


# City of Alexandria, Virginia

## MEMORANDUM

**DATE:** MARCH 30, 2021

**TO:** THE HONORABLE MAYOR AND MEMBERS OF CITY COUNCIL

**FROM:** MARK B. JINKS, CITY MANAGER 

**SUBJECT:** STRAWBERRY RUN STREAM RESTORATION PROJECT  
RESPONSE TO MARCH 13, 2021 PUBLIC COMMENTS

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The below is in response to public comment period remarks spoken by former Congressman Joe Sestak speaking on behalf of Seminary Ridge Civic Association, and in association with the Strawberry Hill Civic Association, during the public comment portion of the City Council public hearing held on March 13, 2021. The five overarching speaker comments regarding the Strawberry Run Stream Restoration project and informative staff response is provided below.

The Strawberry Run Stream Restoration project is proposed to restore the stream corridor, stabilize the banks and bed, create a dense riparian buffer, and help the City meet Chesapeake Bay cleanup mandates. The stream restoration is proposed for about 900 feet of stream from Ft. Williams Parkway to the footbridge downstream, which is upstream of the previous stream restoration completed by the developer of the Taft Avenue Subdivision project in 2010. The five overarching issues raised at the public hearing and the staff response to those comments follow:

**1. Concern that letters were not sent and onsite meetings did not occur as stated in the September 2018 City Council Docket for Stormwater Local Assistance Fund (SLAF) applications:**

The context and wording of the second sentence below in the docket memo likely contributed to the misunderstanding. The September 20, 2018 docket memo<sup>1</sup> for consideration of the Stormwater Local Assistance Fund (SLAF) grant application for Council consideration at the September 25, 2018 legislative meeting states that “*Prior to initiating field work staff sent letters to owners of property immediately adjacent to the potential stream restoration projects. Staff met on-site with these owners to further explain the projects and identify potential concerns.*”

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<sup>1</sup> 9/20/2018 SLAF Application docket memo for 9/25/2018 City Council Legislative Session:  
<https://alexandria.legistar.com/LegislationDetail.aspx?ID=3682201&GUID=E6FA3CEC-31F8-4C0D-895F-C3475F6D62C9&FullText=1>



With respect to the first sentence, ten property owners immediately adjacent to the potential projects in the nine locations where projects were under consideration were sent field notification letters dated February 26, 2018 prior to the start of field work for these five potential stream restorations projects and four potential outfall rehabilitation locations as part of the Phase III Stream Assessment<sup>2</sup> to consider and rank potential projects. TES staff defines “immediately adjacent” as those properties abutting or likely within the potential project area. Therefore, nearby property owners whose property do not abut the stream were not sent letters. Our records indicate that letters (Attachment 2) were sent to 3729 and 3739 Taft Avenue to notify upcoming “field reconnaissance on or near your property to assess the conditions of streams and/or outfalls” prior to conducting onsite analysis for Strawberry Run. Issuance of field notification letters is typical when considering projects like this. Attachment 1 is provided which shows the Strawberry Run project location depicting the immediate adjacency of 3729 and 3739 Taft Avenue to the proposed project.

The second sentence which states that: “*Staff met on-site with these owners to further explain the projects and identify potential concerns.*” has been raised as an issue. This language was intended to refer to all five stream restoration projects the City considered. However, the docket memo focused only on the two projects City staff recommended (Strawberry Run and Taylor Run). Meetings between staff and adjacent property owners took place during this early field work for the Phase III Stream Assessment if the property owners contacted requested a meeting. While some property owners for other potential projects contacted staff and were met with, the property owners contacted immediately adjacent to Strawberry Run did not contact staff at that time and therefore there were no on-site meetings on Strawberry Run prior to the grant applications being submitted. I can completely understand the way the docket memo is written how the September 20, 2018 docket memo could be interpreted as meaning that there were onsite meetings at Strawberry Run prior to the docket memo, and apologize for the wording in the staff memo. In retrospect the on-site meeting sentence should not have been included in the September 20, 2018 docket memo to City Council.

While the Phase III Stream Assessment was still underway, the Virginia Department of Environmental Quality (VDEQ) issued a solicitation for the FY 2019 SLAF in July 2018, with applications due by October 2018. Preliminary ranking of the potential stream projects for the Phase III Stream Assessment listed Strawberry Run in the top two. To create the SLAF grant application, staff requested the consultant use the calculated potential pollutant load reductions from the field work and create a preliminary concept design for the City’s SLAF application package.<sup>3</sup> While the onsite work had been completed to determine potential pollution credits, the concept design level of detail was not sufficient for other purposes.

