

Infrastructure Committee Meeting AGENDA

June 6, 2017 – 1:30 pm
Conference Room A/B/C, Second Floor

Committee Members: Chairman Meg Bohmke, Jack Cavalier and Paul Milde

Agenda Item	
1.	Transportation a. Mt. View/Stefaniga update discussion re four way stop and VDOT's response b. Embrey Mill Road update c. Pole Mounted Signs Update d. Donation of County land for park and ride lot addition for I-95 Interchange
2.	Utilities Issues – CIP Update
3.	Discuss Results of RFP for a Well Water Study and Possible Funding Sources
4.	R-Board request to amend permit to allow for additional tonnage each day
5.	Consider a Service District for Improvements to Lynhaven Lane
	Next IC meeting is scheduled for July 5, 2017

INFRA06062017agenda



MOUNTAIN VIEW ROAD/STEFANIGA ROAD UPDATE

- This topic was presented at the May 2nd Infrastructure Committee meeting and staff was asked to request from VDOT an all-way stop at the intersection.
- The request was in response to citizens expressing concern about the long morning wait times to turn from Stefaniga Road (SR-648) onto Mountain View Road (SR-627), as well as perceived safety issues due to the poor sight distance and steep grade for vehicles exiting Stefaniga Road onto Mountain View Road.
- VDOT had previously modeled the intersection and had found the wait time would increase substantially on Mountain View Road with an all-way stop.
- Staff reached out to VDOT to request an all-way stop and asked VDOT to consider this issue in regards to safety instead of the wait times.
- VDOT discussed the request internally and has said this intersection does not meet warrants to consider an all-way stop for safety considerations.
- VDOT referenced a 3-year history that was studied, and the location did not have any angle crashes involving northbound Mountain View traffic, and of the four angle crashes that did occur involving southbound traffic, only one was sight distance related.
- However, VDOT has agreed to look at Mountain View Road as a whole to determine what potential improvements can be recommended to help along the corridor. To date they have reviewed individual intersections. VDOT will take another approach to see if there are any potential affordable solutions to alleviate the concerns, but believes the all-way stop is not the answer.
- VDOT's goal would be to initiate and complete the study prior to September.

EMBREY MILL ROAD UPDATE

- The Embrey Mill Subdivision proffers require Embrey Mill Road to be constructed prior to the issuance of a building permit for the 500th residential unit.
- The Embrey Mill residential permit activity as of the end of May:
 - The number of residential building permits issued - **475**
 - The number of residential building permits submitted - **500**
- Completion of on-site roads is defined in the proffers as "...once such improvements have been physically constructed, to be defined as once the base course of asphalt has been applied and the roadway is passable for vehicular traffic..."
- The base course of asphalt has been applied on Embrey Mill Road but the road is not currently passable to vehicular traffic. A gate and concrete barrier are in place preventing access to the subdivision at the terminus of the existing Embrey Mill Road.
- Staff has notified Newland the road is not passable to vehicular traffic, and is monitoring the building permit reviews and issuances.
- A VDOT final inspection for Embrey Mill Road was conducted on May 17th.
- It is anticipated staff will place an item on the June 20th Board of Supervisors agenda to petition the Virginia Department of Transportation (VDOT) to accept the road into the State System of Secondary Roads (State System).
- The process for official acceptance of the road by VDOT typically takes a number of months and receives final approval at a Commonwealth Transportation Board (CTB) meeting.
- The barrier on Embrey Mill Road would need to be removed in order for the road to begin the acceptance process into the State System.
- A VDOT final inspection for Mine Road Phase 2 was also conducted on May 17th.
- Most of the VDOT punch list items have been addressed for Mine Road Phase 2; however there is at least one outstanding issue with the bridge that needs to be resolved. The timeline for street acceptance of Mine Road Phase 2 will lag behind Embrey Mill Road.
- Newland has responded they will remove the gate at the time school buses need to start practicing routes in early August or to coincide with the proffer trigger.
- Until the barrier is removed at Embrey Mill Road, no building permits past the 499th residential unit will be issued. At the current rate of activity it is estimated this limit will be reached within 30 days.

Pole Mounted Speed Display (PMSD) Signs Follow Up

June 6, 2017

Staff presented a suggested change to the Residential Traffic Management Plan (RTMP) that would include Pole Mounted Speed Display signs at the April Infrastructure Committee. The Committee was concerned about the high cost of the signs, and the long term effectiveness of the signs. Staff was tasked with obtaining additional information from other localities that are currently using the signs, as well as alternative approaches for helping to mitigate speed concerns.

Costs

- Initial estimates for the PMSD signs was \$5,000 for the sign and \$5,000 for installation
- Staff reached out to different sign vendors and installers as well as other localities. The sign costs ranged from \$4,700 to \$5,900 depending on size and power supply (battery or solar)
- Installation costs ranged from a low \$1,500 when installed by Alexandria public works staff and an average of \$4-5,000 if installed by a contractor. This contractor price could be reduced if several signs were installed fairly close together.
- The resulting cost of several vendors and installers is still \$8,000-\$10,000 per sign.

Neighboring Localities Experiences and Long Term Effectiveness of the PMSD

- **Prince William County** started a pilot program of their own in November 2015 and currently has four PMSD signs installed with a fifth on the way. PWCDOT only uses PMSD signs at locations where they have no other traffic calming alternative. Results of the effectiveness of these signs have been mixed depending on the location. The first location, Vint Hill Road, where the first pair of PMSD signs were installed has been very effective. The second location, Hillendale Road, has seen very small speed reductions after one year of being installed. Overall, from a public perspective, they have been supported and the residents believe that the situation has improved.
- **Arlington County** has installed 25 of these signs which were based on resident's requests without traffic speed studies. Arlington is currently working on developing criteria for installing these signs in the future as they do not have a standalone program for PMSD signs. They did not have any evidence on the effectiveness or lack of effectiveness for the current signs.
- **City of Alexandria** does not have a formal program from PMSD signs, but they do incorporate them into their Complete Streets program. They have installed 14 PMSD signs. The installation of these signs did not require VDOT approval as the City maintains their own roads, traffic signals and other traffic control.

- **City of Alexandria Continued:** They recently completed an evaluation for Seminary Road and Quaker Lane, which are 4-lane roadways. The speed limit was reduced from 35 MPH to 25 MPH with minimal increase in enforcement during the first several weeks after the change. PMSD signs were installed on both roadways when the change in speed limits was completed. The study initially showed a significant decrease in the 85th percentile speed. However, further research suggests that PMSD signs work in the short-term, but their effectiveness degrades in the long-term as drivers begin to ignore it.
- **Conclusion:** The studies show that the PMSD signs are effective initially; however, the long term effects are not consistent.

Alternative to Permanently Mounted Speed Display Signs

- Currently, the Sheriff's Office owns three portable/temporary speed display signs which are moved regularly throughout the County.
- Their signs are used to address citizen complaints of speeding in various residential neighborhoods.
- Their speed display signs are able to gather data to determine if there is a speeding issue or not; however, the speeds recorded may not provide accurate data as these signs are typically located within 100 to 150 feet from an intersection because they are attached to the speed limit signs which are close to the intersections. (Permanently mounted signs located approximately 400 to 500 feet from the intersection would pick up the vehicles top speeds.)
- These temporary signs have proven to be effective in changing the driving behavior in the short term.

Installation of PMSD by HOAs

- VDOT's memo on PMSD signs does not preclude HOAs from the installing, operating and maintaining of PMSD signs; however VDOT's (Fredericksburg District) preference would be that the County take the lead with the effort and responsibility of the permitting process. This permitting process would include the addition of these signs to our RTMP with speed criteria required for installation.

BOARD OF SUPERVISORS

Agenda Item

Meeting Date:	June 6, 2017
Title:	Authorize the County Administrator to Advertise Public Hearings to Consider Transfer of Tax Map Parcel No. 29-99 to VDOT and Granting a Drainage Easement to VDOT on Tax Map Parcel No. 29-98
Department:	Public Works
Staff Contact:	Christopher K. Rapp, P.E., Director
Board Committee/ Other BACC:	N/A
Staff Recommendation:	Approval
Fiscal Impact:	See background report
Time Sensitivity:	Maintain Project Schedule

ATTACHMENTS:

1.	Background Report	4.	Proposed Resolution R17-149
2.	Proposed Resolution R17-146	5.	Location Maps
3.	Proposed Resolution R17-148	6.	VDOT Letter of Request

X	Consent Agenda		Other Business		Unfinished Business
	Discussion		Presentation		Work Session
	New Business		Public Hearing		Add-On

REVIEW:

X	County Administrator	
X	County Attorney <i>(legal review only)</i>	

DISTRICT:	Hartwood
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BACKGROUND REPORT

As part of the Interstate 95/Route 630 (Courthouse Road) Interchange Relocation and Widening project (Project), the Virginia Department of Transportation (VDOT) will relocate and expand the Park & Ride lot on Courthouse Road for additional commuter parking.

As part of the Project, VDOT has requested that the County donate Tax Map Parcel No. 29-99 (Parcel), located immediately west of Fire & Rescue Station 2, to construct the expanded commuter lot which will be located along the relocated Courthouse Road and Wyche Road, and have approximately 850 parking spaces, with dedicated carpool/vanpool pick-up and drop-off area to assist with High Occupancy Vehicle (HOV) use. The Parcel is unimproved, has an assessed value of \$1,023,300, and would be gifted to VDOT in exchange for providing the citizens of Stafford additional commuter lot services. This commuter lot was the subject of a SmartScale application submitted by the George Washington Regional Commission in September 2015, and endorsed by the Board's adoption of Resolution R15-321.

The SmartScale application was successful in receiving state funding, which listed the overall Project cost for the commuter parking lot expansion at \$9,719,246. VDOT included the donation of the Parcel in the cost estimate submitted and approved by the Commonwealth Transportation Board. Due to the proposed road and commuter lot improvements on the land, the Parcel would have to be conveyed to VDOT in fee simple to enable future maintenance of the proposed improvements.

In addition, an expanded stormwater basin to serve the road improvements has been designed for construction on a small portion of the Parcel and Tax Map Parcel No. 29-98. The area under consideration currently has a stormwater pond in that vicinity adjacent to Fire & Rescue Station 2. VDOT has requested that the County grant a 0.679 acre drainage easement on Tax Map Parcel No. 29-98 for improvement and future maintenance of this stormwater pond.

A conveyance of County-owned property and easements require a public hearing. Staff recommends approval of proposed Resolution R17-146, which authorizes the County Administrator to advertise a public hearing to consider conveying of property located on Tax Map Parcel No. 29-99, and granting a 0.679 acre drainage easement on Tax Map Parcel No. 29-98, to VDOT.



COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION

Charles A. Kilpatrick, P.E.
COMMISSIONER

87 Deacon Road
Fredericksburg, VA 22405

May 19, 2017

Mr. Paul Milde, Chairman
Stafford County Board of Supervisors
1300 Courthouse Road
Stafford, VA 22554

Dear Chairman Milde,

I am writing to respectfully request the donation of a parcel of land for construction of the commuter parking lots at the Courthouse Road interchange in Stafford County.

While this land donation has been discussed in a variety of settings, and was addressed through a regional Smart Scale project application to build this additional commuter parking, I understand that a written request is needed to finalize this arrangement and proceed with the donation.

The parcel of land to be donated is identified as Tax ID 29-99, PB 22 PG 18. It is a 3.356 acre parcel owned by Stafford County. This parcel is identified as Parcel 34 in the plans for the Courthouse Road interchange reconstruction project.

