

# **Glebe – Potomac River 230 kV Transmission Line Project**

*May 2018*

# What Has Changed Since May 2016, And What Has Not

- Just as in May 2016:
  - PJM Forecasted Violations of Federal (NERC) Reliability Standards Remain and Must Be Resolved (reaffirmed by PJM in Spring 2018).
  - The electric solution resolving the overloads is a new line between Glebe and Potomac River Substations, or the Rebuild Alternative in Route 1.
- Unlike in May 2016:
  - A year and ½ of engineering work with CSX regarding the Railway Route has yielded significant and costly construction constraints that call into question the ability to construct and operate an underground line in the railway corridor.
  - CSX was willing to provide the Company only a very costly option of a non-exclusive, 50-year license without a right-of-way that would be subject to change.

# Railway Route Challenges

- Service and operational concerns due to location on active railway;
- 50 year non-exclusive license term;
- No assurance that license would not be terminated or license corridor relocated (or that the Company would not bare expenses related thereto);
- Possibility of other utilities located over or near line;
- Requested access manhole locations off CSX property;
- Ability of CSX to relocate tracks over line;
- Construction methods (requiring time consuming costly micro-tunneling);
- Escalating construction costs;
- Non-market location fees; and
- Limited work hours = longer, more expensive project.

# Dominion Energy Was Obligated to Revisit Prior Alternatives

- Railway Route estimated cost rose to over \$420 Million.
  - \$130 Million more than the Rebuild Alternative (\$290 Million).
  - Significant construction and operability concerns.
- Because a new line alternative is the better, long-term electrical solution, the Company was obliged to revisit prior routing alternatives.
- Based on the prior investigation of the alternative routes, and work with the City on the City-owned portions of the Railway Route, the Potomac Avenue Route quickly stood out as the best.
  - Work Group initially found both Potomac Avenue and Railway Routes as the least impactful.



**Glebe to Potomac River Study**  
**Potomac Avenue Alternative**

May 3 2018

# City Benefits : Potomac Avenue Route

- Maximizes the value of City real estate assets that otherwise are dedicated solely to roadway use.
- Obtain a hi-speed fiber optic line corridor dedicated to the City at no cost (except at railroad crossing on southern end of the route).
- A new line requires significant upgrades at PEPCO's Potomac River Substation
- Gives the City a voice at the SCC in the selection of the both the electric solution (a new line) and the route.
- Relocation of overhead lines at North Potomac Yard Terminal underground (pending SCC approval).
- Mitigates against SCC's potential selection of the Rebuild Alternative.
  - Substantial and long-term construction impacts due to the 3-4 years of work in and along Route 1
  - Significant and negative impacts to residents, commuters, and businesses

# City Benefits : Potomac Avenue Route (cont.)

- Improves Electric Reliability in the City.
  - Lessens down-time during outages; lessens negative social and financial impacts of even short outages.
  - Adds capacity to the area that supports the expansion of existing business and helps the City to attract new business.
    - Adds additional 230kV source in a generation deficient area.
    - Creates an interconnect between Dominion Energy Virginia and Pepco which enhances system reliability, provides an additional energy input, and improves operational performance.
- Provides Resiliency Improvements to the System.
  - Allows system to recover much more quickly from more devastating events (e.g., extreme weather or cyber or physical attacks).
  - Quicker recoveries equal less potential for negative social and financial impacts due to longer term outages.

