Framework for Siting Process for Fire Station #8

1. The siting process to consider possible re-location of Fire Station #8 should be a multi-dimensional evaluation that considers a range of sites and establishes criteria and evaluation of:
   - Impact on closing the response time gap for the underserved area of North Arlington for fire service and EMS service
   - Impact on response time to other neighborhoods in the area served first by Fire Station #8
   - Required lot size
   - Environmental impacts
   - Cost, including both construction cost and potential land acquisition cost
   - Traffic impacts
   - Noise and light disturbances to neighbors
   - Logistics and access needs for expected equipment, staffing and response activities at the station
   - Collective impacts (related to all factors above) on the community from any potential co-located or nearby county facilities
   - Zoning implications from the fire station and any co-located county facilities or services. Response: Arlington County staff agrees with reviewing a range of sites and establishing selection and evaluation criteria. All sites suggested by the community will be evaluated against this criteria. In the initial phase of this siting process, four key criteria will be used to identify sites, the most important of which is improving response time to a significant number of Arlingtonians.

2. A range of sites should be considered, including land both currently owned by the County and privately owned parcels that meet the criteria established. The sites to be considered should include, for example: the current Fire Station #8 site, Dominion Green, other sites identified in the Tri-Data study, “Glebe Meadows,” the Federal Bakery property on Lee Highway, land in North Arlington that may be acquired by the County in prospective land swaps (especially related to the hospital) and other public or private sites of sufficient size on or north of Lee Highway. Response: Arlington County staff agrees with considering a range of sites and looks forward to receiving more feedback from the community about potential sites for the County to consider. We plan to discuss and evaluate those ideas in more detail at the July 30 community meeting.

3. The evaluation and decision-making process should be fed by a solid information base that provides current data on:
4. A dedicated task force, similar to what was convened for the Cherrydale Fire Station, offers the best possibility for systematic evaluation of sites and structured community input and recommendations to the County

- The task force should operate transparently and provide opportunities for input from interested members of the affected communities and general public
- The work of the task force should be supplemented by public information campaigns to broader communities, including web-based information, fact sheets and discussion forums or meetings Response: After receiving several requests to do so, the Arlington County Board has not established a task force for the FS8 relocation. After reviewing the evaluation of all sites in the fall, the Board will take other appropriate next steps which may include further civic engagement and may include potentially establishing a task force.

Information Needs for a Siting Process for Fire Station #8

**Updated understanding of response time issues**

5. What measures has the County taken to improve turnout times and call response times that were discussed in the Tri-Data study as contributing factors to longer responses? (See pp. 28-30 of the Tri-Data Study). How has that changed response times across the County and in North Arlington? What is the current assessment of the “underserved” area of North Arlington based on these improvements? Response: The fire department now reviews turnout time data on a monthly basis. Most units in the department regularly meet the standard of 80 seconds for fire calls and 60 seconds for EMS calls. It is important to understand that turnout times are behavioral and as such Battalion Chiefs.
review the monthly data with company officers to reinforce the importance of quick turnout. The extent to which this has improved response times in North Arlington is marginal. Service to the "underserved" area of North Arlington continues to be outside the standard. This is due to the distance units must travel in response is too long.

6. How far north on Glebe Road would a fire station need to be located in order to fully close the response time gap? At that location, how many calls would the station expect to fulfill for neighboring jurisdictions? Response: This will require additional analysis. In lieu of answering this question in the abstract, we have committed to analyzing response times for any site the community identifies that otherwise meets the siting criteria. It should be noted that moving the station too far north has an additional effect on the rest of the system. Fire Station #2 (Ballston), already one of the busiest stations in the County, would likely see an increase in workload that could affect availability in their current response area.

7. How many fire calls have been received yearly from the “underserved” area of North Arlington? How does this compare to the rate of fire calls in other parts of the county? Response: This will require additional analysis which is currently underway.

