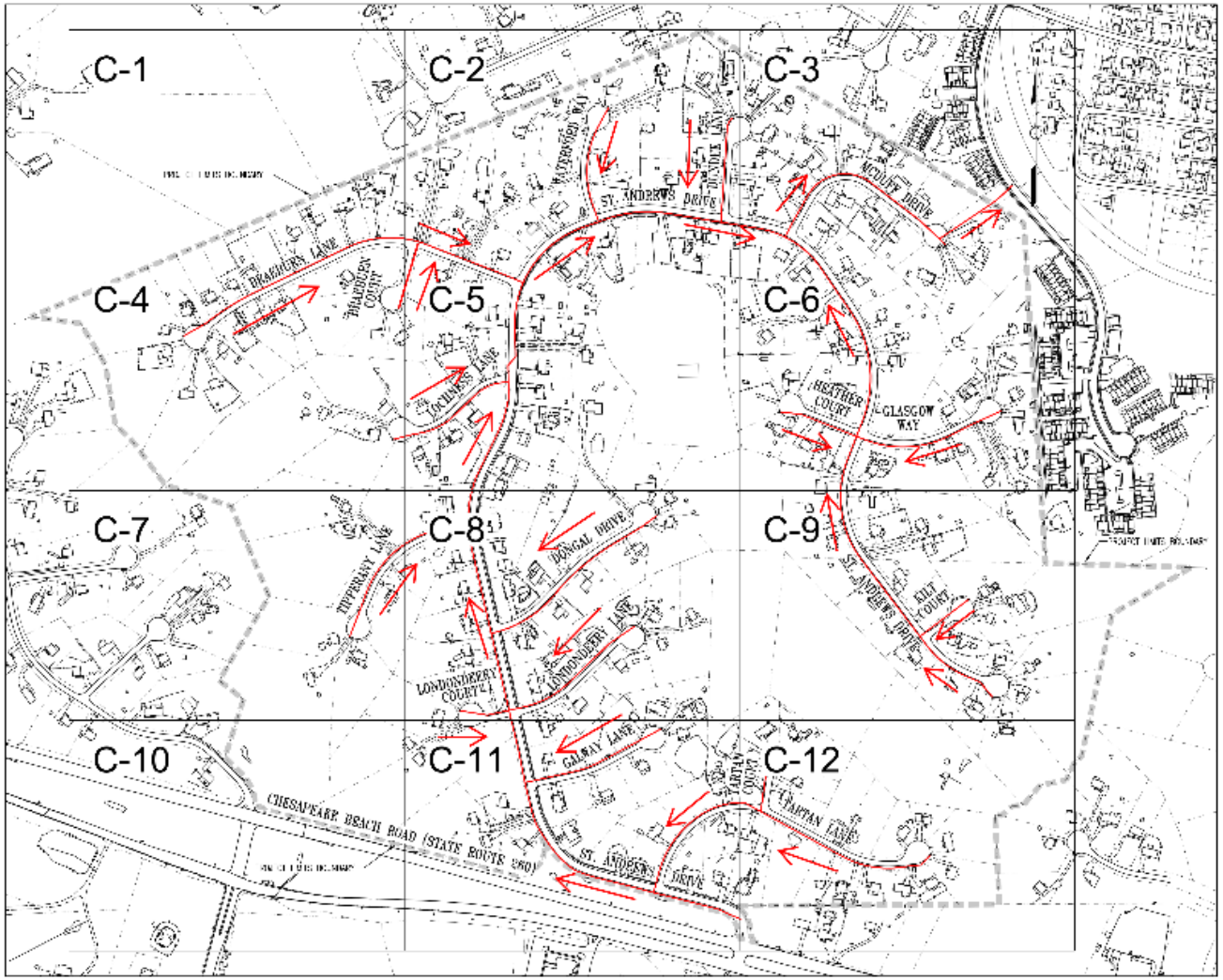
Project Description – Community Collection System



Community collection system:

Small diameter (pressure) pipeline installed in the road right of way. Current design requires approximately:

- 17,000 LF of main line small diameter (4” and less) piping in subdivision streets
- 35,000 LF of main line small diameter (1 ¼”) piping from grinder pumps to the main line
- 229 grinder pumps with associated basins, panels, etc.
- System valves