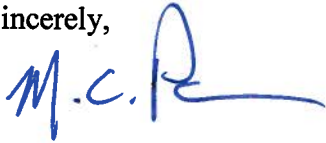
For your reference, I have enclosed the project's Smart Scale application submitted by the George Washington Regional Commission in September 2015. This application was endorsed by the George Washington Regional Commission and Fredericksburg Area Metropolitan Planning Organization (FAMPO) boards, which both submitted resolutions supporting the project. The project application was recommended for funding after the project scoring process, and the project was allocated \$9.7 million in the Six-Year Improvement Program FY 2017-2022.

While this Smart Scale application was under development, Virginia Department of Transportation (VDOT) staff prepared a project cost estimate at the county's request. The county indicated a willingness to donate the land where the proposed commuter parking would be built, and the project cost estimate reflected this commitment.

Construction is starting this summer to widen Courthouse Road, and construction will start this fall to reconstruct the interstate interchange and build two new commuter parking lots. To keep this design-build project on schedule for a July 2020 delivery, we ask the county to proceed with the donation at this time, and to submit the enclosed form waiving the appraisal of the parcel.

We look forward to delivering these new parking spaces for Stafford County residents and the public. Building convenient parking on this land, so close to the interchange, will hopefully encourage motorists to carpool, vanpool, and ride transit, and reduce the number of vehicles traveling I-95 at peak times.

Sincerely,

A handwritten signature in blue ink, appearing to read "M.C.P." followed by a stylized flourish.

Marcie Parker, P.E.
District Administrator

Enclosure(s)

cc: Mr. Thomas C. Foley, County Administrator
Mr. Christopher K. Rapp, P.E., Director, Public Works

**DONATION OF LAND
TO THE COMMONWEALTH OF VIRGINIA
ACKNOWLEDGMENT**

The business entity named below is the owner of the property identified in the plat attached to this **ACKNOWLEDGMENT** ("OWNER.") It is the intention of OWNER to donate the described property to the Commonwealth of Virginia (the "Commonwealth") to be used for highway or other transportation purposes.

OWNER's authorized agent (whose signature appears below) has been advised, pursuant to Virginia Code Section 25.1-417, A, 10, by a representative of the Virginia Department of Transportation (the "Department"), whose name is printed below, that OWNER is entitled to be compensated for this property and is under no legal obligation to donate it to the Commonwealth. OWNER, by its authorized agent, hereby waives its right to be compensated for the property being donated and hereby agree, upon presentation, to execute a deed donating the property to the Commonwealth.

By the signature of its authorized agent, OWNER also acknowledges that, prior to the donation, the Department will perform a valuation of the property being donated and provide OWNER, in writing, with the Department's determination of the value of the property being donated. OWNER, through its authorized agent, acknowledges that it has the right to waive this valuation and, by the signature of **OWNER's** authorized agent, does hereby ☐ **waive** | ☐ **not waive** its right to receive such valuation.

OWNER's authorized agent hereby warrants and represents that he/she has the full and unrestricted authority to execute this document on behalf of the OWNER and to waive or claim the rights set forth herein.

GIVEN this ____ day of _____, 20____.

OWNER: _____, a _____ corporation

BY ITS AUTHORIZED AGENT:

Signature (SEAL)

VDOT REPRESENTATIVE:

Title

City/County of _____)
Commonwealth of Virginia)

to-wit

The foregoing instrument was acknowledged before me this ____ day of _____,
20__ by _____.

Notary Public

My commission expires: _____

Registration #: _____

HB2 Application

Expansion of Commuter Parking Lot East of Exit 140 on I-95

Project Status: Scored

Project ID: 437

General

Point of Contact Information

Project Point of Contact Name

Paul Agnello

Point of Contact Phone

(540) 642-1564

Point of Contact Email

agnello@gwregion.org

Project Information

Project Title

Expansion of Commuter Parking Lot East of Exit 140 on I-95

Principal Improvement

TDM

Does this project include any improvements to non-VDOT maintained roadways?

No

Detailed Project Description

This project will expand the planned 545 space lot that is being constructed as a part of the Exit 140 Interchange project (UPC 13558) by adding approximately 300 spaces to the adjacent parcel of the planned lot. Additionally, this project will add approximately 200 spaces on a parcel directly across relocated Route 630 from the aforementioned expanded lot (See sketch for more details). 500 additional commuter parking spaces are planned to be added. Access to both expanded lots will be gained via relocated Wyche Road which will be relocated as a part of the adjacent interchange project under UPC 13558. Lastly, project will add some bicycle rack accommodations to each PNR Lot expansion area.

SMART SCALE Need Categories

Corridor of Statewide Significance
Regional Network

Application Program

Statewide High Priority

How does this project address VTrans 2040 need?

This project would address several needs identified in the VTRANS 2040 Multimodal Needs Assessment. This project would address needs on the COSS Segment K3, specifically Needs D, O, P, Q, R, S, T, U, V, W, Z, AA, AB, AC, AD, by adding additional TDM options for north/south commuters on the I-95 corridor and reducing the number of vehicles utilizing this corridor. This project would address needs for the Fredericksburg Area MPO regional network needs assessment, specifically Needs A and I by adding additional TDM options for north/south commuters travelling to economic centers north of Fredericksburg into Northern Virginia, DC, and Maryland and reducing the number of vehicles utilizing this corridor.

Location

PDCs Served

George Washington
Regional Commission

MPOs Served

Fredericksburg Area
Metropolitan Planning
Organization

Jurisdictions Served

Stafford County

Districts Served

Fredericksburg

Features

Project Features

Travel Demand Management (TDM)

Improvement

New Park and Ride Lot

Comments

500 additional commuter parking spaces are planned as a part of this project; a new lot would be constructed across from the proposed lot under UPC 13558 to hold 200 commuter parking spaces off relocated Wyche Road

Improve Park and Ride Lot

500 additional commuter parking spaces are planned as a part of this project; in addition to the new lot proposed across the relocated Wyche Road, this project would expand the proposed commuter parking lot under UPC 13558 by 300 commuter parking spaces

Right of Way

Improvement

Right of Way/Easements acquisition required

Comments

2 parcels; 1 parcel to be donated by Stafford County; 1 parcel to be obtained via acquisition; no utility relocations required

Bike/Pedestrian

Improvement

Comments

Bike/Pedestrian Other

Add bicycle racks to each PNR lot expansion areas.
Two for the 200 space expansion area and another two
for the 300 space expansion area.

Factors

Accessibility

Accessibility	Response	Additional Notes
Project includes transit system improvements or reduces delay on a roadway with scheduled peak service of one transit vehicle per hour.	Yes	Martz Commuter Bus Route Schedule available at http://martzgroupva.com/commuter-fares/ FRED Transit Bus http://www.ridefred.com/routes.html Vanpool: http://www.gwrideconnect.org/
Project includes improvements to an existing or proposed park and ride lot (e.g., new lot, more spaces, entrance/exit, technology (payment, traveler information)).	Yes	300 additional spaces to lot being constructed under UPC 13558; 200 additional spaces across relocated Wyche Road
Project includes construction or replacement of bike facilities. For bicycle projects, off-road or on-road buffered or clearly delineated facilities are required.	No	
Project includes construction or replacement of pedestrian facilities. For pedestrian projects, sidewalks, pedestrian signals, marked crosswalks, refuge islands, and other treatments are required (as appropriate).	No	
Project includes improvements to existing or new HOV/HOT lanes or ramps to HOV/HOT.	No	
Project provides real-time traveler information or wayfinding specifically for intermodal connections (access to transit station or park and ride lot).	No	
Provides traveler information or is directly linked to an existing TMC network/ITS architecture.	No	

Land Use

Land Use	Response	Additional Notes
Is the project within 1/4 mile of parcels currently zoned for mixed use development or parcels identified in the future land use plan as mixed use development?	No	

Does the project support in-fill development adjacent to the project?	No
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Is there a locally/regionally adopted corridor/access management plan for the project area that addresses interparcel connectivity and exceeds VDOT's minimum spacing standards?	No
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Environment

Environment	Response	Additional Notes
Project includes construction or replacement of bike facilities. For bicycle projects, off-road or on-road buffered or clearly delineated facilities are required (i.e. Bike Lane or Shared Use Path).	No	
Project includes construction or replacement of pedestrian facilities. For pedestrian projects, sidewalks, pedestrian signals, marked crosswalks, refuge islands, and other treatments are required (as appropriate).	No	
Project includes improvements to rail transit or passenger rail facilities.	No	
Project includes improvements to an existing or proposed park-and-ride lot (e.g., new lot, more spaces, entrance/exit, technology (payment, traveler information)).	Yes	300 additional spaces to lot being constructed under UPC 13558; 200 additional spaces across relocated Wyche Road
Project includes bus facility improvements or reduces delay on a roadway with scheduled peak service of one transit vehicle per hour.*	Yes	Martz Commuter Bus Route Schedule available at http://martzgroupva.com/commuter-fares/ FRED Transit Bus http://www.ridefred.com/routes.html Vanpool: http://www.gwrideconnect.org/
Project includes improvements to freight rail network or intermodal (truck to rail) facilities/ports/terminals.	No	
Project include special accommodations for hybrid or electric vehicles, or space or infrastructure for electric vehicle parking/charging).	No	
Project includes energy efficient infrastructure or fleets, including: hybrid or electric buses, electronic/open road tolling, alternative energy infrastructure (e.g., roadside solar panels).	No	

Economic Development Factors

Transportation project (Consistency with Local

Transportation project (Consistency with Regional

Comprehensive Plan or Local Economic Development Strategy)**Economic Development Strategy)**

Referenced in

Consistent with

Site Name	Development project (Consistent with locality Comprehensive Plan/Zoning)	Development project (Site planning status)
AAA Truck and Auto	Consistent with comp. plan future land use/zoning	Approved
Development project (Site Utilities status)	Development Project (Proposed / Projected Building Square Footage)	Driving Distance to Development Project From Transportation Project
In place	24,000 sq ft	8.10 miles
		Does Transportation Project Provide Direct or Indirect Access to the Development Site?
		Enhances Access Near the Site But is Not Adjacent to the Site

Site Name	Development project (Consistent with locality Comprehensive Plan/Zoning)	Development project (Site planning status)
Stafford Lakes Commercial Retail Center	Consistent with comp. plan future land use/zoning	Approved
Development project (Site Utilities status)	Development Project (Proposed / Projected Building Square Footage)	Driving Distance to Development Project From Transportation Project
In place	15,878 sq ft	9.40 miles
		Does Transportation Project Provide Direct or Indirect Access to the Development Site?
		Enhances Access Near the Site But is Not Adjacent to the Site

Site Name	Development project (Consistent with locality Comprehensive Plan/Zoning)	Development project (Site planning status)
Affordable Self Storage Expansion	Consistent with comp. plan future land use/zoning	Approved
Development project (Site Utilities status)	Development Project (Proposed / Projected Building Square Footage)	Driving Distance to Development Project From Transportation Project
In place	107,697 sq ft	7.60 miles
		Does Transportation Project Provide Direct or Indirect Access to the Development Site?
		Enhances Access Near the Site But is Not Adjacent to the Site

Site Name	Development project (Consistent with locality Comprehensive Plan/Zoning)	Development project (Site planning status)	
Falls Run Industrial Park	Consistent with comp. plan future land use/zoning	Approved	
Development project (Site Utilities status)	Development Project (Proposed / Projected Building Square Footage)	Driving Distance to Development Project From Transportation Project	Does Transportation Project Provide Direct or Indirect Access to the Development Site?
In place	38,500 sq ft	7.90 miles	Enhances Access Near the Site But is Not Adjacent to the Site