8. What is the outcome of fire calls in the “underserved” area of North Arlington in terms of both property damage and personal injury or death? How does this compare to the outcome in other parts of Arlington? Response: This will require additional analysis but will not yield anything definitive. There are many uncontrolled variables such as the cause of fire, and the time to discover and report the fire that have an effect on the outcome. Studies show that a fire in a room can extend beyond the room of origin in as little as 8 minutes. "Flashover" is a condition where everything in a room is on fire and humans without protective equipment cannot survive. This condition will occur within 10 minutes unless adequate suppression methods are employed. We increase the chances of positive outcomes with the variables we do control, such as where to site the fire station (which effects response time) and the ability to apply rapid and effective suppression as early as possible after the fire starts.

9. Which stations(s) currently provide EMS coverage to North Arlington including both first and second-served designations? Response: Stations #8 and #3 provide the first due response to North Arlington. Medic unit response comes from Stations #2, #4 and #6.

10. How many EMS calls have been received yearly from the “underserved” area of North Arlington? How does this compare to the rate of EMS calls in other parts of the county? Response: This will require additional analysis, which is currently underway.

11. What is the outcome of EMS calls in the “underserved” area of North Arlington in terms of survival and health outcomes? How does this compare to the outcomes in other parts of Arlington? Response: We cannot track this specific information. There are many uncontrolled variables that contribute to patient outcome; each patient and their circumstances are different. However, we increase the chances of positive outcomes with the variables we do control such as where to site the fire station which reduces the distance
to the emergency thus reducing response time and the ability to get EMS to the patient’s side as quickly as possible.

12. What was the total EMS response time associated with survival vs. death for EMS calls, especially related to heart attacks? Strokes? Response: We cannot track this specific information. However, it may be useful to know that people in cardiac arrest must receive basic life support (CPR) within 4-6 minutes or irreversible brain damage occurs. A heart attack that does not result in cardiac arrest or a stroke that does not result in immediate death requires immediate care. The earlier the condition is recognized, the more time the hospital has to prepare for the patient and initiate the complicated treatment protocols. Stroke has a time limit of roughly 3 hours from onset to pushing the clot busting medication – the required workup in the emergency room before treatment can take up to an hour, so with faster prehospital response, recognition and rapid transport, the hospital has more time to complete the required assessment and thus increase the chances of being within the time frame to push necessary medication. The same goes for heart attack – the earlier the blocked artery is open, the less damage to the heart.

13. Of EMS calls in the underserved area of North Arlington, how many are from single family homes? From multi-family residences? From schools, organizations and care facilities? Response: This will require additional analysis which is currently underway.

14. Are there any dedicated EMS stations in Arlington County? Response: No

15. Is it possible to separate fire and EMS services and what are the advantages and disadvantages? Response: The response model used by Arlington and every jurisdiction in the region (and most of the country) is the cross-training of all firefighters as EMS providers. As such, every station in the county provides EMS. All personnel are certified as EMS providers at either the Basic Life Support level (Firefighter/EMT) or Advanced Life Support (Firefighter/Paramedic). In addition to medic units (ambulances) operating from seven stations, every engine is staffed with at least one Firefighter/Paramedic. This combined system arrangement provides the highest level of pre-hospital care in the shortest amount of time. Separating these functions into different stations would be more expensive and less efficient.

**Existing stations and practice**

16. How many existing fire stations in Arlington are 3-bay stations? 4-bay stations? Response:

<table>
<thead>
<tr>
<th>Station bay #s</th>
<th>Fire Station #</th>
<th>Pull Through</th>
<th>Year Built (Renovation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 bay stations</td>
<td>#6</td>
<td>Yes</td>
<td>2000</td>
</tr>
<tr>
<td>4 bay stations</td>
<td>#3</td>
<td>No</td>
<td>2010</td>
</tr>
<tr>
<td>4 bay stations</td>
<td>#4</td>
<td>Yes/2 bays</td>
<td>1963 R1997</td>
</tr>
</tbody>
</table>
Bay space is important for support of front line operations, but is also necessary to store reserve and specialized apparatus and equipment such as an ambulance bus and mass casualty response unit. Please note that Station #10, which is part of the WRAPS process, is slated to be replaced with a four bay station.

17. What is the footprint size for the existing 4-bay fire stations in Arlington? How many of the fire stations built in the last 15 years are 3-bay and 4-bay stations, compared to older stations? Response: This will require additional analysis which is currently underway.