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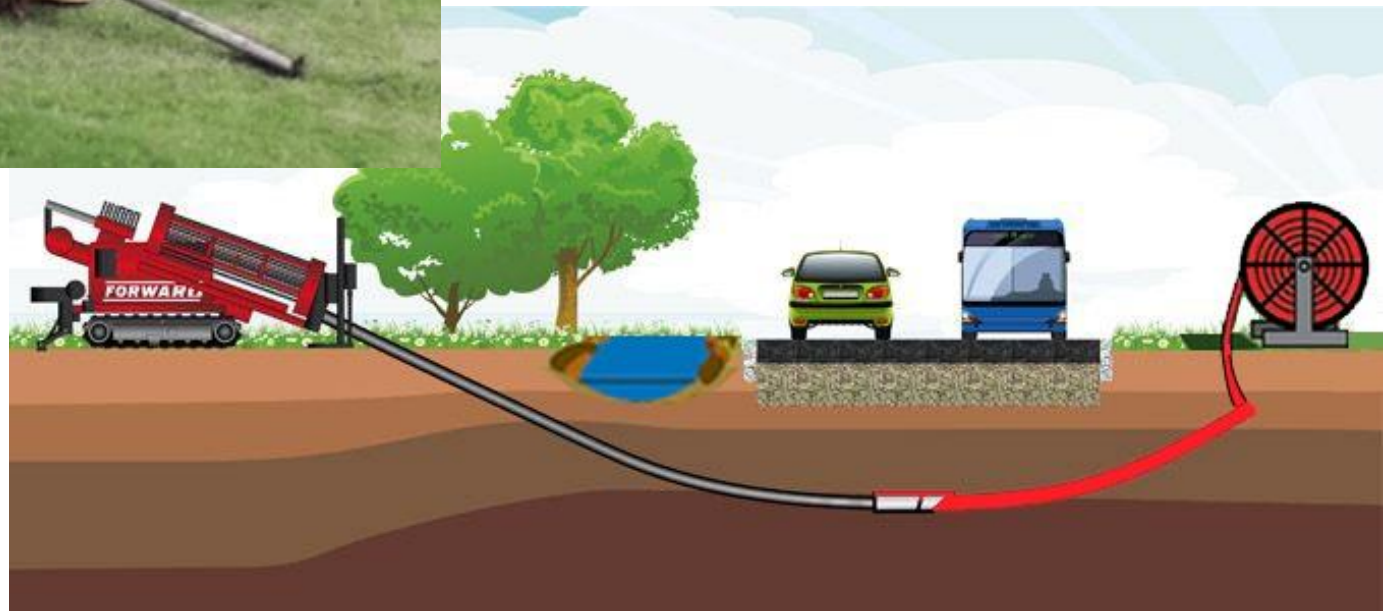
Project Description – Installation

<u>Small diameter pressure pipeline:</u>

- Primarily install via horizontal directional drill
- Minimize excavation and impact