Site Name	Development project (Consistent with locality Comprehensive Plan/Zoning)	Development project (Site planning status)	
Church on the Rock	Consistent with comp. plan future land use/zoning	Approved	
Development project (Site Utilities status)	Development Project (Proposed / Projected Building Square Footage)	Driving Distance to Development Project From Transportation Project	Does Transportation Project Provide Direct or Indirect Access to the Development Site?
In place	35,750 sq ft	6.90 miles	Enhances Access Near the Site But is Not Adjacent to the Site

Site Name	Development project (Consistent with locality Comprehensive Plan/Zoning)	Development project (Site planning status)	
Stafford Lakes McDonalds	Consistent with comp. plan future land use/zoning	Approved	
Development project (Site Utilities status)	Development Project (Proposed / Projected Building Square Footage)	Driving Distance to Development Project From Transportation Project	Does Transportation Project Provide Direct or Indirect Access to the Development Site?
In place	4,152 sq ft	10.10 miles	Enhances Access Near the Site But is Not Adjacent to the Site

Site Name	Development project (Consistent with locality Comprehensive Plan/Zoning)	Development project (Site planning status)
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Starbucks at McWhirt Loop	Consistent with comp. plan future land use/zoning	Submitted
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Development project (Site Utilities status)	Development Project (Proposed / Projected Building Square Footage)	Driving Distance to Development Project From Transportation Project	Does Transportation Project Provide Direct or Indirect Access to the Development Site?
In place	2,000 sq ft	8.90 miles	Enhances Access Near the Site But is Not Adjacent to the Site

Site Name	Development project (Consistent with locality Comprehensive Plan/Zoning)	Development project (Site planning status)
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Celebrate VA Bojangles	Consistent with comp. plan future land use/zoning	Approved
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Development project (Site Utilities status)	Development Project (Proposed / Projected Building Square Footage)	Driving Distance to Development Project From Transportation Project	Does Transportation Project Provide Direct or Indirect Access to the Development Site?
In place	3,800 sq ft	9.10 miles	Enhances Access Near the Site But is Not Adjacent to the Site

Site Name	Development project (Consistent with locality Comprehensive Plan/Zoning)	Development project (Site planning status)
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Potomac Creek Commerce Center	Consistent with comp. plan future land use/zoning	Approved
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Development project (Site Utilities status)	Development Project (Proposed / Projected Building Square Footage)	Driving Distance to Development Project From Transportation Project	Does Transportation Project Provide Direct or Indirect Access to the Development Site?
In place	38,421 sq ft	4.20 miles	Enhances Access Near the Site But is Not Adjacent to the Site

Site Name	Development project (Consistent with locality Comprehensive Plan/Zoning)		Development project (Site planning status)
Donnelly Property Development	Consistent with comp. plan future land use/zoning		Approved
Development project (Site Utilities status)	Development Project (Proposed / Projected Building Square Footage)	Driving Distance to Development Project From Transportation Project	Does Transportation Project Provide Direct or Indirect Access to the Development Site?
In place	32,250 sq ft	8.90 miles	Enhances Access Near the Site But is Not Adjacent to the Site

Site Name	Development project (Consistent with locality Comprehensive Plan/Zoning)		Development project (Site planning status)
Life Care	Consistent with comp. plan future land use/zoning		Approved
Development project (Site Utilities status)	Development Project (Proposed / Projected Building Square Footage)	Driving Distance to Development Project From Transportation Project	Does Transportation Project Provide Direct or Indirect Access to the Development Site?
In place	16,128 sq ft	9.70 miles	Enhances Access Near the Site But is Not Adjacent to the Site

Site Name	Development project (Consistent with locality Comprehensive Plan/Zoning)		Development project (Site planning status)
TAJ Construction Warehouse Addition	Consistent with comp. plan future land use/zoning		Approved
Development project (Site Utilities status)	Development Project (Proposed / Projected Building Square Footage)	Driving Distance to Development Project From Transportation Project	Does Transportation Project Provide Direct or Indirect Access to the Development Site?
In place	19,125 sq ft	8.60 miles	Enhances Access Near the Site But is Not Adjacent to the Site

Site Name	Development project (Consistent with locality Comprehensive Plan/Zoning)	Development project (Site planning status)	
Celebrate VA O'Reilly Auto Parts	Consistent with comp. plan future land use/zoning	Approved	
Development project (Site Utilities status)	Development Project (Proposed / Projected Building Square Footage)	Driving Distance to Development Project From Transportation Project	Does Transportation Project Provide Direct or Indirect Access to the Development Site?
In place	7,885 sq ft	9.20 miles	Enhances Access Near the Site But is Not Adjacent to the Site

Site Name	Development project (Consistent with locality Comprehensive Plan/Zoning)	Development project (Site planning status)	
M and S Welding	Consistent with comp. plan future land use/zoning	Approved	
Development project (Site Utilities status)	Development Project (Proposed / Projected Building Square Footage)	Driving Distance to Development Project From Transportation Project	Does Transportation Project Provide Direct or Indirect Access to the Development Site?
In place	7,500 sq ft	4.30 miles	Enhances Access Near the Site But is Not Adjacent to the Site

Site Name	Development project (Consistent with locality Comprehensive Plan/Zoning)	Development project (Site planning status)	
MGP Grocery Store	Consistent with comp. plan future land use/zoning	Approved	
Development project (Site Utilities status)	Development Project (Proposed / Projected Building Square Footage)	Driving Distance to Development Project From Transportation Project	Does Transportation Project Provide Direct or Indirect Access to the Development Site?
In place	33,000 sq ft	10.20 miles	Enhances Access Near the Site But is Not Adjacent to the Site

Site Name	Development project (Consistent with locality Comprehensive Plan/Zoning)		Development project (Site planning status)
Courthouse West	Consistent with comp. plan future land use/zoning		Approved
Development project (Site Utilities status)	Development Project (Proposed / Projected Building Square Footage)	Driving Distance to Development Project From Transportation Project	Does Transportation Project Provide Direct or Indirect Access to the Development Site?
In place	7,030 sq ft	0.50 miles	Enhances Access Near the Site But is Not Adjacent to the Site

Site Name	Development project (Consistent with locality Comprehensive Plan/Zoning)		Development project (Site planning status)
Abberly at Stafford Courthouse	Consistent with comp. plan future land use/zoning		Submitted
Development project (Site Utilities status)	Development Project (Proposed / Projected Building Square Footage)	Driving Distance to Development Project From Transportation Project	Does Transportation Project Provide Direct or Indirect Access to the Development Site?
In place	331,087 sq ft	1.50 miles	Enhances Access Near the Site But is Not Adjacent to the Site

Site Name	Development project (Consistent with locality Comprehensive Plan/Zoning)		Development project (Site planning status)
Austin Ridge	Consistent with comp. plan future land use/zoning		Submitted
Development project (Site Utilities status)	Development Project (Proposed / Projected Building Square Footage)	Driving Distance to Development Project From Transportation Project	Does Transportation Project Provide Direct or Indirect Access to the Development Site?
In place	77,152 sq ft	0.50 miles	Enhances Access Near the Site But is Not Adjacent to the Site

Site Name	Development project (Consistent with locality Comprehensive Plan/Zoning)	Development project (Site planning status)	
South Campus Office Buildings	Consistent with comp. plan future land use/zoning	Submitted	
Development project (Site Utilities status)	Development Project (Proposed / Projected Building Square Footage)	Driving Distance to Development Project From Transportation Project	Does Transportation Project Provide Direct or Indirect Access to the Development Site?
In place	39,574 sq ft	1.50 miles	Enhances Access Near the Site But is Not Adjacent to the Site

Site Name	Development project (Consistent with locality Comprehensive Plan/Zoning)	Development project (Site planning status)	
Stafford Medical Office	Consistent with comp. plan future land use/zoning	Submitted	
Development project (Site Utilities status)	Development Project (Proposed / Projected Building Square Footage)	Driving Distance to Development Project From Transportation Project	Does Transportation Project Provide Direct or Indirect Access to the Development Site?
In place	50,000 sq ft	0.60 miles	Enhances Access Near the Site But is Not Adjacent to the Site

Site Name	Development project (Consistent with locality Comprehensive Plan/Zoning)	Development project (Site planning status)	
	Consistent with comp. plan future land use/zoning	Approved	
Development project (Site Utilities status)	Development Project (Proposed / Projected Building Square Footage)	Driving Distance to Development Project From Transportation Project	Does Transportation Project Provide Direct or Indirect Access to the Development Site?
In place	9,900 sq ft	8.00 miles	Enhances Access Near the Site But is Not Adjacent to the Site

Project Delivery Information

Project Planning Status

Constrained Long Range Plan (MPO)
Vision Long Range Plan (MPO)
Transportation Element of Local Comprehensive Plan
Planning/Safety Study
NEPA Study

Project Administered By

VDOT

Existing Project VDOT UPC(s) or DRPT Project Number(s), if applicable

Project Delivery Method

Design-bid-Build

Please indicate who will be/was responsible for the design of this project

VDOT:

100%

Phase Estimate and Schedule

PE (Survey, Environmental, Design)

Phase Type

PE (Survey, Environmental, Design)

Status

Not Started

Percent Complete

0%

Cost Estimate

\$850,000.00

Start Date

8/1/2017

End Date

RW (Right of Way and Easement Acquisition, Utility Relocation)

Phase Type

RW (Right of Way and Easement Acquisition, Utility Relocation)

Status

Not Started

Percent Complete

0%

Cost Estimate

\$300,000.00

Start Date

2/15/2019

End Date

CN (Construction, Oversight, Inspection, Contingencies)

Phase Type

CN (Construction, Oversight, Inspection, Contingencies)

Status

Not Started

Percent Complete

0%

Cost Estimate

\$8,569,246.00

Start Date

1/14/2020

End Date

7/31/2021

Total Cost Estimate

\$9,719,246.00

Project Funding Sources

SYIP Allocations	Other Committed Funding Amount	Other Requested Funding Amount	HB2 Amount Requested	Total Proposed Project Funding
\$0.00	\$0.00	\$0.00	\$9,719,246.00	\$9,719,246.00
	Other Committed Funding Description	Other Committed Funding Description		

🏆 Scores

Project Located in Typology													
Category A	Congestion Mitigation		Safety		Accessibility			Environment		Economic Development			Land Use
	Increase in Daily Person Throughput	Decrease in Person Hours Delay	Reduction in Fatal and Severe Injury	Reduction in Fatal and Severe Injury Rate	Increase in Access to Jobs	Increase in Access to Jobs for Disadvantaged Populations	Improved Access to Multimodal Choices (Users Benefit Value)	Air Quality (Total Benefit Value)	Acres of Natural/Cultural Resources Potentially Impacted	Economic Development Support (Sq. ft.)	Intermodal Access Improvements (Tons Benefit Value)	Travel Time Reliability Improvement	Transportation Efficient Land Use
Measure Score	0.4	5.1	5.4	0.0	0.0	0.0	0.8	0.3	7.8	0.1	62.8	0.0	0.0
Weighted Measure Score	50%	50%	50%	50%	60%	20%	20%	50%	50%	60%	20%	20%	100%
Measure Weight	0.2	2.5	2.7	0.0	0.0	0.0	0.2	0.1	3.9	0.1	12.6	0.0	0.0

Project Located in Typology						
Category A	Congestion Mitigation	Safety	Accessibility	Environment	Economic Development	Land Use
Raw Factor Score	2.7	2.7	0.2	4.1	12.6	0.0
Factor Weighting	45%	5%	15%	10%	5%	20%
Weighted Factor Score	1.2	0.1	0.0	0.4	0.6	0.0
Project Score	2.4					
Total Project Cost	\$9,719,246					
Score Divided by Total Cost	2.5					
HB2 Cost	\$9,719,246					
Project Benefit Score / HB2 Score	2.5					