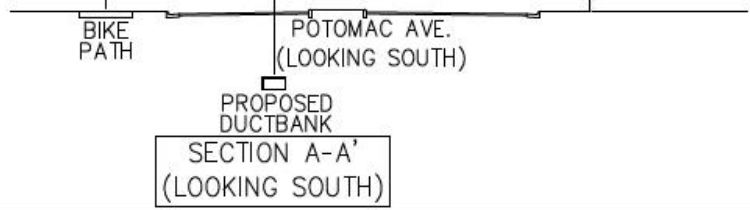
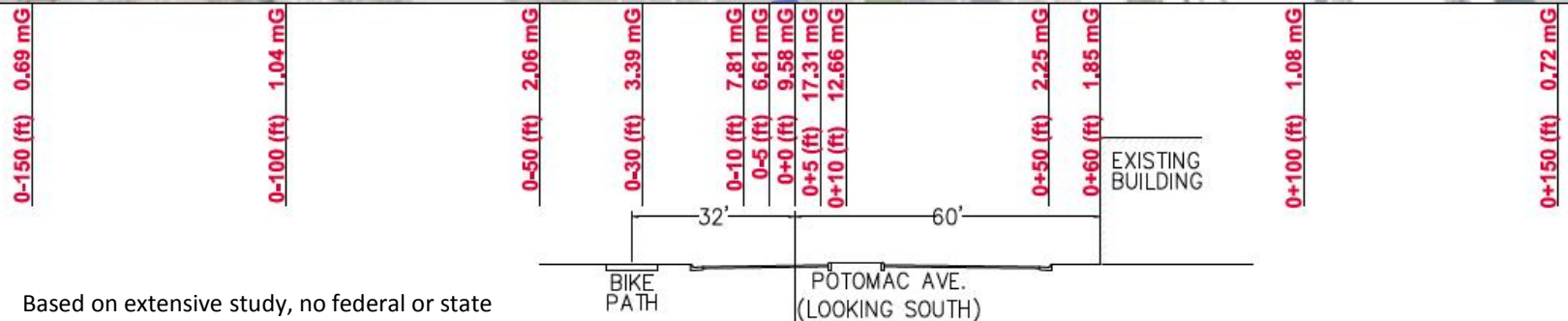
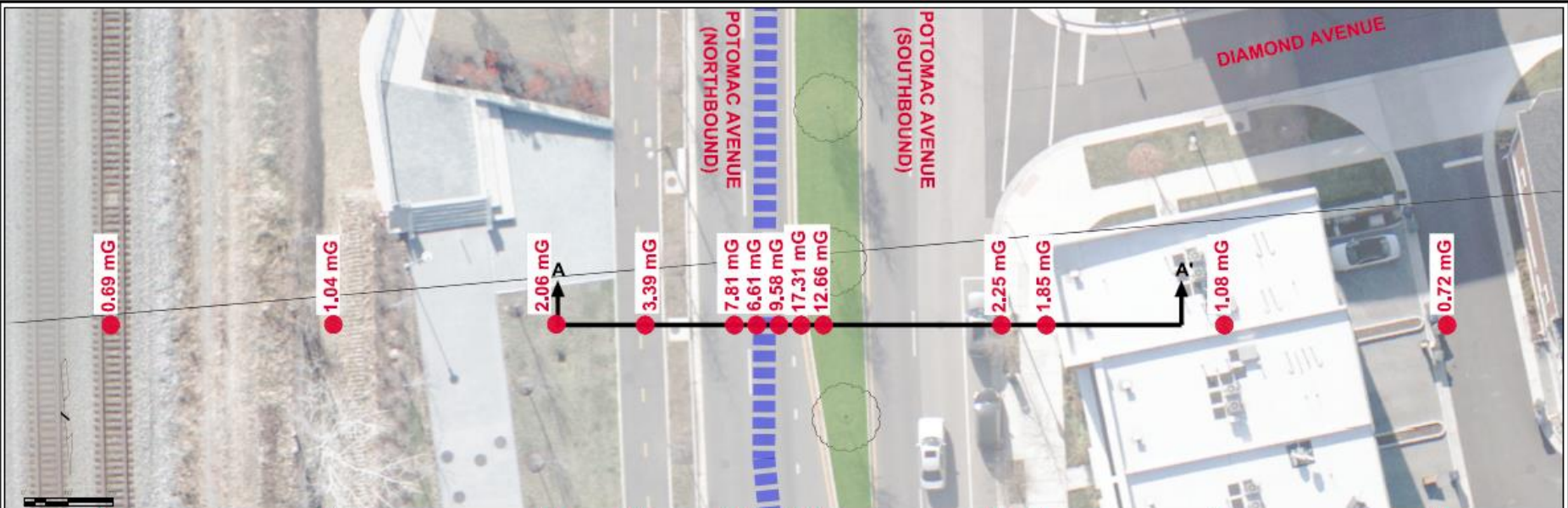
## Route Segment Comparison Chart