Sample Project Maps

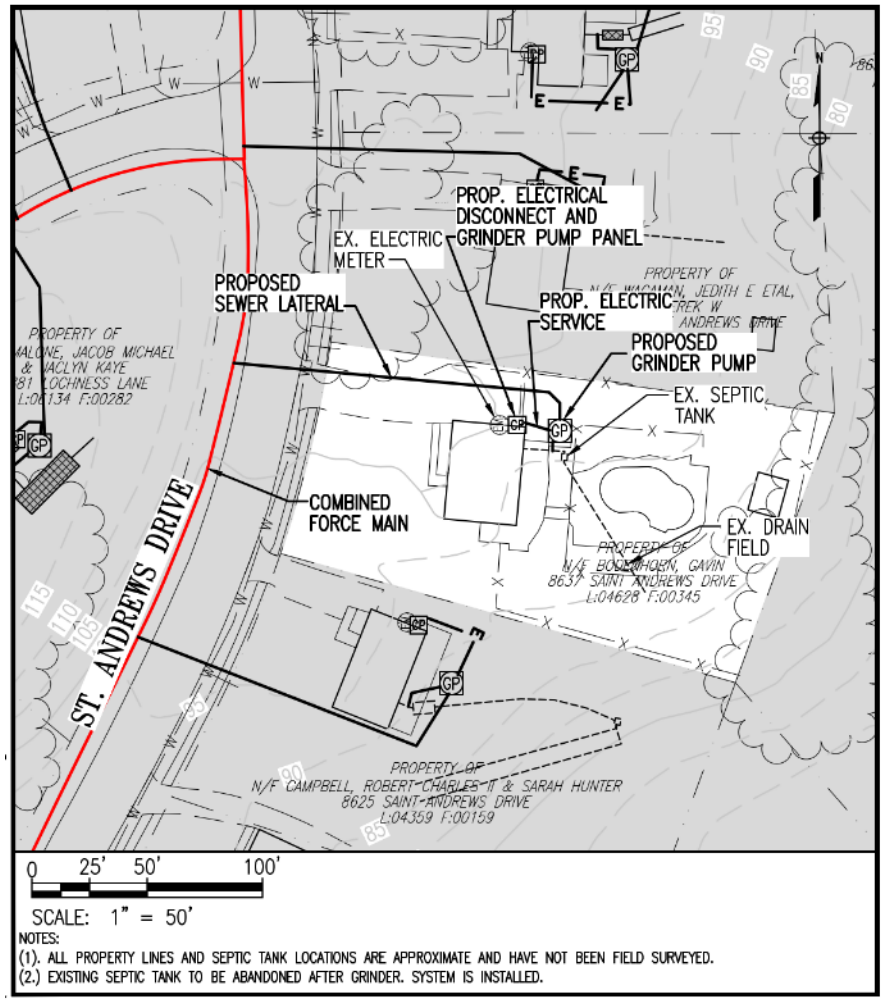
Phase 2 of this project will involve:

1) Development of parcel specific system maps with preliminary system layout based on:

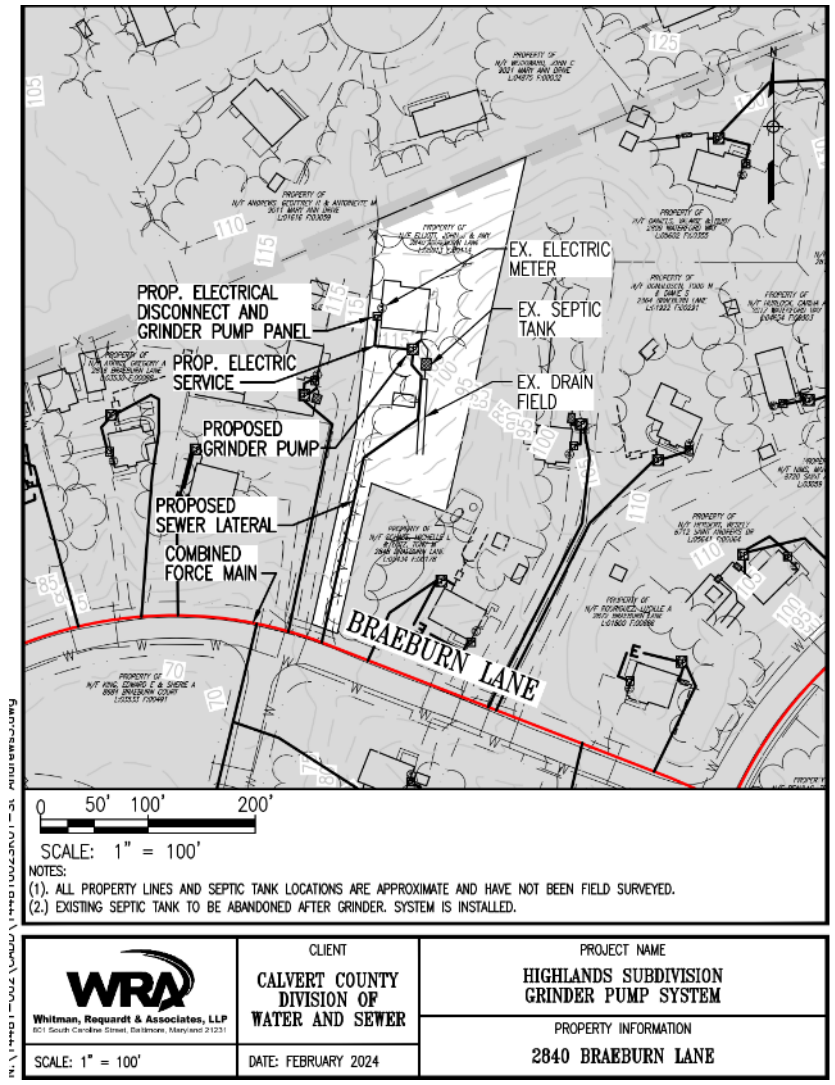
- Available information on existing septic location
- Existing electric meter location
- Visual on-site obstructions