Supporting Documents

Current Attachments

Description

GWRC Resolution 16-06 Support HB2 Priority Projects

Attachment Type

Resolution of Support

File Name

gwrc resolution 16-06 support hb2 priority projects - adopted 092115.pdf

Description

FAMPO Resolution

Attachment Type

Resolution of Support

File Name

fampo resolution 16-08 - adopted 092115.pdf

	Description Stafford Comp Plan Attachment Type Local Comprehensive Plan File Name stafford_county_comp plan, ch4 (05-21-13)_201407220857334579_pnr_lot_expansion_i-95_rte630.pdf
Description Project Sketch Attachment Type Project Sketch File Name pnr expansion at exit 140_sketch.pdf	Description Additional Project Sketch Attachment Type Project Sketch File Name additional sketch_pnr expansion at exit 140.jpg
Description Detailed Cost Estimate - Proposed PNR Expansion at Exit 140 Attachment Type Detailed Cost Estimate File Name gwrc_proposed parking expansion at exit 140_pces estimate.xlsx	Description Site Approval Letter - Church on the Rock Attachment Type Site Development Plan File Name 1000189 church on the rock.pdf
	Description Site Approval Letter - Falls Run Industrial Park Attachment Type Site Development Plan File Name 1200305 falls run ind pk.pdf
Description Site Approval Letter - Affordable Self Storage Expansion Attachment Type Site Development Plan File Name 1300376 affordable self storage expan rev pcl 53-5b - site plan approval.pdf	Description Site Approval Letter - Stafford Lakes Commercial Retail Center Attachment Type Site Development Plan File Name 1400473 stafford lakes comm ctr pcl 45r-5x - site plan approval.pdf

<p>Description Site Approval Letter - AAA Truck and Auto</p> <p>Attachment Type Site Development Plan</p> <p>File Name 2700024 - aaa truck auto.pdf</p>	<p>Description Site Approval Letter - Stafford Lakes McDonalds</p> <p>Attachment Type Site Development Plan</p> <p>File Name cup14150456 mcdonalds approval letter.pdf</p>
<p>Description Site Approval Letter - Celebrate VA Bojangles</p> <p>Attachment Type Site Development Plan</p> <p>File Name 15150686 celebrate va bojangles pcl 44y-16c - site plan approval.pdf</p>	<p>Description Site Approval Letter - Potomac Creek Commerce Center</p> <p>Attachment Type Site Development Plan</p> <p>File Name 2600931 - potomac creek comm ctr pcl 8 - major site plan.pdf</p>
	<p>Description Site Approval Letter - Donnelly Property Development</p> <p>Attachment Type Site Development Plan</p> <p>File Name 1300307 donnelly prop dev pcl 44-98e - major site plan approval.pdf</p>
<p>Description Site Approval Letter - TAJ Construction Warehouse Addition</p> <p>Attachment Type Site Development Plan</p> <p>File Name 1300499 taj const warehouse add pcl 53-5a - major site plan approval.pdf</p>	<p>Description Site Approval Letter - Life Care</p> <p>Attachment Type Site Development Plan</p> <p>File Name 1400150 lifecare medical transports inc pcl 44-106c - major site plan approval.pdf</p>
<p>Description Site Approval Letter - Celebrate VA O'Reilly Auto Parts</p> <p>Attachment Type Site Development Plan</p> <p>File Name celebrate va o'reilly auto parts project reivew sheet.pdf</p>	<p>Description Site Approval Letter - M and S Welding</p> <p>Attachment Type Site Development Plan</p> <p>File Name m&s welding project review sheet.pdf</p>

Description Site Approval Letter - McWhirt Loop Starbucks Attachment Type Site Development Plan File Name mcwhirt loop starbucks project review sheet.pdf	Description Site Approval Letter - MGP Grocery Store Attachment Type Site Development Plan File Name mgp grocery store.pdf
Description Site Approval Letter - Courthouse West Attachment Type Site Development Plan File Name 1400020 courthouse west, pcl 29-80 - major site plan approval.pdf	Description Site Submission Letter - Abberly at Stafford Courthouse Attachment Type Site Development Plan File Name abberly at stafford courthouse project review sheet.pdf
	Description Site Submission Letter - Austin Ridge Attachment Type Site Development Plan File Name austin ridge comm ph1 project review sheet.pdf
Description Site Submission Letter - South Campus Office Buildings Attachment Type Site Development Plan File Name south campus office bldgs project review sheet.pdf	Description Site Submission Letter - Stafford Medical Office Attachment Type Site Development Plan File Name stafford medical office project review sheet.pdf
Description Site Approval Letter - Carters Crossing Attachment Type Site Development Plan File Name 1400105 carters crossing comm multi-tenant, pcl 45t-2a - major site plan approval.pdf	Description District Validation Form Attachment Type District Validation Form File Name 437.expansionofcommuterparkingloteastofexit140oni95.20151016

Description

437.Commuter Parking Lot Expansion I-95 Exit
140.23OCT2015.COSS.A4.pdf

Attachment Type

OIPI Review Document

File Name

437.commuter parking lot expansion i-95 exit
140.23oct2015.coss.a4.pdf



Virginia Department of Rail and Public Transportation
600 East Main Street, Suite 2102
Richmond, VA 23219
(804) 786-4440



VDOT Central Office
1401 East Broad Street
Richmond, VA 23219
(804) 367-7623 (toll-free)
711 (hearing impaired)

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R17-146

PROPOSED

BOARD OF SUPERVISORS
COUNTY OF STAFFORD
STAFFORD, VIRGINIA

RESOLUTION

At a regular meeting of the Stafford County Board of Supervisors (the Board) held in the Board Chambers, George L. Gordon, Jr., Government Center, Stafford, Virginia, on the 6th day of June, 2017

MEMBERS:

Paul V. Milde, III, Chairman
Meg Bohmke, Vice Chairman
Jack R. Cavalier
Wendy E. Maurer
Laura A. Sellers
Gary F. Snellings
Robert "Bob" Thomas, Jr.

VOTE:

On motion of , seconded by , which carried by a vote of , the following was adopted:

A RESOLUTION AUTHORIZING THE COUNTY ADMINISTRATOR TO ADVERTISE A PUBLIC HEARING TO CONSIDER CONVEYING COUNTY-OWNED TAX MAP PARCEL NO. 29-99; AND GRANTING A DRAINAGE EASEMENT ON TAX MAP PARCEL NO. 29-98, TO THE VIRGINIA DEPARTMENT OF TRANSPORTATION

WHEREAS, the County is the owner of Tax Map Parcel Nos. 29-98 and 29-99 along Courthouse Road (SR-630) (Property); and

WHEREAS, the Virginia Department of Transportation (VDOT) desires to proceed with the construction of the Interstate I-95/Route 630 (Courthouse Road) Interchange Relocation and Widening project (Project); and

WHEREAS, the construction, maintenance, and operation of the Project necessitates the conveyance of Tax Map Parcel No. 29-99, and the granting of a drainage easement on Tax Map Parcel No. 29-98, to VDOT; and

WHEREAS, Tax Map Parcel No. 29-99 is needed to construct the expanded commuter lot, which would be located along the relocated Courthouse Road and Wyche Road, and have approximately 850 parking spaces, with dedicated carpool/vanpool pick-up and drop-off to assist with High Occupancy Vehicle (HOV) use; and

WHEREAS, a 0.679 acre drainage easement is needed on Tax Map Parcel No. 29-98 for VDOT to improve and maintain the stormwater pond currently located on Tax Map Parcel Nos. 29-98 and 29-99; and

WHEREAS, the Project contains critical road infrastructure that will provide long-term benefits for transportation and economic development needs within the County; and

WHEREAS, the Board desires, and is required to hold a public hearing to consider granting the conveyance of County-owned property;

NOW, THEREFORE, BE IT RESOLVED by the Stafford County Board of Supervisors on this the 6th day of June, 2017, that the Board be and it hereby does authorize the County Administrator to advertise a public hearing to consider conveying Tax Map Parcel No. 29-99 in fee simple, and granting a 0.679 acre drainage easement on Tax Map Parcel No. 29-98, to the Virginia Department of Transportation.

TCF:CKR:kkf:tbn

Utilities Capital Projects Update

PROJECT	Courthouse Area Elevated Water Tank
Description	Construction of a 1 million gallon elevated water tank on Potomac Church Road near Stafford Hospital Center. This replaces the existing .25MG tank and allows for growth in the Courthouse Area
Project Budget	\$3.8M
Completion Status	June 2018 (Contract Completion Date)
Recent Activity	Clearing is complete. Foundation construction has begun.



Foundation Construction

Utilities Capital Projects Update

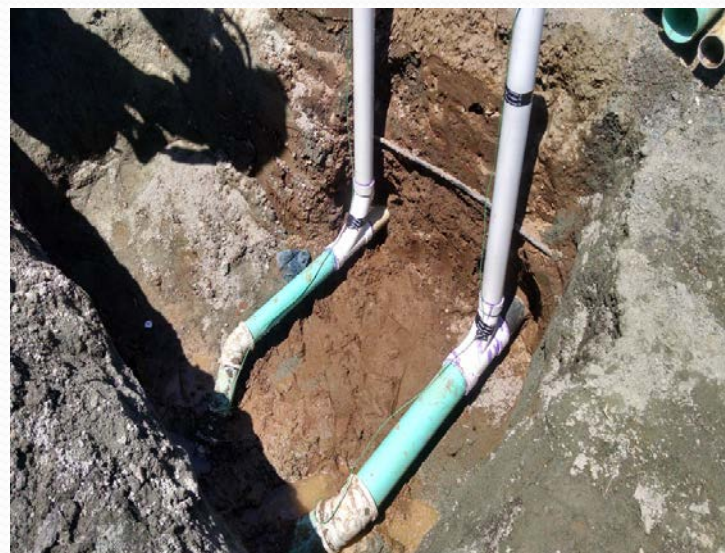
PROJECT	Airport Business Sewer Extension
Description	Construct 4,000 feet of sewer line to connect the Centerport area to the existing system. This will allow development of the Centerport area.
Project Budget	\$1.03 M
Completion Status	November 2017
Recent Activity	Clearing is complete, pipework has begun.



Moving of material to alignment and stored material

Utilities Capital Projects Update

PROJECT	Route 1 North Sewer Line
Description	Approximately 4,400 feet of 18-inch gravity sewer along and parallel to Route 1 to replace deteriorated gravity sewer. This will provide additional wastewater capacity for the northern part of the county.
Project Budget	\$4.15M
Completion Status	September 2017
Recent Activity	Night work has begun and a bypass pumping system is in place. Both microtunnel bores are complete. Grouting casing is underway.



Casing grout underway and tedious sewer lateral construction is frequent

Utilities Capital Projects Update

PROJECT	Falls Run Interceptor (1-95 Crossing)
Description	Approximately 700 linear feet of 36-inch HDPE gravity sewer pipe and associated manholes through a 48" steel casing.
Project Budget	\$1.5M
Completion Status	August 2017
Recent Activity	Contractor has completed approximately 100' of the 680' bore. Contractor has stopped work due to conditions encountered in the bore alignment. Will return to site with different equipment.