18. How many fire stations (and which ones) have integrated EMS capabilities? Response: All fire stations have integrated EMS capabilities; all personnel are cross-trained as firefighters and emergency medical providers. Stations #1 (Glebe Road), #2 (Ballston), #4 (Clarendon), #5 (Crystal City), #6 (Falls Church), #9 (Walter Reed) and #10 (Rosslyn) have medic units that provide transport to the hospital.

19. Which existing Arlington fire stations are located on, and have egress to, 2-lane streets? Response: Fire Station #7

20. Which of the existing fire stations in Arlington have drive-through access? How recently were they built? Response: Please see table above

21. Which existing fire stations were built on “green” sites? On “brown” sites? Response: All have been green sites.

22. What is (or was before re-zoning) the zoning designation for the existing fire stations and the immediate adjacent lots? Which fire stations are adjacent to single family homes? Response: Graphics showing development patterns and the zoning designations of current fire stations and adjacent properties are attached. All of the fire stations, with the exception of FS3 in Cherrylade and FS4 in Clarendon, are zoned either P-S or S-3A, typical zoning districts for Public or Semi-Public land, as designated on the General Land Use Plan. Cherrydale is zoned C-O-1.0 and Clarendon is zoned C-3, zoning districts typical for areas

<table>
<thead>
<tr>
<th>Bay Stations</th>
<th>Number</th>
<th>Yes/No</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 bay stations</td>
<td>#5</td>
<td>Yes</td>
<td>2005</td>
</tr>
<tr>
<td>3 bay stations</td>
<td>#1</td>
<td>Yes</td>
<td>1991</td>
</tr>
<tr>
<td>3 bay stations</td>
<td>#2</td>
<td>Yes</td>
<td>1976 R2001</td>
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<tr>
<td>3 bay stations</td>
<td>#9</td>
<td>Yes</td>
<td>1956 R2000</td>
</tr>
<tr>
<td>3 bay stations</td>
<td>#10</td>
<td>Yes</td>
<td>1960</td>
</tr>
<tr>
<td>2 bay stations</td>
<td>#8</td>
<td>Yes</td>
<td>1963</td>
</tr>
<tr>
<td>1 bay station</td>
<td>#7</td>
<td>No</td>
<td>1983</td>
</tr>
</tbody>
</table>
designated as Commercial on the General Land Use Plan. Fire Stations #1, #2, #3, #5, #7, #8 and #9 are immediately next to or in close proximity to one or two-family homes. Stations #4, #6 and #10 are next to or in close proximity to multi-family dwellings. Historical information on the zoning designation for existing fire stations is currently being researched.

23. Which existing Arlington fire stations are located next to or across from schools, churches or parks? Response: Please refer to attached fire station maps. Fire station #2, #5 and #10 are adjacent to parks. Fire station #10 is adjacent to Wilson School, which has long been used an interim site for schools undergoing renovation.

24. How much does it cost and what are the requirements to decommission the underground gas tank at the current fire station #8 site if the station is relocated? Response: There are two underground storage tanks (USTs) at the site (Gas – 20,000 gallons, Diesel – 32,000 gallons). They were installed in the 1990s. The process to decommission a UST is as follows: Notify ACDF and then contact VA DEQ as they are the authority and have a protocol [http://www.deq.virginia.gov/Programs/LandProtectionRevitalization/PetroleumProgram/StorageTanks/UndergroundStorageTanks/USTNotification.aspx]. DEQ will look it up in their database to see if it is registered (if not we will need to register it). They will provide us with options for abandoning or removing the tank. We will then have to engage a certified contractor (DEQ has a list) and remove or seal (concrete slurry) the tank. We will need to use a third party inspection services for testing of the material and soil underneath the tank as well.

The estimated cost to de-commission one underground storage tank is approximately $35-$150K and depends on the conditions of the tanks. Over the years both the County and APS have used this process successfully.

25. What equipment and trucks are currently housed at Fire Station #8? How is this proposed to be changed or increased with a new fire station? Response: Fire Station #8 currently houses a front line engine, a reserve medic unit and a specialized air unit. Those same functions would move to a new station.