	Potomac Ave. (Glebe-Potomac River Project)	Route 1 (Rebuild Alternative)
<b>City</b>	<p>Relocation of Potomac Yards terminal station, pending SCC approval</p> <p>Ability to add conduit for fiber, installed in duct bank</p> <p>Compensation for City real estate (\$43.3 Million)</p> <p>Improvements at Potomac River Substation</p>	<p>Relocation of Potomac Yards terminal station, pending SCC approval</p>
<b>Construction</b>	<p>Total project duration – approximately 3 years (**In street open trench-Potomac Ave. 9 months to 1 year. Massey Lane 4 to 6 months)*</p> <p>** = Can Run Concurrent</p> <p>* = Based on five 8 hour days</p> <p>Open trench offers flexibility for alignment, schedule and work hours</p> <p>No seasonal transmission outages required for new line</p> <p>New easement required</p> <p>No buildings, no large trees allowed within easement</p>	<p>Total project duration – approximately 3 to 4 years (In street work zone disruptions – Route 1 – Two to three years for both circuits. Holland Lane to N. Alexandria Sub 12-18 months)*</p> <p>* = Based on five 8 hour days</p> <p>No flexibility on construction method</p> <p>Seasonal transmission outages required</p> <p>Existing right of way</p> <p>Unknown condition of 20-30 year old existing infrastructure, e.g. conduit damage may require excavation</p> <p>Double work in construction area, one circuit replaced at a time</p>
<b>Community</b>	<p>Traffic Impacts/Lane closure</p> <p>Temporary impacts to nearby recreation areas, sidewalks, landscaping</p>	<p>Traffic Impacts/Lane closure</p> <p>Temporary impacts to dog park, sidewalks, landscaping, commercial business entrances</p>
<b>Reliability</b>	<p>Resolves NERC criteria violation – maintains reliable service to customers in area</p> <p>New 230 kV source into the area</p> <p>Resiliency benefits</p>	<p>Resolves NERC criteria violation – maintains reliable service to customers in area</p>



# Potomac Avenue Has Been Vetted Thoroughly

- Since Fall 2017 - Continuous communication with City Staff about the project, Railway Route issues, and reconsidering Potomac Avenue Route.
- Met with Working Group and public attendees between January-March 2018 – responded to dozens of questions addressing all aspects of this route.
  - Working Group voted 6-2 in favor.
- April 18 & 19, 2018 – Dominion Held Informational Open Houses.
- May 7, 2018 – Held special Q/A with Potomac Yard residents regarding EMF.
  - Dr. Gabor Mezei presided - a physician and epidemiologist with over 25 years of experience regarding environmental and occupational health issues, including regarding EMF.
- Staff recommends adding Potomac Avenue Route to Least Objectionable List.

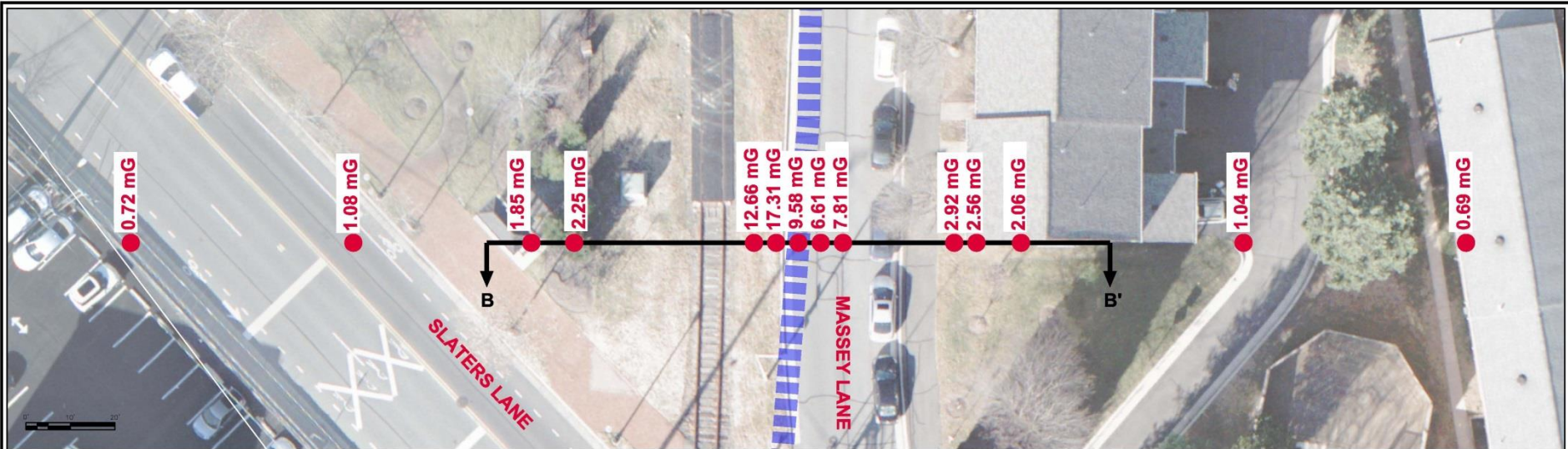


Based on extensive study, no federal or state agency, or international body, has found conclusive or convincing evidence that exposure to low-level EMF from transmission lines causes adverse health effects