Example of material being removed, status of TBM - inoperable

Utilities Capital Projects Update

PROJECT	Claiborne Run Parallel Force Main
Description	Construction of approximately 36,000 linear feet of 24" force main from the Claiborne Run Pump Station to the Little Falls Run Wastewater Treatment Facility.
Project Budget	\$6.2M
Completion Status	Projected Completion Date - June 2019
Recent Activity	Preliminary Engineering has begun. Working with Engineer to finalize design proposal.
PROJECT	Courthouse Road Waterline Upgrade
Description	Replacement of an 8" water line with a 12" water line from US 1 to the project limits of the new Rte. 630 Interchange Project. Project provides hydraulic capacity, along with Courthouse Water Storage Tank, for new Animal Shelter.
Project Budget	\$200,000
Completion Status	Project to begin within first two weeks of June 2017 with County forces.
Recent Activity	Decision to complete project with County forces.
PROJECT	Route 630 Interchange Betterments (VDOT)
Description	Replacement of an 8" water line with a 12" waterline within the project limits of the new Rte. 630 Interchange Project.
Project Budget	\$100,000
Completion Status	By end of 2017 (will likely change due to VDOT contractor schedule)
Recent Activity	Negotiating with VDOT contractor regarding costs and schedule.

Utilities Capital Projects Update

PROJECT	Abel Lake Dam Spillway Improvements
Description	Construct concrete overlay (roller compacted concrete) of both the primary and auxiliary spillways to prevent erosion in the event of a Probable Maximum Precipitation. New regulations by Dept. Conservation and Recreation necessitate change.
Project Budget	\$5M
Completion Status	Spring 2019
Recent Activity	Board Agenda Item for award of design contract.
PROJECT	Claiborne Run Sewer Interceptor Replacement Project
Description	Replace 2,500 feet of the existing Claiborne Run gravity sewer interceptor with a 36" line to accommodate future flows and replace a current line that is at the end of its useful life.
Project Budget	\$2.8M
Completion Status	TBD
Recent Activity	Bids were received. Due to system operation changes scope of project is under review. Project scope has changed to a combination of in-place rehab and replacement, new scope with advertise in early June 2017.
PROJECT	Falls Run Force Main Replacement and Upgrade
Description	Replace 16" Ductile Iron Force Main with 24" PVC Force Main from Falls Run Pump Station in Falmouth Bottom to area near Claiborne Run Pump Station (change in alignment and length)
Project Budget	\$5.2M
Completion Status	Fall 2019
Recent Activity	Alignment Study complete, Board Agenda Item for award of design contract.

Utilities Capital Projects Update

Comprehensive Water Overview – Current and FY18

Currently in Design or Construction

Smith Lake Water Treatment Plant Filters

Berea Water Tank Demolition (Complete)

342 Pressure Zone Transmission Pipeline Phase 1

342 Pressure Zone Transmission Pipeline Phase 2 (Complete)

Celebrate Virginia Elevated Water Storage Tank (Complete)

Short Extension Projects

Projects to begin next fiscal year (FY18)

Smith Lake Distribution Pump Station Upgrade

Moncure Booster Pump Station Replacement

Short Extension Projects

Utilities Capital Projects Update

Comprehensive Sewer Overview – Current and FY18

Currently in Design or Construction

- Austin Run Pump Station Rplmt (Complete)
- Falls Run Force Main Repair (Complete)
- Little Falls Run Wastewater Treatment Facility Centrifuge Replacement
- Sweetbriar Force Main Replacement
- Ebenezer Pump Station Replacement
- Oaks at Stafford Pump Station Pump Station Replacement
- Route 1 North Sewer Interceptor - Lower
- Old Concorde to Wayside 18" Sewer Interceptor
- Wayside to Austin Run Pump Station 18" Sewer Interceptor
- Lower Accokeek Pump Station
- Lower Accokeek 18" Gravity
- Lower Accokeek Force Main
- Lower Accokeek 8" Gravity Sewer Trunk SE

Currently in Design or Construction

- Lower Accokeek 8" Extension for Stafford Hospital PS
- Lower Accokeek Rowser 10" Gravity Sewer
- Lower Accokeek Wyche Road 12" Gravity Sewer
- Route 1 North Sewer Interceptor - Hidden Valley (Central)
- Aquia Wastewater Treatment Facility Centrifuge Replacement

Projects to begin FY18

- Claiborne Run Pump Station Replacement
- Falls Run Interceptor Phase 2
- Aquia Creek PS Expansion
- Several Small Sewer Extension Projects



Board of Supervisors

Paul V. Milde, III, Chairman
Meg Bohmke, Vice Chairman
Jack R. Cavalier
Wendy E. Maurer
Laura A. Sellers
Gary F. Snellings
Robert "Bob" Thomas, Jr.

Thomas C. Foley,
County Administrator

Memorandum To: Thomas C. Foley
County Administrator

From: Keith Dayton
Project Manager

Date: May 31, 2017

Subject: **Groundwater Study Request for Proposals**

Staff provided a update on the process to issue a Request for Proposals and the selection of a consultant for a groundwater well study at the May 2nd Infrastructure Committee (Committee) meeting. The study was requested by the Board and would focus on examining the status of groundwater availability for residents using the Piedmont aquifer in Stafford County.

Information provided to the Committee on May 2nd is attached. At that meeting, staff reported that a groundwater study limited to the Piedmont area of the County could provide valuable information on the current and future status of this important resource for an estimated cost of around \$75,000. While a specific funding source wasn't identified, it was noted that if the Board desired to complete the study, FY2016 carry over funds could be used for this purpose. Following the update, the Committee requested that the matter be deferred for further discussion at the June 6th Committee meeting.

Staff has now determined that sufficient funding is available within the FY2017 budget for this groundwater study. No additional Board action is necessary if it is desired that staff execute a contract with a consultant and proceed with the groundwater study.

KCD:kd

Attachments (as noted)



Board of Supervisors

Paul V. Milde, III, Chairman
Meg Bohmke, Vice Chairman
Jack R. Cavalier
Wendy E. Maurer
Laura A. Sellers
Gary F. Snellings
Robert "Bob" Thomas, Jr.

Thomas C. Foley,
County Administrator

Memorandum To: Thomas C. Foley
County Administrator

From: Keith Dayton
Project Manager

Date: April 27, 2017

Subject: **Groundwater Study Request for Proposals**

Staff provided a briefing on current issues related to residential groundwater wells within the Piedmont area of the County west of Interstate 95 at the October 4th and November 1st meeting of the Infrastructure Committee (IC). The IC was advised of recent concerns from residents experiencing inadequate well production and poor well water quality. Information was provided on our previous efforts to investigate groundwater resources, the highly variable nature of the Piedmont aquifer, and the current state of Piedmont aquifer use in the County. The October 4, 2016 memorandum provided for the IC meeting is attached.

Board members attending the November 1st meeting directed staff to solicit proposals from consultants to complete a study of groundwater resources within the Piedmont area of the County. Staff then completed a request for proposals to provide a study of the scope of services attached to this memorandum, and issued the solicitation in February.

We received eight responses to this solicitation. Following review of each proposal by the proposal review committee, three firms with significant experience completing groundwater studies were invited to interview with the committee. The committee conducted interviews with three short-listed firms, and these conversations provided further insight into the problems associated with groundwater use in the Piedmont aquifer and the nature of other studies completed by localities with similar concerns.

After our review of the proposals, followed by the interviews, the committee believes we have an opportunity to complete a report which provides useful information on a broad range of issues related to groundwater use in the County. Key areas which could be addressed by this study include the following:

- Update the sustainable yield for the Piedmont aquifer based on modern analytical methods using precipitation records, aquifer recharge rate, geology and topography
- Assess the current state of our groundwater resources
- Identify localized areas of concern based on geology, topography and population density

- Identify limitations of our groundwater resources for future development
- Describe planning tools in use by other localities to manage groundwater resources
- Create graphics for use by our planning staff, residents, developers, and home builders to identify areas of particular concern relative to groundwater availability
- Update our well database to include wells completed after the 2004 study

After reviewing the cost estimates provided by the three short-listed consultants, the review committee believes this study can be completed for \$75,000. These funds are not included in the current budget, or the FY2018 budget. It may be possible to fund the study with FY2016 carry over funds, should the Board desire to proceed with the study at this time.

KCD:kd

Attachments (as noted)

Groundwater Request for Proposals Scope of Services

Provide professional services for the evaluation of the groundwater resources within the Piedmont Geologic Province including, but not limited to, the following:

1. Review previous studies of Piedmont groundwater resources in Stafford County, or other localities with similar characteristics as appropriate.
2. Provide an overview of the Piedmont Geologic Province in Stafford County, along with a description of the characteristics related to its use as a groundwater supply source.
3. Develop an estimate for the minimum and maximum sustainable water supply capacity for the Piedmont aquifer in Stafford County.
 - a. Describe the process and assumptions necessary to derive this value, along with a level of confidence in the accuracy of the estimate.
 - b. Describe the effects of shallow versus deep wells, and potential for variations of well yield in different areas in the County.
4. Quantify the current use of the Piedmont aquifer for residential and agricultural purposes. Include other demands on the Piedmont aquifer (if applicable).
5. Examine the possibility of using monitoring wells to provide an assessment on the status of the aquifer over time.
6. Discuss methods to improve the success rate for domestic wells using this aquifer.
7. Provide examples of regulatory and land use measures used by other localities in Virginia to assure the availability of domestic well water supplies for existing and new residents.
 - a. Identify the state authorization in place or required for implementation of each identified measure.
 - b. Explain the resources (staffing, funding, etc.) necessary for implementation
 - c. Provide input on the effect/success of these measures.
 - d. Rank these measures for adoption by Stafford County.
8. Provide a report of the results of this study electronically and in fifteen bound copies. The report shall include an Executive Summary.





MEMORANDUM

Department of Planning and Zoning

To: Infrastructure Committee

From: Jeffrey A. Harvey
Director of Planning and Zoning

Date: October 4, 2016

SUBJECT: ***Groundwater Issues***

Background:

Recently the Board has heard concerns from residents in the Mount Olive Road area about the availability of groundwater resources for their private wells. Residents are concerned about well recharge rates and potential impacts of a new subdivision being constructed in the area. Some residents have requested the Board to consider numerous changes to our subdivision ordinance relative to the cluster provisions, timing of well completion, and updating a groundwater study. The Board directed staff to examine this matter and report back to the Infrastructure Committee.

The County has completed three previous studies related to groundwater, as follows: Comprehensive Water Supply Study (1991); Ground Water Supply Study (1994); and most recently, the Groundwater Management Plan (2004). In addition, there are private, more localized investigations of County groundwater resources, although these efforts predate the 2004 County-wide study. Details on the most recent effort follow.

Groundwater Management Plan:

The Groundwater Management Plan (Plan) was adopted as an element of the Comprehensive Plan in 2004. During the years 2001 through 2003, Virginia experienced a sustained drought. In 2004, the Board decided that a groundwater management plan for the county was to be completed. Draper Aden Associates (DAA) was engaged as our consultant for this effort. The objective was to evaluate the characteristics of our groundwater resource, quantify the current and projected use of this resource, and recommend management strategies to protect both quality and quantity of groundwater resource. The DAA used Virginia Department of Health logs from single family wells as its primary data source. Additionally, the DAA incorporated information from USGS studies (R. B. Mixon et. al., 1989) and the County groundwater studies of 1991 and 1994 referenced above, among other resources.

In terms of groundwater quantity for the County, the plan estimates the capacity to be between 31 and 43 million gallons per day (mgd) County-wide. That includes both the Piedmont and Coastal Plain aquifers. While there is no definitive estimate for sustainable groundwater yield for the Piedmont aquifer in Stafford, a very rough estimate included in the Plan indicate that 6 mgd may be a reasonable estimate for this area. Using an estimate of 5,652 homes using wells in the Piedmont area of Stafford, and applying the 220 gallons per dwelling per day calculated for residential water customers within the public utility service area, we estimate approximately 1.24 mgd is presently using this resource.