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<sup>2</sup> Phase III Stream Assessment: <https://www.alexandriava.gov/tes/oeq/info/default.aspx?id=51332>

<sup>3</sup> Strawberry Run Stream Restoration Stormwater Local Assistance Fund (SLAF) Application: [https://www.alexandriava.gov/uploadedFiles/tes/Stormwater/FULL%20Grant%20Application\\_Strawberry\\_2018.10.04.pdf](https://www.alexandriava.gov/uploadedFiles/tes/Stormwater/FULL%20Grant%20Application_Strawberry_2018.10.04.pdf)



## **2. Concern about Insufficient Community Engagement:**

On September 20, 2018 – prior to the September 25, 2018 City Council meeting to consider the SLAF grant – City staff presented the early concept and background of the Phase III Stream Assessment at a Parks and Recreation Commission public meeting. On November 20, 2018, the project team consisting of Transportation and Environmental Services, Stormwater Management Division; the Department of Project Implementation, Recreation, Parks, and Cultural Activities, Natural Resources Division, and the consultant met onsite to discuss potential access to minimize tree impacts. Our records indicate that that Project Selection Letters (Attachment 3) dated November 27, 2018 were sent to 3729 & 3739 Taft Avenue as an update that the potential Strawberry Run project was ranked in the top two, and notified the property owners of the upcoming advertised public meeting that was held on December 5, 2018 at Douglas MacArthur Elementary School to discuss the Phase III Stream Assessment and the top two potential stream restoration projects.

On May 3, 2019 the City received notice of the SLAF award from VDEQ, with reimbursement of the grant award at the end of the full design process and contingent on review and acceptance by VDEQ. On May 22, 2019, the consultant received a notice to proceed to start work on designing Strawberry Run. In June 2019 the project team held a design kickoff, with our records indicating that approximately 20 properties near the project being notified via letter and staff began a wider public outreach effort listed below and on the project webpage<sup>4</sup>:

- 9/19/2019: Public engagement meetings were held with Parks and Recreation Commission
- 11/04/2019: general public meeting at Douglas MacArthur Elementary School
- 1/8/2020: Strawberry Hill Association
- 2/13/2020: Seminary Hill Association

Due to the COVID-19 global health crisis, public engagement efforts were impacted in March 2019. However, the City continued to engage residents and civic associations in via email. Staff sent out an eNews and contacted Seminary Ridge, Strawberry Hill, Northridge, and Cameron Station civic associations via email prior to the virtual public meeting on October 28, 2020 which kicked off a 21-day public comment period. Upon request from Seminary Ridge and Strawberry Hill association chairs, which included multiple letters and City responses, the City extended the associated 21-day public comment period two months from November 20, 2020 to January 31, 2021 per request. Staff also followed up after the meeting to provide links to the presentation and recorded meeting. Starting in November 2020, staff has requested a meeting with representatives and invitees of the Seminary Ridge and Strawberry Hill civic associations and/or inclusion in the civic associations' agenda for a regular meeting. To date, the City has not received an affirmative response to move forward with a meeting to discuss the project. Staff had tentatively scheduled another public meeting in February but wanted to

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<sup>4</sup> Strawberry Run Stream Restoration webpage:

<https://www.alexandriava.gov/tes/stormwater/info/default.aspx?id=118208>



discuss with the civic associations in a small meeting prior to conducting a broader public engagement meeting. Therefore, the City has not held another broader public meeting.

**3. Concern that Natural Channel Design (NCD) failed for the downstream portion of Strawberry Run and concerns to why staff did not include an assessment for the head cut<sup>5</sup> that has been observed for the downstream portion that was previously restored. Also, a request for the plans for the developer-led downstream restoration has been made:**

The stream segment with the prior restoration is downstream and not within the current upstream project area. Given the nexus of the Taft Avenue subdivision project with this lower section of the stream, over a decade ago staff worked with the developer to have them design and implement the restoration that was completed in 2010 to meet local water quality requirements for development projects in place at that time.<sup>6</sup> Note this section was completed prior to the 2014 Expert Panel guidance<sup>7</sup> approved by VDEQ. While this downstream segment is not within the current proposed project area, the consultant observed and noted no head cut was present during the Phase III Stream Assessment in spring 2018. (See Figure 1.) Following receipt of correspondence from the Seminary Ridge and Strawberry Hill civic associations and their representatives of erosion issues on this downstream segment, the consultant visited the site and took pictures in that same general area noting a visible head cut. (See Figure 2.)