Glebe to Potomac River Study  
**Potomac Ave Preliminary Ductbank Alignment  
 with Preliminary Calculated EMF Levels**

April 24, 2018



0-150 (ft) 0.72 mG

0-100 (ft) 1.08 mG

0-60 (ft) 1.85 mG

0-50 (ft) 2.25 mG

0-10 (ft) 12.66 mG

0-5 (ft) 17.31 mG

0+0 (ft) 9.58 mG

0+5 (ft) 6.61 mG

0+10 (ft) 7.81 mG

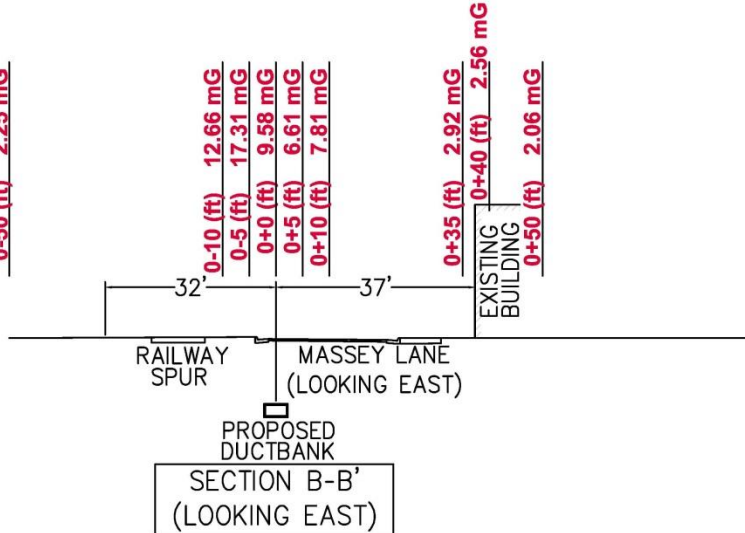
0+35 (ft) 2.92 mG

0+40 (ft) 2.56 mG

0+50 (ft) 2.06 mG

0+100 (ft) 1.04 mG

0+150 (ft) 0.69 mG



Based on extensive study, no federal or state agency, or international body, has found conclusive or convincing evidence that exposure to low-level EMF from transmission lines causes adverse health effects



Glebe to Potomac River Study  
**Massey Lane Preliminary Ductbank Alignment  
 with Preliminary Calculated EMF Levels**

May 3, 2018

# Next Steps

- July 2018 Dominion Energy Files SCC CPCN Application
- Q4 2018 SCC Issues Procedural Order
  - Local hearing for public input
  - SCC Staff evaluates the Application
  - Evidentiary Hearing at SCC
  - SCC Hearing Examiner issues recommendation
  - SCC issues Final Order (expected Q3 2019)
- Q3 2020 Estimated Date of Construction Commencement
- June 2023 Projected In-Service Date

**The City Should Put the Potomac Avenue Route on the Least  
Objectionable List and Authorize the City Manager to Enter Into an  
MOA with the Company After SCC's Review of the Project**