A projection was also made for peak groundwater usage in 2012 based on a projected county population of 167,300. The peak usage ranged from 4.43 to 7.45 million gallons per day for both agricultural and residential usage. The current population is estimated to be approximately 142,000 which is significantly less than the projected population for the year 2012.

The Plan noted that Stafford County has three distinct geologic zones: Piedmont, Fall (or Coastal Plain Aquifer recharge Zone) and the Coastal Plain system. The Piedmont is generally to the west of I-95, whereas Coastal Zone is to the east of I-95. The recharge zone runs along the fall line and spreads as far as 2,000 feet west and 1 mile east of Fall line as identified in the Figure 8 of the study (attached). In general, the groundwater systems are unique and distinct for the three geological zones.

The Piedmont system is dependent upon fractured bedrock for groundwater recharge and well. Groundwater in the Piedmont area tends to be plentiful where wells intersect the fracture zones (Attachment 2). However, wells that are developed outside of the fracture zones are likely to experience low-yields, especially during dry and excessively dry periods. Shallower bored wells are vulnerable to deep well pumping in the region. Water quality can be highly variable over small geographic areas.

The Coastal Plain system features alternating layers of sands, gravels and clays. Deep wells usually provide generous flows and are less susceptible to variance during periods of droughts. However, deep wells may be affected by other deep wells nearby that draw from the same aquifer. Shallow wells are susceptible to interruptions during times of drought because the surface aquifer is the primary source of recharge for shallow wells. In areas adjacent to estuaries of the Potomac River there may be elevated levels of sodium due to influence of salt water, although that risk is considered minimal. In specific regions, there may be naturally occurring level of iron and fluoride. Saltwater, iron and fluoride concentrations may require treatment before water is potable for human consumption.

The Coastal Plain Aquifer Recharge Zone (Fall Zone) is an area where the Coastal Plain aquifers slope upward to intersect the surface. Shallow wells in the Fall Zone have characteristics similar to those of the Coastal Plain while deep wells have characteristics similar to those in the Piedmont. The Fall Zone is where the majority of recharge for the Coastal Plain takes place. It is also more vulnerable to degradation by surface contamination.

Recent Development:

Since the Groundwater Management Plan was completed in 2004, the County has experienced substantial growth. The County estimates that the overall number of housing units has increased from 38,427 in 2004 to 50,424 in 2015. The majority of those 12,000 homes were built within the County's Urban Services Area (USA) where use the public water supply is required. During that time period, 1,463 lots were authorized to be created outside of the USA (522 Coastal Plain and 941 Piedmont). Of those, staff estimates that 824 were constructed (303 Coastal Plain and 521 Piedmont). The total estimated number of houses on wells in the Piedmont area is 5,652.

Geology in the Mount Olive Road Area:

The Mount Olive Road area of the County is located within the Piedmont geological area, and residential wells utilize the Piedmont aquifer. While bored wells approximately 60' deep were common before 1990, currently deep wells are usually drilled to obtain water from fractures in the underlying bedrock rather than bored wells in the shallow soil layer. Fractures are not uniform. Access to water will vary based on the size and depth of the fractures. The Groundwater Management Plan includes maps that show the general location of faults within the Piedmont. It may be presumed that wells that tap into fractures along those faults may have relatively high yields. Some areas may have very low well yields. In 1988 the Culpeper Stone Company had proposed to develop a rock quarry along Long Branch Creek and Poplar Road. The application made reference to little impacts of groundwater intrusion in the proposed quarry site. The quarry application was ultimately denied by the Board in 1990 due to traffic impacts and citizen concerns. The proposed quarry site was in the location of the current Long Branch neighborhood. The proposed location of the Culpeper Stone Quarry was similarly situated to the current location of the Vulcan Quarry on Garrisonville Road. Both locations were on plateaus with steep hillside areas sloping down towards the south bank of a major creek. This description is characteristic of properties located on the north side of Mount Olive Road and south of Long Branch Creek.

Due to the geology of the aquifer in the Mount Olive Road area, there is a wide variability of yields from wells in close proximity. For example, one residence has reported 5 wells with no yield or very low yield on a single 4.5 acre parcel,

while across the street there are two wells tested at 10 gallons per minute (gpm) each. A well just north of the problem parcel has tested a well at 60 gpm. This degree of variability demonstrates the difficulty in predicting well yields in the Piedmont aquifer.

Authority to Regulate Groundwater Withdrawals:

Currently Stafford County does not have the state enabling authority to require wells be drilled and quantity tested for water volume in advance of a building permit being issued. As noted above, VDH regulates residential groundwater use, and therefore the issuance of construction permits for wells. Prior to the County issuing an occupancy permit, VDH must verify that wells meet minimum requirements for water quantity and quality. The standard for minimum quantity is that all wells must be able to pump at least 3 gallons of water per minute. For wells that do not meet that standard, there must be at least 150 gallons of water storage for every bedroom in the house. This water storage requirement is often met within the well casing. VDH officials were advised of one location in the County (along Mount Olive Road) where storage tanks with a total of 240 gallons of capacity were used to meet the minimum storage requirement.

In the case of low-flow wells such as those noted in the Mount Olive Road area, those wells also will have a slow recharge rate. Once the water storage is depleted, the slow recharge rate means that several hours may transpire before the water level is built back up in the well to accommodate substantial water usage. For houses with low-flow wells, use of water storage tanks may help to alleviate some of the timing problems between water usage and recharge of well water.

Conversations with VDH indicate there are localized problems with adequate well yields in the areas near Mount Olive Road and Poplar Road. Beyond these two localized areas, no other areas in the County were reported to have problems meeting minimum standards for well yields using deep well construction. Shallower bored wells are more frequently reported with problems, particularly during extended dry periods.

Recommendations:

The Groundwater Management Plan had the following recommendations for code amendments:

- i. Require conditional use permits for all proposed land uses within the Fall Zone to require adequate groundwater recharge methods and minimize surface contamination due to industrial accidents.
- ii. Require conditional use permits for new wells to be drilled within a prescribed radius of 1,000 feet from existing and proposed community water supply wells
- iii. Performance of hydrogeological testing and modeling of proposed groundwater withdrawals equal to or greater than 300,000 gallons per month. This would include residential subdivisions with more than 25 lots.

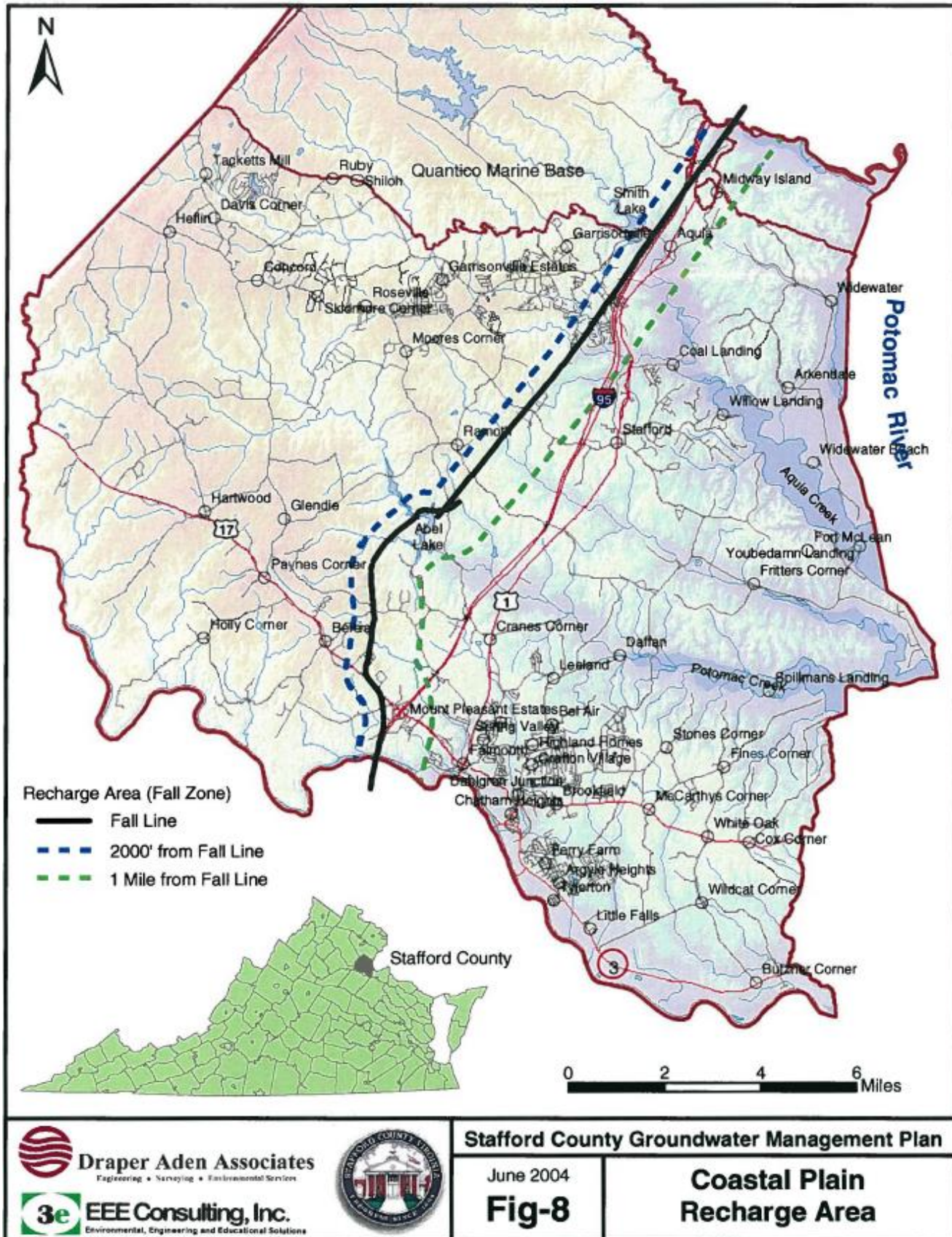
Whereas the County has no current plans to use groundwater for public water supply purposes, and there are no private community wells currently in use or planned, and no proposals for new single point groundwater withdrawals in excess of 300,000 gallons per month, these recommendations have not been directly implemented. County and state stormwater management regulations were adopted to require groundwater infiltration measures.