*Figure 1. March 16, 2018*



*Figure 2. January 20, 2021*

Although the 2010 restoration was designed prior to the 2014 Expert Panel requirements, it appears to have ‘held’ for about 10 years and was likely impacted due to the 1) the very intense storms that caused flooding in the City in the last 18 months and 2) the lack of protection from the eroding upstream segment which would be present in the future if

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<sup>5</sup> A head cut is an erosional feature of some intermittent and perennial streams with an abrupt vertical drop in the streambed. (Wikipedia)

<sup>6</sup> Lower Strawberry Run Stream Restoration Presentation:

<https://www.alexandriava.gov/uploadedFiles/tes/oeg/info/StrawberryRunStreamRestorationWebpage.pdf>

<sup>7</sup> Recommendations of the Expert Panel to Define Removal Rates for Individual Stream Restoration Projects (September 8, 2014)



the proposed project area if the Strawberry Run project is implemented. Restoring and stabilizing the upstream segment will help protect the downstream portion. The City's consultant is working on an approach to perform rehabilitative maintenance on the downstream portion in conjunction with the upstream restoration.

Finally, the civic associations have requested design plans for the downstream restoration completed in 2010 and those plans are provided on the City's Stream Restoration webpage.<sup>8</sup>

**4. Concerns that documentation of the consultant performing the Five Key Assessments required by the Expert Panel has been requested and not delivered.**

This request was initially unclear given that the 2014 Expert Panel does not specifically contain "Five Key Assessments." Staff was able to later ascertain a clarification of the request, that the request was in response to the "series of potential limitations to the BANCS method" found within the six bullet points on pages 33-34 of the 2014 Expert Panel which would satisfy this informational request. According to the 2014 Expert Panel, "Despite these concerns" the panel felt that the BANCS method was justified in "its use for the purposes of crediting stream restoration." The consultant used the BANCS method with results provided in the Phase III Stream Assessment.

Staff has responded several times to this request and provided an explanation, however further details have been requested. As a result, staff has worked with its consultant to provide the following response:

In order to provide responses herein, the "series of potential limitations to the BANCS method" found within the six bullet points Section 5, pages 33-34 of the 2014 Expert Panel are provided in bullet format verbatim as it is listed in the Expert Panel. Below each item from the Expert Panel list you will find the consultant's responses below in italics.

- The method is based on the NCD stream restoration approach, which uses assumptions regarding bank full storm frequency that are not shared in other design approaches (e.g., LGS, RSC).

*Consultant Response: The proposed restoration utilizes Natural Channel Design. Assumptions related to other design approaches are not relevant.*

- Some studies have found that frost heaving may be a better predictor of stream bank erosion than NBS.

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<sup>8</sup> Downstream Strawberry Run Restoration:

<https://www.alexandriava.gov/uploadedFiles/tes/Stormwater/2008StreamRestorationPlanStrawberrycompressed.pdf>



*Consultant Response: The BANCS method is an “empirically driven, process-integrated-streambank erosion prediction model [which] requires field practitioners to integrate rather than isolate individual streambank erosion processes” including “surface erosion, mass failure (planar and rotational), fluvial entrainment (particle detachment by flowing water, generally at the bank toe), freeze-thaw, dry ravel, ice scour, liquefaction/collapse, positive pore water pressure, both saturated and unsaturated failures and soil piping.” (Rosgen, A Practical Method of Computing Streambank Erosion Rate, 2001.)*

*Susceptibility of stream banks to erosion via freeze-thaw is considered as part of the Bank Height Ratio. “The greater the value is above 1.0, the greater the likelihood of increased erosion due to various erosional processes, including mass erosion, dry ravel, freeze-thaw and rill erosion.” (Rosgen, Watershed Assessment of River Stability and Sediment Supply, 2006)*

- Estimates of BEHI and NBS can vary significantly among practitioners.

*Consultant Response: As with any assessment of natural processes some variability is to be expected. The BANCS assessment was performed by qualified professionals.*

- Extrapolation of BEHI and NBS data to unmeasured banks may not be justifiable.