2) Distribution of parcel specific maps will be made to each homeowner to:

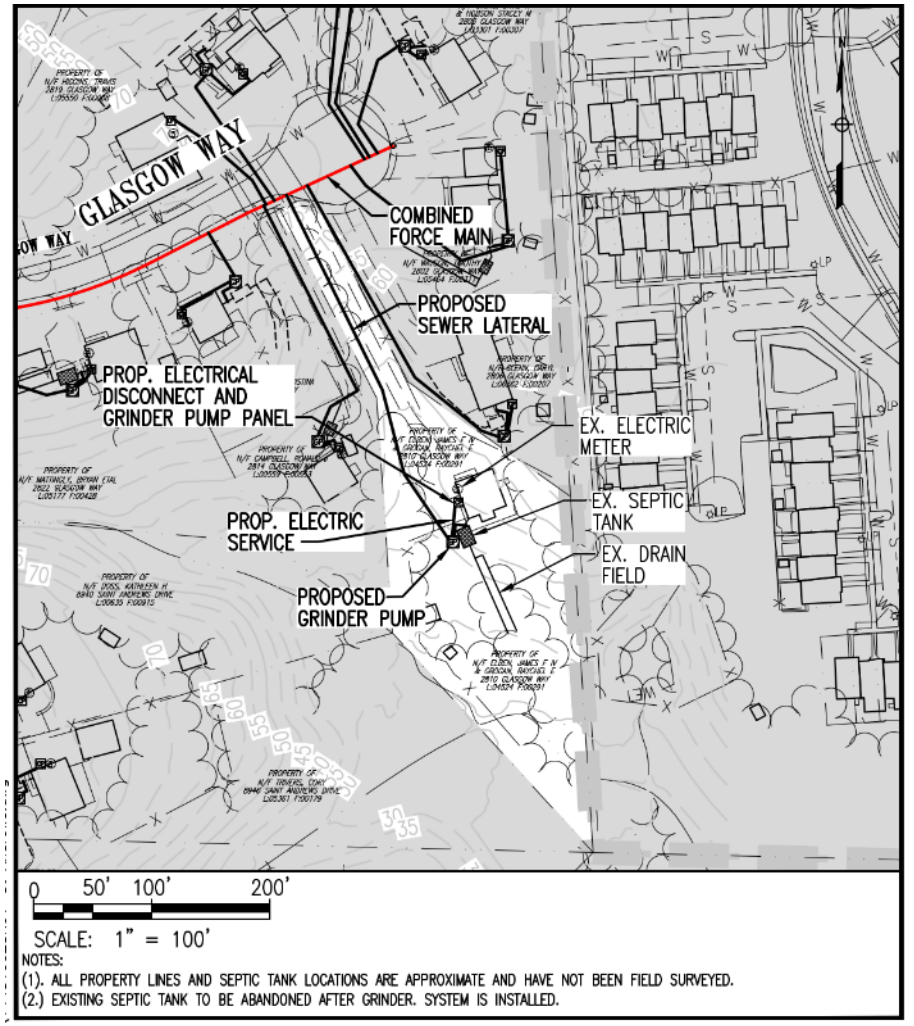
- Solicit input from homeowner on proposed location
- Confirm the assumed existing septic tank locations