26. What is the lot size for the existing fire station #8? Could it accommodate a 3-bay or 4-bay station on 1 story? With 2 stories? Response: Due to the site geometry, a 3-bay or 4-bay fire station would not fit on the site. Please see attached lot map.

27. What traffic control systems are in place for the current Fire Station #8? How often are they used? How much do they improve travel response time? Response: The station has a traffic signal that is controlled by station personnel. The light is used whenever a unit leaves the station. The light serves two purposes; the first is to stop traffic on Lee Highway and on North Culpepper Street to enable response units a safe and unimpeded exit of the station. The second purpose is to reduce the use of the siren and air horns to clear traffic as units leave the station. The effect on response time is minimal.
28. What existing fire stations are co-located with other county services or facilities? Response: None. Station #5 was previously co-located with a library and senior center. The move of that station to its current site was a short distance.

**Siting criteria and issues**

29. What equipment, facilities, response activities and staff are expected to be housed at the new fire station? How do they differ from that housed at the current Fire Station #8? Response: Fire Station #8 currently houses a front line engine, a reserve medic unit and a specialized air unit. Those same functions would move to a new station. Reserve and/or specialty units may move to Station #8 to meet the department’s storage needs. Currently these units are stored in overcrowded fire stations and in other locations including the Water Pollution Control Plant. There are four personnel assigned to each of three shifts at Station #8 and presently that is the planned staffing for the new station.

30. Based on current staffing and budget, would the fire department be able to fully staff the proposed equipment in accordance with national and international guidelines (4 firefighters for each apparatus, including for EMS calls)? Response: The engine at station #8 is currently staffed to meet national standards; there are no international standards.

31. How many new vehicles will be purchased to operate in the new fire station? Response: No new vehicles are planned for the new fire station. However as indicated above, a new station will provide space to store reserve and specialty apparatus and will have room for personnel to train. The department has an apparatus replacement plan that is part of the Capital Improvement Plan.

- What kind will they be? n/a
- How much will they cost? n/a
- Is the money for them allocated in the current budget or CIP? n/a

32. What is the estimated lot size required to accommodate a 4 bay fire station? A 4-bay station with drive-through access? What lot size is required for 1-story and 2-story options for each? Response: The estimated lot size required for a 4 bay drive station with drive through access is 1.5 acres which includes 0.8 acres for the fire station building footprint and apron and 0.7 acres for a wrap-around drive aisle, surface parking for 12 spots and a 30-40 ft. setback/ buffer.

Arlington County staff is currently developing lot size requirements for a 4 bay fire station without drive through access and for 1-story and 2-story options and will share the information as soon as it is available.
33. What are the parking requirements for a 4 bay fire station and its associated facilities and services? What footprint is needed to meet the requirements with surface parking only? Response: 12 parking spaces to accommodate the changing shifts.

34. What are the site characteristics required to support underground parking? Response: Site characteristics such as suitable soils to support the garage structure, suitable sub-surface conditions like ground water and rock below lowest floor elevation and consistent topography.

35. What is the estimated cost to build a 4 bay fire station? A 4 bay station with drive-through access? A 3 bay station? A 3 bay station with drive through access? Response: Each site is unique and factors into the cost of construction. The County estimates a differential of $300-$500K for a 3 bay and 4 bay station. Approximately $12M is included in the FY2016-2024 CIP for construction of new Station 8.

36. What is the cost difference of building a 3 bay station compared to a 4 bay station? Response: Answered above

37. What is the cost difference of re-building the fire station on the existing site compared to building on a new site? Response: Each site is unique and would require an independent analysis and cost estimate. Cost for the construction of the new building would be similar, however the cost would vary depending on site conditions of the new site, environmental issues, subsurface conditions and traffic and circulation patterns.

38. Is it planned that a fueling station would be part of the relocated fire station? Yes. If so, what facilities or services would it support, and how many vehicles would be expected to use it? Response: The fueling station is being considered as part of the relocation. However, further details on what facilities and services it will support is still being determined.