*Consultant Response: As recommended in the expert panel report, in the absence of region-specific curves, localities should use the Hickey Run Bank Erosion Curve. As discussed in the Phase III Report, historical streambank retreat was measured using aerial imagery and was used to confirm the applicability of the BEHI and NBS approach.*

- The BANCS method is not effective in predicting future channel incision and bank erodibility in reaches upstream of active head cuts. These zones upstream of active head cuts, failing dams, or recently lowered culverts/utility crossings often yield the greatest potential for long-term sediment degradation and downstream sediment/nutrient pollution.

*Consultant Response: No active head cuts were observed during the field assessment in the main channel of the Strawberry Run project site. As a result, the BANCS method was appropriate. However, a head cut has developed downstream of the project site as an apparent result of more recent storm activity. Migration of the head cut is currently being arrested due to an existing rock structure. Future advancement of the head cut must be prevented regardless of the Strawberry Run project to reduce additional channel incision and bank erosion within the upper reach. (See Figure 1 and 2 above)*

- This method estimates sediment supply and not transport or delivery. Refer to Appendix B for additional information about this method and sediment delivery.

*Consultant Response: As noted, Appendix B contains additional information related to the application of the sediment delivery ratio.*

To reiterate, the Expert Panel felt that despite “potential limitations” of the BANCS method, the method is justified “for the purposes of crediting stream restoration.”



As mentioned above, the requisite steps were followed and noted in the Phase III Stream Assessment. As such, the consultant used Expert Panel Protocol 1 to determine “Credit for Prevent Sediment during Storm Flow”, followed the “three step process” for calculating the pollution credits, and included this work in the Phase III Stream Assessment that was posted online and shared previously.

**5. Concerns about the use of default values (i.e., values from previous scientific studies) and grandfathering of the project.**

The 2014 Expert Panel provides a median total phosphorus value derived from 11 streams in four different physiographic provinces in Pennsylvania<sup>9</sup> to be used in calculating credits under Protocol 1 as found in Step 2 of the process. It is not uncommon in environmental or other sciences to use results of studies in one geographic area and extrapolate the findings to other geographic areas. Further, the project is ‘grandfathered’ to use the 2014 Expert Panel since it was sufficiently under contract prior to January 1, 2021.

The U.S. Environmental Protection Agency (EPA) provided an update to the use of Protocol 1 and the steps taken to estimate credit reductions.<sup>10</sup> These recommendations include a clause that ‘grandfathers’ the Strawberry Run project to conform to the 2014 Expert Panel for existing projects: “Grandfathering Existing Projects: The group recommends that all new definitions, qualifying conditions and Protocol 1 methods take effect on July 1, 2021. This “ramp-up” period will allow practitioners the opportunity to adjust to meet the new guidelines set forth in this document. Any projects already in the ground or under contract as of January 1, 2021 should not be subject to the new recommendations, but should adhere to the definitions, qualifying conditions and Protocol 1 calculations laid out in the Stream Restoration Expert Panel Protocols (2014).”

As noted above, the project was “under contract” with the consultant as of May 2019; therefore, the project is grandfathered to continue to meet the recommendations of the 2014 Expert Panel and not the new recommendations that modify Protocol 1.

- Attachment 1: Strawberry Run Project Location Map
- Attachment 2: Streams III Field Notification Letters (2-26-18)
- Attachment 3: Project Selection Letters Strawberry (11-27-18)

cc: Emily A. Baker, Deputy City Manager  
Yon Lambert, Director, Transportation and Environmental Services  
William Skrabak, Deputy Director, Transportation and Environmental Services