Sample Project Maps



Sample Project Maps



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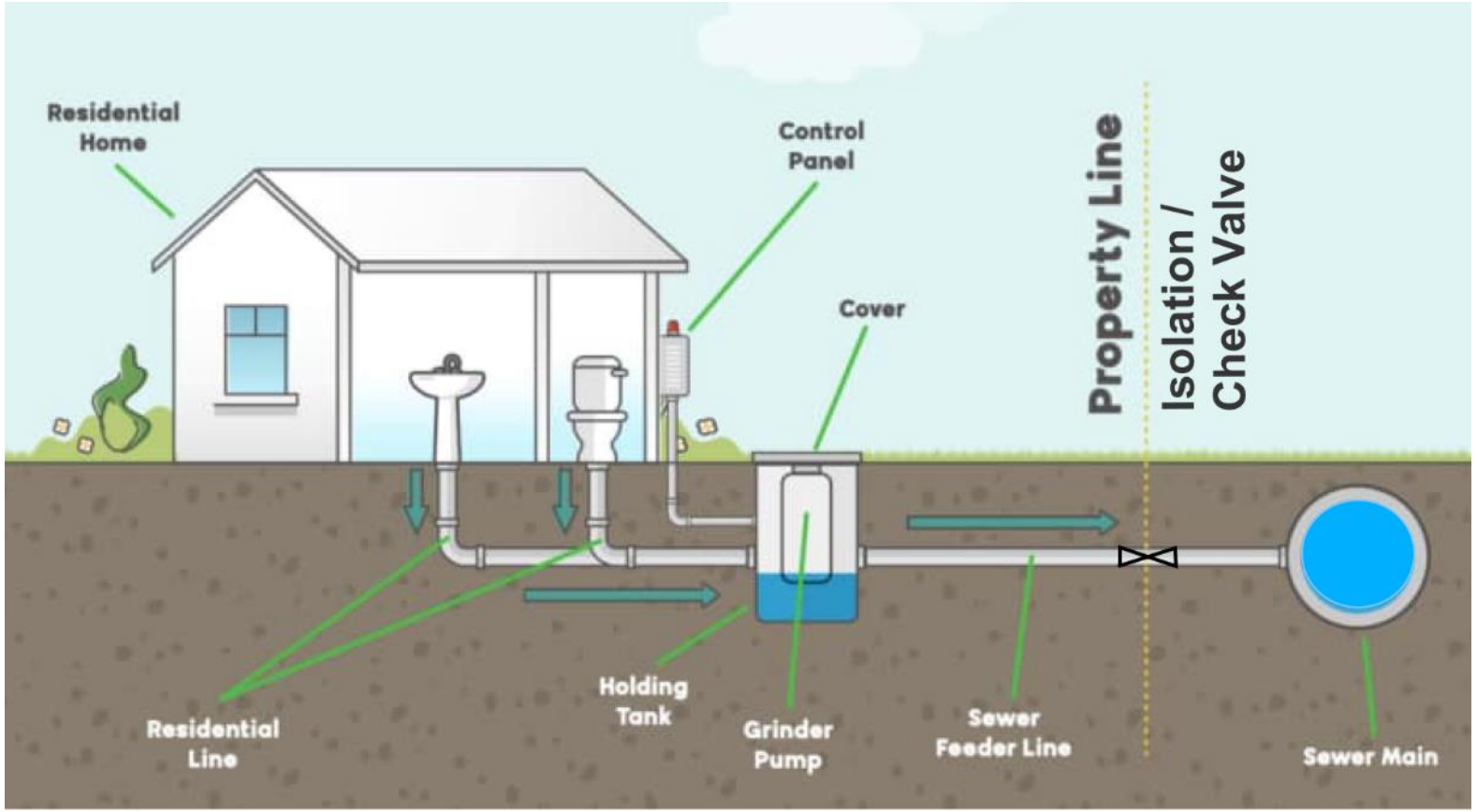
Maintenance Responsibilities



homeowner's responsibility

county's responsibility

Summary of Coordination with MDE Regarding Funding

- Bay Restoration Fund (BRF) Grant at $25,000/home when associated with connecting to a public sewer system
- Project is anticipated be eligible for BRF funding – application by county is still required
- BRF eligibility is for homes older than October 1, 2008. A homes age is based on **the date of original home construction** (i.e. eligibility is not impacted by a remodel or rebuild date)
- All BRF money becomes pooled and will not be impacted by previous individual use in the community
- There are no other MDE grants available other than BRF
- Income limits: If a residence has an income of > $300,000/year, grant eligibility limited to $12,500/home
- Low interest loans (Currently at 1.9% for up to 30 years may also available- application by county required)- Potential reduction of rate to 1% if community is determined to be disadvantaged – should not be counted on
- The county can apply any BRF grants and loans to any project cost including system connection charges