39. What environmental evaluations are required to be done in siting a new public facility? How are these requirements affected by proximity to parks, streams or other natural features? Response: The County is required to review and comply with all relevant ordinances including General Land Use Plan; Master Transportation Plan (including streetscape standards); Public Spaces Master Plan (including the Public Art and the Urban Forestry Master Plans); Chesapeake Bay Preservation Ordinance; Historic Preservation Master Plan; Stormwater Ordinance; Zoning Ordinance and Form Based Code; Revitalization, Sector and Small Area Plans; Community Energy Plan (LEED Standards); Utility Undergrounding Policy; etc. Compliance with these plans are factored into the design development process that is led by the Public Facilities Review Commission (PFRC), a County-board appointed citizen advisory commission.

40. What environmental evaluations are required to be done in siting a fueling station? How are these requirements affected by proximity to parks, streams or other natural features? Response: Each site is unique and will require environmental evaluations based on its natural features. The County is committed to protecting our natural resources and will
comply with all relevant County ordinances and State regulations. In addition, if a fueling station is installed at the relocation site, the County will follow the technical requirements for USTs installation which are included in Virginia regulation 9 VAC 25-580 et seq. entitled "Underground Storage Tanks: Technical Standards and Corrective Action Requirements."

41. What traffic control systems can be used to clear traffic and where would they be put in place near a given location? Would new traffic lights need to be installed? Response: The new fire station will require a traffic light to control apparatus egress from the station. That apparatus is equipped with a traffic control device that turns traffic lights green in the direction of travel during emergency response. Further traffic studies would be conducted upon site selection as part of the Public Facilities Review Committee.

42. What would be the role of VDOT in the process if a fire station has access or egress from a state-owned road? Response: A driveway permit is required from VDOT. In their evaluation of the request they will consider site distances, speeds, intersection impact, etc...They may also require additional measures to mitigate impact.

43. What are the implications associated with response needs during heavy rush hour traffic? Response: Response times are affected by rush hour traffic. The fire department works to minimize those effects through the use of traffic lights to control apparatus egress from stations and the use of traffic control devices attached to apparatus that turn traffic lights green in the direction of the units' travel. Arlington has been working for a number of years to assure that fire trucks have access to this technology.

44. Will new firehouse equipment be serviced at a new fire station? What are the environmental impacts? Response: Fire apparatus are not serviced at the firehouse. This is done at the County’s Equipment Bureau located at the Property Yard on 27th Street South off Arlington Mill Drive.

45. What siting criteria and evaluation processes were applied to siting the Cherrydale fire station? What were applied to siting the planned Rosslyn station? Please provide a copy of any reports associated with those siting processes and decisions. Response: Recently constructed fire stations have undergone different siting and planning processes in response to their specific project requirements. In Cherrydale, multiple privately-owned sites were under consideration. A task force was formed to evaluate these sites and develop a siting recommendation. An overview of this process, from the perspective of the task force chair, was presented as a case study to the Community Facilities Study in May 2015. In Rosslyn, a replacement facility for Fire Station #10 is planned to remain within the Western Rosslyn Area, the study area established for the development of the Western Rosslyn Area Plan advertised for County Board action in July 2015. As set forth in the County Board charge for the working group established for the Western Rosslyn Area Planning Study (WRAPS), the study addressed the fire station’s location within the study area and potential for co-location with other uses.
46. What is the inventory of County owned land north of Lee Highway and what size is each parcel? Response: Please see attached map.

47. What are the features or measures that have been, or can be, taken to reduce the impacts of the fire station on the surrounding neighbors in terms of noise, lights, environmental effects of runoff, etc.? Response: Each site is unique and would require an independent analysis on the specific impacts to the construction of a fire station on the surrounding neighborhoods. Features or measures such as a well designed and installed storm water management would address environmental effects of storm water runoff; the selection of building materials and equipment in conjunction with siting the fire station to limit and direct sounds in a preferred direction; the use of lighting controls and thoughtful placement to avoid light pollution and disturbance to adjacent properties; and the judicious use of sirens and horns.

Fire-EMS personnel are well aware of the proximity to their neighbors. While the effects of response differ by time of day, it is a long-standing practice of the department to use sirens and air horns judiciously and with safety as an underlying principle and to be considerate of the neighborhood and its residents.