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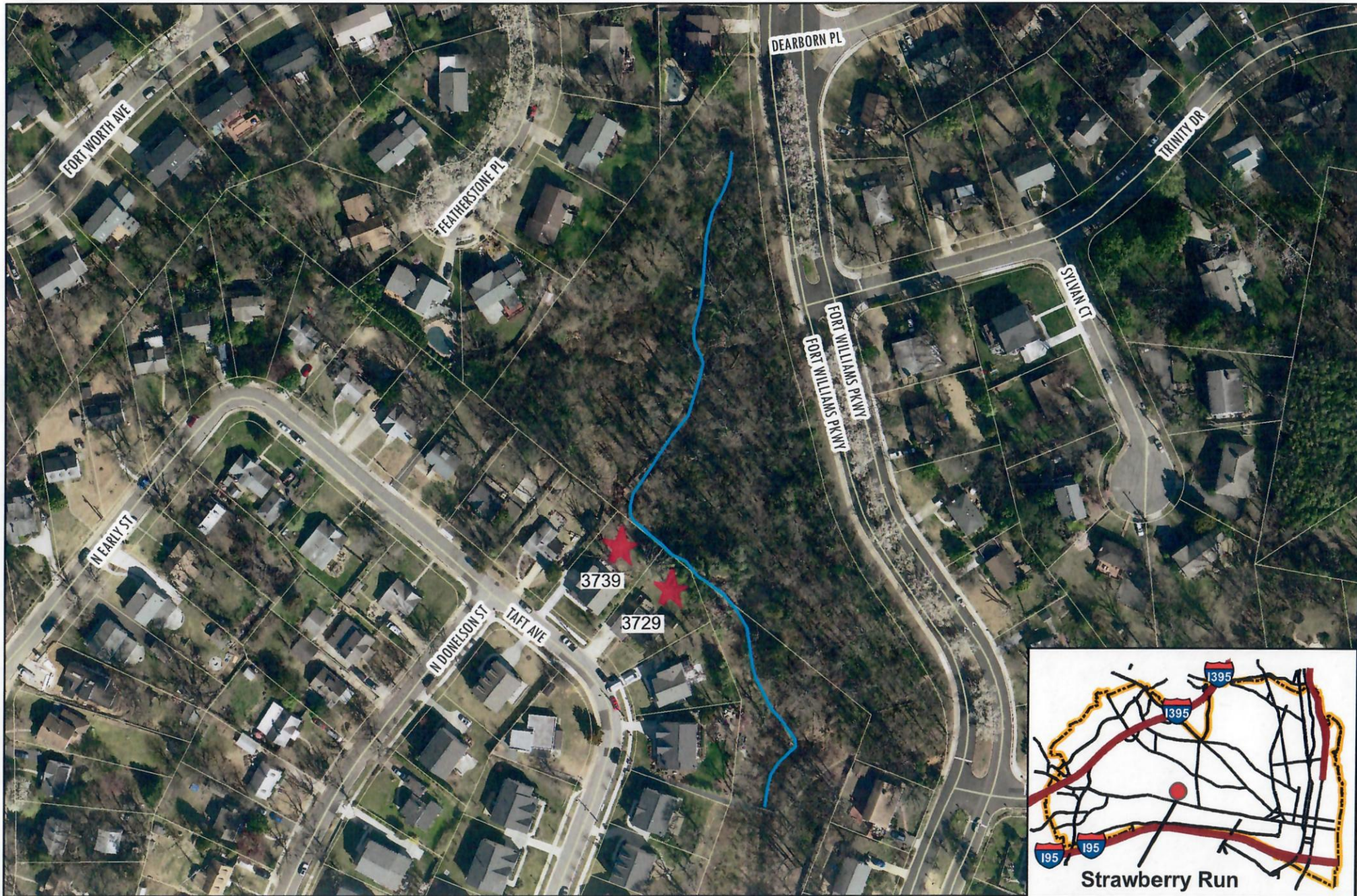
<sup>9</sup> Walters, R., D. Merritts, and M. Rahnis. 2007. Estimating volume, nutrient content, and rates of stream bank erosion of legacy sediment in the piedmont and valley and ridge physiographic provinces, southeastern and central, PA. A report to the Pennsylvania Department of Environmental Protection

<sup>10</sup> Consensus Recommendations for Improving the Application of Prevented Sediment protocol for Urban Stream Restoration Projects Built for Pollutant Removal Credit (December 2019, Revised February 27, 2020)





# Strawberry Run Stream Restoration Location Map







DEPARTMENT OF TRANSPORTATION  
AND ENVIRONMENTAL SERVICES  
2900-B Business Center Drive  
Alexandria, Virginia 22314  
alexandriava.gov

February 26, 2018

Mr. and Mrs. Cortez  
3729 Taft Avenue  
Alexandria, VA 22304

RE: Stream Restoration and Outfall Stabilization Feasibility Study – Notification of Field Investigation

Dear Sir or Madam:

This letter is to inform you that the City of Alexandria is currently investigating potential projects to stabilize streams and outfalls within the City with the goals of preventing erosion, enhancing water quality, and improving stream habitat. As a result, we are conducting field reconnaissance on or near your property to assess the conditions of streams and/or outfalls that may be impaired.