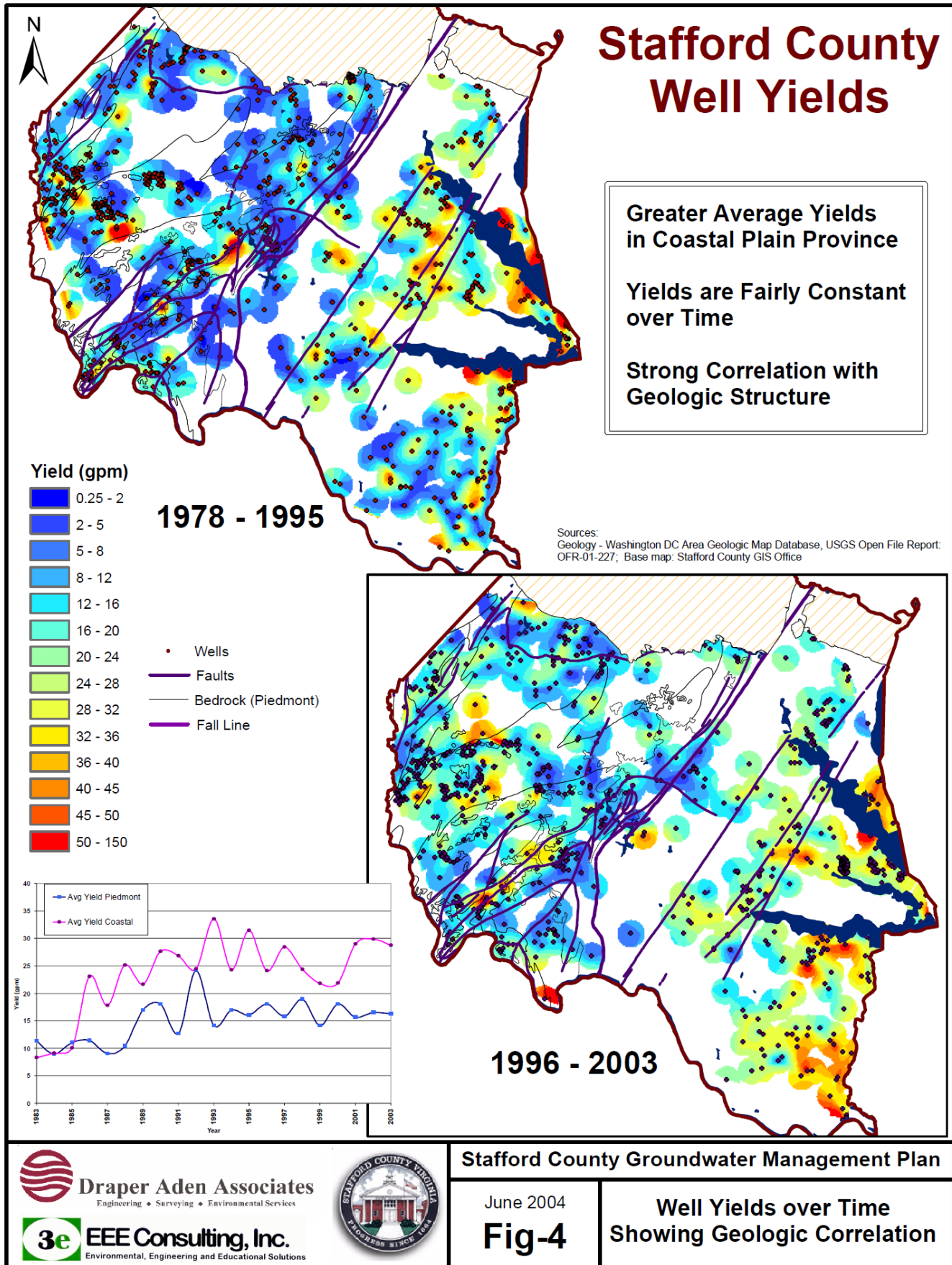
Recommendations for individual home owners with low-yield wells can include:

- use of water saving fixtures in the house
- use of rain barrels or cisterns to capture rainwater for outside watering
- Use of water storage tanks to help alleviate timing of well water recharge relative to water usage

JAH:

Attachments (3)

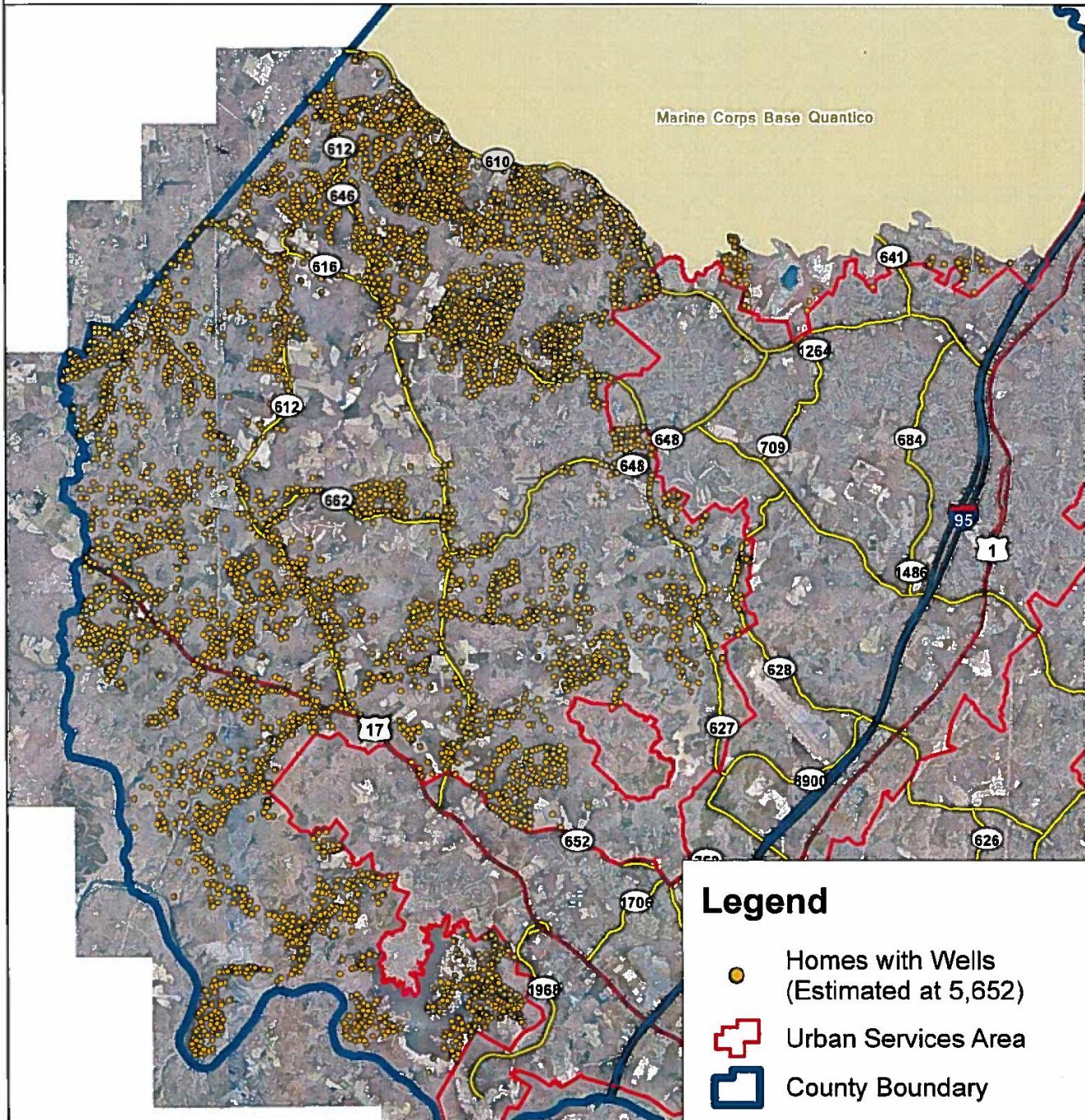






Homes with Wells in Piedmont Geologic Area

Produced by the Stafford County GIS Office
540-658-4033 | www.StaffordCountyGIS.org



Coordinate System: NAD 1983 HARN StatePlane Virginia North FIPS 4501 Feet
Produced: 9/27/2016
MXD Path: \\srv16\gisdata\users\gis\Brad\Planning\WellsPiedmont\WellsPiedmont.mxd

Data layers are compiled from various sources and are not to be construed or used as a "legal description." Data layers are believed to be accurate, but accuracy is not guaranteed.

0 1 2 4 Miles





Board of Supervisors

Paul V. Milde, III, Chairman
Meg Bohmke, Vice Chairman
Jack R. Cavalier
Wendy E. Maurer
Laura A. Sellers
Gary F. Snellings
Robert "Bob" Thomas, Jr.

Thomas C. Foley,
County Administrator

Memorandum To: Thomas C. Foley
County Administrator

From: Keith Dayton
Project Manager

Date: May 31, 2017

Subject: **Groundwater Study Request for Proposals**

Staff provided an update on the process to issue a Request for Proposals and the selection of a consultant for a groundwater well study at the May 2nd Infrastructure Committee (Committee) meeting. The study was requested by the Board and would focus on examining the status of groundwater availability for residents using the Piedmont aquifer in Stafford County.

Information provided to the Committee on May 2nd is attached. At that meeting, staff reported that a groundwater study limited to the Piedmont area of the County could provide valuable information on the current and future status of this important resource for an estimated cost of around \$75,000. While a specific funding source wasn't identified, it was noted that if the Board desired to complete the study, FY2016 carry over funds could be used for this purpose. Following the update, the Committee requested that the matter be deferred for further discussion at the June 6th Committee meeting.

Staff has now determined that sufficient funding is available within the FY2017 budget for this groundwater study. No additional Board action is necessary if it is desired that staff execute a contract with a consultant and proceed with the groundwater study.

KCD:kd

Attachments (as noted)

BOARD OF SUPERVISORS

Agenda Item

Meeting Date:	June 6, 2017
Title:	Express Support for an Amendment to the Solid Waste Permit for the Rappahannock Regional Landfill to Increase the Permitted Daily Solid Waste Tonnage
Department:	County Administration
Staff Contact:	Keith C. Dayton, Regional Landfill Director
Board Committee/ Other BACC:	Infrastructure Committee
Staff Recommendation:	Approval
Fiscal Impact:	N/A
Time Sensitivity:	Action Necessary in Advance of the June 21, 2017 R-Board Meeting

ATTACHMENTS:

1.	Background Report	2.	Proposed Resolution R17-154
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<input checked="" type="checkbox"/>	Consent Agenda	<input type="checkbox"/>	Other Business	<input type="checkbox"/>	Unfinished Business
<input type="checkbox"/>	Discussion	<input type="checkbox"/>	Presentation	<input type="checkbox"/>	Work Session
<input type="checkbox"/>	New Business	<input type="checkbox"/>	Public Hearing	<input type="checkbox"/>	Add-On

REVIEW:

<input checked="" type="checkbox"/>	County Administrator	
<input checked="" type="checkbox"/>	County Attorney <i>(legal review only)</i>	

DISTRICT:	Aquia
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BACKGROUND REPORT

The Board responded to declining solid waste revenues at the Rappahannock Regional Landfill (Landfill) by adopting Ordinance O15-40, which amended Stafford County Code Sec. 21-10 to require that all solid waste collected within Stafford County, not exempted by Virginia Code, be delivered to locations designated by the Rappahannock Regional Solid Waste Management Board (R-Board), which for Stafford County is the Landfill. This provision is commonly known as solid waste flow control (Flow Control). The Fredericksburg City Council, the County's partners in the Landfill, passed a companion ordinance, which required that City waste also be delivered to the Landfill. The R-Board then directed that the Flow Control restrictions would be effective on May 1, 2016.

These actions resulted in an increase in solid waste deliveries to the Landfill, along with a corresponding increase in revenues. In addition, cooperative arrangements with both participating localities have increased deliveries of waste solids from various treatment facilities. The combined effect of these actions has resulted in an approximated 50% increase in tonnage received by the Landfill.

The solid waste permit issued by the Virginia Department of Environmental Quality (DEQ) limits the Landfill's total daily solid waste deliveries to 880 tons from all sources. Although it currently averages about 600 tons per day, there are circumstances where an unusually busy day could exceed the daily limit of 880 tons. After analyzing solid waste delivery patterns since implementing Flow Control, staff recommends a request to DEQ to amend the Landfill's permit to increase the daily limit to 1,200 tons. This could equate to an increase of approximately 68 vehicle trips per day on Eskimo Hill Road. Staff notes that the permit amendment is proposed to ensure that the Landfill remains in compliance with its permit requirements, and that no increase in traffic is expected as a result of this action.

Staff will present this matter to the R-Board at its meeting on June 21, 2017. If the R-Board decides to request a permit amendment to increase the daily tonnage limit, staff would prepare and submit the permit amendment for review by DEQ. The review process also requires a traffic analysis by the Virginia Department of Transportation and a 30-day public comment period.