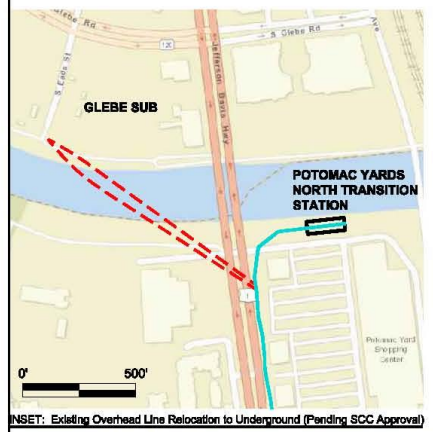
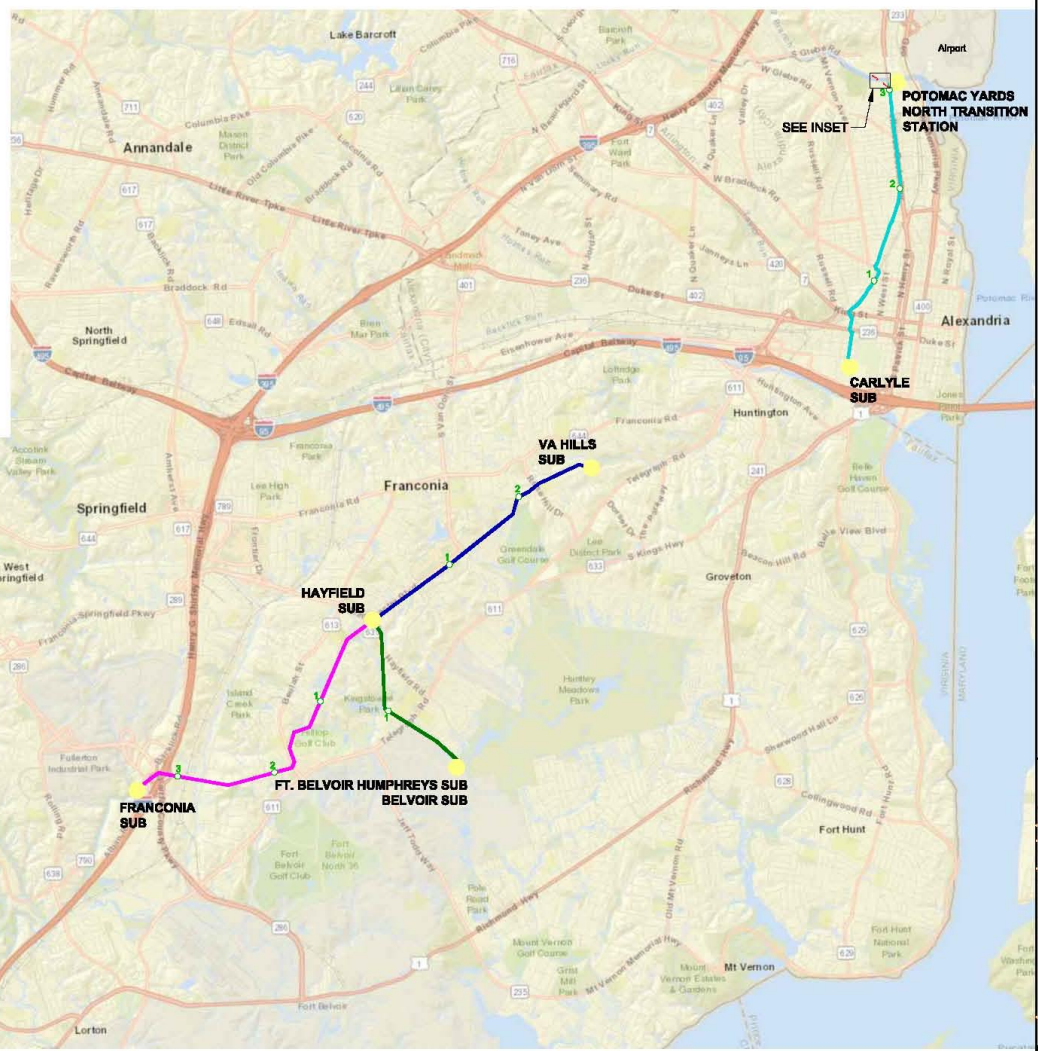
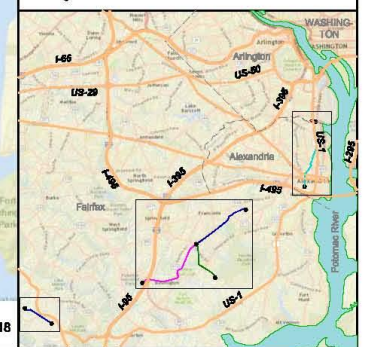
**Questions?**

**Dedicated Project Page:  
[www.dominionenergy.com/Glebe](http://www.dominionenergy.com/Glebe)**

**888-291-0190  
[Powerline@dominionenergy.com](mailto:Powerline@dominionenergy.com)**

**Rebuild Alternative**  
**Arlington, Fairfax, and**  
**City of Alexandria**

- Existing Substation
- Milepost
- Overhead Reconductor
- Rebuild
- Ampacity Upgrade
- Underground Reconductor
- Existing Overhead Line Relocation to Underground
- Railroad Line



INSET: Existing Overhead Line Relocation to Underground (Pending SCC Approval)