Engineers and scientists from the firm of Amec Foster Wheeler Environment & Infrastructure, Inc. will be conducting the field reconnaissance on the City's behalf. The City is requesting that you please allow the Amec Foster Wheeler staff and City employees to enter your property as necessary to conduct the reconnaissance. It is anticipated that the field investigation will be conducted between March 12<sup>th</sup> and April 13<sup>th</sup>.

Please note that this field investigation will only involve streams and/or outfalls and access into other areas of the property will not be required.

If you have any questions regarding this matter, please do not hesitate to contact me at (703) 746-4174, or [joni.calmbacher@alexandriava.gov](mailto:joni.calmbacher@alexandriava.gov).

Sincerely,

Joni Calmbacher, P.E.  
Stormwater Management - T&ES  
City of Alexandria, VA  
2900-B Business Center Drive  
Alexandria, VA 22314  
703.746.4174 (direct)





DEPARTMENT OF TRANSPORTATION  
AND ENVIRONMENTAL SERVICES  
2900-B Business Center Drive  
Alexandria, Virginia 22314  
alexandriava.gov

February 26, 2018

Ms. Walika  
3739 Taft Avenue  
Alexandria, VA 22304

RE: Stream Restoration and Outfall Stabilization Feasibility Study – Notification of Field Investigation

Dear Sir or Madam:

This letter is to inform you that the City of Alexandria is currently investigating potential projects to stabilize streams and outfalls within the City with the goals of preventing erosion, enhancing water quality, and improving stream habitat. As a result, we are conducting field reconnaissance on or near your property to assess the conditions of streams and/or outfalls that may be impaired.

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DEPARTMENT OF TRANSPORTATION  
AND ENVIRONMENTAL SERVICES

2900B Business Center Drive  
Alexandria, Virginia 22314

Stormwater Management Division  
(703) 746-6499

[www.alexandriava.gov](http://www.alexandriava.gov)

November 27, 2018

Ms. Walika  
3739 Taft Avenue  
Alexandria, VA 22304

RE: Stream Restoration and Outfall Stabilization Feasibility Study

Dear Sir or Madam:

The purpose of this letter is to update you on the status of the City of Alexandria's Phase III Stream Restoration and Outfall Stabilization Feasibility Study, which builds on the first two completed phases of the City's Stream Assessment work. Several potential projects throughout the City were assessed, evaluated, and ranked for their ability to prevent erosion, enhance water quality, and improve habitats. Your property is adjacent to one of the two top scoring potential stream restoration projects, which is referred to as the "Strawberry Run Stream Restoration Project".

Several metrics were considered when evaluating the potential projects including bed and bank stability, stream health, feasibility, cost/benefits, and other benefits. Based on these categories, a decision matrix using twenty-three (23) different criteria was created to score and rank each potential project.

The potential Strawberry Run Stream Restoration project was one of the two top scoring potential projects and conceptual (preliminary) designs are being developed for the project. The second top scoring restoration project is one along Taylor Run, as both projects exhibited high potential for benefits related to stream stability issues and other co-benefits.

A community meeting to discuss this study and the selected projects has been scheduled for:

*December 5, 2018*

*7:00 PM*

*Douglas MacArthur Elementary School*

*Library*

*1101 Janneys Lane*

*Alexandria, VA 22302*



If there is community support and if feasibility allows, the Strawberry Run Stream Restoration project will move onto the next design phase which will include a detailed survey of the project area. After the survey is complete, the exact location of the stream and whether it crosses into your property can be determined. If the project has potential to impact your property, the City will discuss these impacts with you.

If you have any questions or concerns, please do not hesitate to contact me at (703) 746-4174, or [joni.calmbacher@alexandriava.gov](mailto:joni.calmbacher@alexandriava.gov).

Sincerely,

A handwritten signature in cursive script that reads "Joni Calmbacher".

Joni Calmbacher, P.E.  
Transportation and Environmental Services  
Stormwater Management Division  
City of Alexandria, VA  
2900-B Business Center Drive  
Alexandria, VA 22314  
703.746.4174 (direct)





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Sincerely,

A handwritten signature in black ink that reads "Joni Calmbacher". The signature is written in a cursive, flowing style.

Joni Calmbacher, P.E.  
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Stormwater Management Division  
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Alexandria, VA 22314  
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