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Property/Owner Cost Impacts

1) Annual cost (Billed through special taxation district/property taxes)
   - Current cost estimate:
     $10.4 M (construction cost)
     $0.3 M (construction inspection/administration for 1 year)
     $4.8 M (sewer connection fee for 229 homes at $21,000/home
     $15.5M total project cost

   - Potential cost/home (Worst case based on current cost estimate): No BRF funding and all project costs funded by the county at 5% interest rate for 30 years: $4,400/year for 30 years
   - Potential cost/home (Best case based on current cost estimate): BRF grant obtained for all 229 parcels and all remaining project costs funded by the county through MDE at 1.9% interest rate for 30 years: $1,880/year for 30 years
   - The annual special taxation bill is anticipated to be paid through each property's annual property assessment/bill

2) Water and sewer bill (Billed through water & sewer)
   - Paid separately from and in addition to the annual special taxation bill
   - Bill is on a quarterly basis and varies home to home based on water consumption

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Sample Water & Sewer Bill

SAMPLE BILL - Water and Sewer Services

CALVERT COUNTY GOVERNMENT
Water And Sewerage Division
175 Main Street
Prince Frederick, Maryland 20678

Make Checks Payable To:
CALVERT COUNTY TREASURER

Account Number 0612345678-01

DOE, JOHN & MARY
1234 ST. ANDREWS DR.
CHESAPEAKE BEACH, MD 20732

Service Location 1234 ST ANDREWS DR

Remittance Copy 0000014978
Please Return Top Portion with Payment

UTILITY BILL

THIS IS YOUR BILL FOR THE THREE MONTH PERIOD ENDING SEPTEMBER 30, 2024.
PAYMENT IS DUE BY OCTOBER 30, 2024.

DUE BY 10/30 $ 334.84

Readings		Current		Previous		Usage
Meter ID - Dial #		Date	Reading	Date	Reading	
12345678	-1	09/16	280625	06/20	265877	14748

VISIT OUR WEBSITE FOR PAYMENT OPTIONS
WWW.CALVERTCOUNTYMD.GOV/BILLPAY

Previous Balance (06/30/24)	**$**	**327.91**
Payments		327.91 cr
Balance Forward	**$**	**0.00**
BRF		15.00
WATER		97.96
SEWER		215.30
Current Charges (09/30/24)	**$**	**328.26**
DUE BY 10/30	**$**	**328.26**

UNPAID BALANCES REMAINING AFTER THE DUE DATE WILL BE SUBJECT TO 8% A.P.R. INTEREST.
PAYMENTS MAY BE MAILED OR MADE IN PERSON AT THE COUNTY TREASURER'S OFFICE FROM 8:30 to 4:30 M-F.
THERE IS AN AFTER-HOURS NIGHT DROP AT THE ENTRANCE OF THE COURTHOUSE.

Service Location 1234 ST ANDREWS DR

CALVERT COUNTY GOVERNMENT
Water and Sewerage Division
175 Main Street
Prince Frederick, Maryland 20678

0612345678-01
DOE, JOHN & MARY
1234 ST. ANDREWS DR.
CHESAPEAKE BEACH, MD 20732

Phone: 410-535-1600, ext. 2211 or 301-855-1243, ext. 2211
Fax:410-414-2498
MD Relay for Impaired Hearing or Speech:
Dial 711 anywhere in Maryland or 1-800-735-2258
AFTER HOURS EMERGENCY: 410-535-3491

Summary of Community Options

Option 1: Proceed with project

- Addresses an inevitable problem with a defined solution
- Availability of BRF grant funding
- County/community leaders have put a significant effort to get to this point
- WWTP capacity is currently available
- Costs are better defined
- Defined path forward

Option 2: Do nothing

- Delaying the inevitable
- BRF funding may go away (Administrative driven)
- County/community leaders may not be as readily available later
- Future WWTP capacity may not be available without additional costly upgrades
- Costs to meet Clean Water Act requirements will go up. Regulatory requirements not likely to decrease
- Uncertainty on dealing with future issues, increased likelihood of holding tanks

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Potential Next Steps

- County coordinating with MDE for approval of Calvert County Sewer Comprehensive Plan as required to include project
- Community outreach for approval, with assistance from county
- Community initiates special taxation district
- Upon community approval, initiate correspondence with individual homeowners regarding proposed grinder pump location.
- County applies for project financing grants/loans
- Plans finalized and bid
- Project construction

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Questions ?