Staff recommends approval of proposed Resolution R17-154, which expresses support for an amendment to the Landfill's solid waste permit increasing the allowable daily solid waste deliveries to 1,200 tons at the Landfill.

PROPOSED

BOARD OF SUPERVISORS
COUNTY OF STAFFORD
STAFFORD, VIRGINIA

RESOLUTION

At a regular meeting of the Stafford County Board of Supervisors (the Board) held in the Board Chambers, George L. Gordon, Jr., Government Center, Stafford, Virginia, on the 6th day of June, 2017:

MEMBERS:

Paul V. Milde, III, Chairman
Meg Bohmke, Vice Chairman
Jack R. Cavalier
Wendy E. Maurer
Laura A. Sellers
Gary F. Snellings
Robert "Bob" Thomas, Jr.

VOTE:

On motion of , seconded by , which carried by a vote of , the following was adopted:

A RESOLUTION EXPRESSING SUPPORT FOR AN AMENDMENT
TO THE RAPPAHANNOCK REGIONAL LANDFILL SOLID WASTE
PERMIT TO INCREASE THE DAILY SOLID WASTE TONNAGE
DELIVERED TO THE LANDFILL

WHEREAS, the Board adopted Ordinance O15-40, requiring that all solid waste collected within Stafford County, not exempted by Virginia Code, be delivered to the Rappahannock Regional Landfill (Landfill), a location designated by the Rappahannock Regional Solid Waste Management Board (R-Board); and

WHEREAS, the subsequent increase in solid waste deliveries may result in the Landfill exceeding the current permitted daily maximum of 880 tons of solid waste; and

WHEREAS, the R-Board may request an amendment to the solid waste permit issued by the Virginia Department of Environmental Quality to increase the allowable daily limit; and

WHEREAS, the Board desires to express its support for increasing the daily maximum limit of solid waste permitted to be received at the Landfill to 1,200 tons;

NOW, THEREFORE, BE IT RESOLVED by the Stafford County Board of Supervisors on this the 6th day of June, 2017, that it be and hereby does express its support for an amendment to the Rappahannock Regional Landfill's solid waste permit issued by the Virginia Department of Environmental Quality to increase the daily maximum amount of solid waste received at the Rappahannock Regional Landfill to One Thousand Two Hundred (1,200) tons.

TCF:KCD

Lynhaven Lane

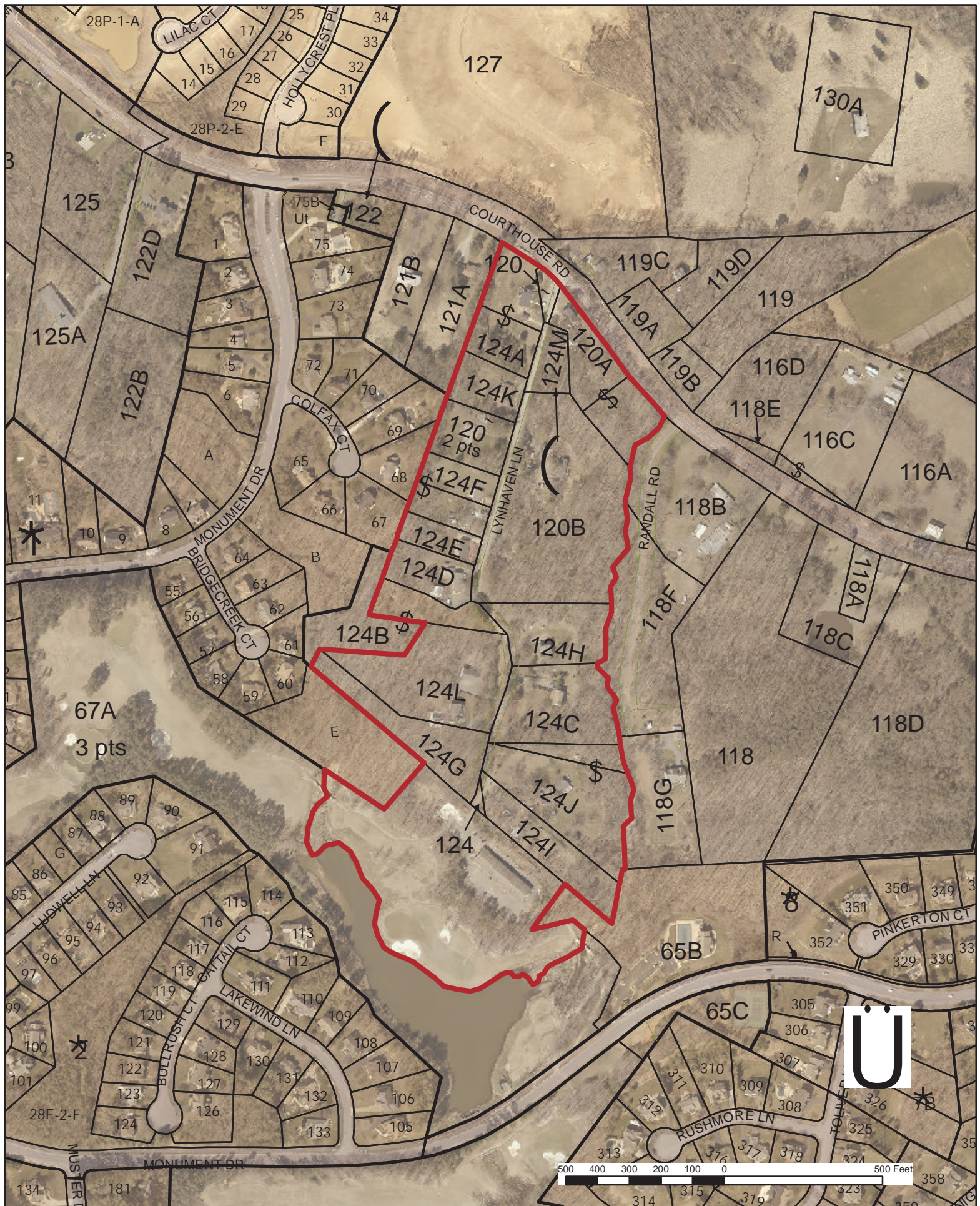
- At the September 2016 Infrastructure Committee meeting, staff provided the Committee with information about Lynhaven Lane, a private road where the property owners have asked for County assistance to improve the road for acceptance into the state system of highways for maintenance. The information presented at that meeting is attached
- Staff then followed the Committee's direction to complete survey and engineering of the road to develop a better estimate for the cost of improvements
- Using the more detailed information from this analysis, the estimated cost for the necessary improvements was determined to be \$380,000, including engineering, construction and contingency.
- After consultation with VDOT, it was determined these improvements would qualify for the use of proffer funds dedicated for sight distance improvements in the area of Courthouse Road, as well as revenue sharing and Secondary Six Year Plan funds
- With the full application of the state and local funds, an additional \$115,000 in funding would be necessary. These funds could be provided by the residents through the establishment of a service district and the levy of an ad valorem tax
- A more detailed breakdown of the costs and funding for improvements to Lynhaven Lane is provided below

Lynhaven Lane Cost Estimate		Lynhaven Lane Funding	
Preliminary Survey & Engineering	\$ 20,000	Shelton Woods Proffers	\$ 50,000
Plats	\$ 18,000	Revenue Sharing	\$ 164,868
Construction Cost - Entrance	\$ 46,760	Lynhaven Lane Service District	\$ 114,868
Construction Cost - Road Work	\$ 215,000	TOTAL	\$ 329,736
SUBTOTAL	\$ 299,760		
Contingency	\$ 29,976		
TOTAL	\$ 329,736		
Hard Surfacing by VDOT (SSYP Funds)	\$ 50,000		
	\$ 379,736		

- This information was provided to the community at a March 2017 community meeting. The residents in attendance expressed strong support for proceeding, including establishing a service district to help fund the improvements. The service district boundaries discussed were as shown on the attached graphic

- Virginia Code § 15.2-2403 requires that over 50% of the residents who own not less than 50% of the area to be included in the service district petition to adopt the service district when constructing/maintaining roads
- Petitions were sent to all property owners having addresses in our database, with affirmative responses from 78% of the owners, comprising 60% of the area. No petitions opposing the proposed service district were received
- Staff is prepared to ask the Board at the June 20th meeting to authorize a public hearing to consider establishing a service district for the purpose of providing funding to improve Lynhaven Lane to allow acceptance into the state system of highways for maintenance

Lynhaven Lane Service District



Lynhaven Lane

- Lynhaven Lane is a private gravel road approximately 1/3 mile long serving 16 building lots with 13 residences and a business (Augustine GC maintenance shop). The road intersects with Courthouse Road west of the intersection with Walpole Street
- The community approached the County in 2012 for assistance to have the road accepted under the VDOT Rural Addition Program
- The road was established with a 30' ingress-egress easement around 1960, and meets all the requirements for acceptance under the Rural Addition Program
- The Board responded by requesting VDOT perform an analysis of the improvements required, and an estimated cost, to bring the road up to standards
- VDOT completed the study, noting the poor subgrade conditions, road curvature, stormwater management, and sight distance problems at the intersection with Courthouse Road, and estimated a cost between \$300k and \$500k to bring the road up to state standards for acceptance. Additional investigation and recent experience with rural road improvements indicate the construction cost will be around \$300,000.
- This information was provided to the community, and they were also advised that they would be required to fund the improvements necessary to have the road accepted. In light of the high cost per owner for these improvements, they were asked to confirm their interest in completing the improvements to Lynhaven Lane
- Staff was provided with a petition with 75% of the property owner agreeing to fund the improvements in May 2016, and subsequently held a community meeting with County staff
- The community was informed that additional survey and engineering would be necessary to define the improvements necessary and obtain a better estimate for the cost of the work. This effort would cost \$20,000
- If the decision is made to proceed, plats must be developed to transfer the ingress-egress easement into right of way. This is estimated to cost an additional \$1,000 per parcel, or about \$18,000.
- VDOT has a rural addition program whereby revenue sharing can be applied to fund 50% of the cost for constructing the improvements necessary for acceptance by VDOT. No state funds can be applied to the effort until the road is accepted by the

state. Therefore, survey, engineering and land acquisition costs are not eligible for state funding

- At this time, there is no funding to initiate this effort. The Board could consider fronting the cost for the initial survey and engineering, and for the development of plats. It is expected that the property owners will dedicate all necessary right of way and easements without cost.
- The County would be reimbursed in the following manner:
 - Create a Lynhaven Lane Service District to allow the benefitted parties to pay for the cost of the improvements by way of an additional assessment on their property. The service district boundary is proposed to be as shown on the attached graphic.
 - The Board must hold a public hearing prior to establishing a service district
 - The loan could be repaid over a 10-year period at 2.5%, requiring an initial service district tax rate of 50¢ per thousand for survey, engineering, plat development and construction costs
- A summary of the estimated costs and funding sources is provided below

Lynhaven Lane Cost Estimate		Lynhaven Lane Funding	
Preliminary Survey & Engineering	\$ 20,000	Shelton Woods Proffers	\$ 50,000
Plats	\$ 18,000	Revenue Sharing	\$ 177,300
Construction Cost	\$ 300,000	Lynhaven Lane Service District	\$ 144,500
SUBTOTAL	\$ 338,000	TOTAL	\$ 371,800
Contingency	\$ 33,800		
TOTAL	\$ 371,800		

- If the Board wished to proceed in this manner, the Board would establish a service district, and set the tax rate. This could be done during the budget process next year
- The survey and preliminary engineering could be initiated for the \$20,000 noted above, followed by the development of plats when the acquisition requirements have been identified