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# Service Authority

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Joyce P. Eagles, Vice Chairman  
Marlo Thomas Watson, Secretary-Treasurer  
Jim Almond, Member  
Paul Colangelo, Jr., Member  
Dean E. Dickey, Member  
B. Paul O'Meara, Jr., Member  
Harry W. Wiggins, Member

Calvin D. Farr, Jr., P.E., General Manager

## MINUTES OF BOARD OF DIRECTORS WATER SOURCE & SUPPLY ALTERNATIVES WORK SESSION OF JULY 27, 2021

Board Members Present: Jim Almond, Paul Colangelo, Dean E. Dickey, Joyce P. Eagles, K. Jack Kooyoomjian, Ph.D., B. Paul O'Meara, Jr., Marlo Thomas Watson, and Harry Wiggins.

Staff : Calvin Farr, Astrid Nelson, Don Pannell, Samer Beidas, David Pereira, Tony Piccione, David Scott, Debbie Maxwell, and April Bean.

Legal Counsel : Matthew Roberts/Bean Kinney & Korman.

Guests : Randy Cyr, Shelby Gilmartin, Jeff Jackson and Jay Kirk/Brown and Caldwell.

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Chairman Kooyoomjian opened the Work Session at 6:53 PM.

Mr. Roberts introduced himself to Board Members; he explained he is attending this meeting on behalf of Mark Viani.

Mr. Farr thanked Board Members for their time to discuss master planning. Mr. Dickey asked for clarification on expectations for this meeting and what types of decisions staff expects from the Board tonight. His understanding is this is not a decision-making meeting, although there may be issues that the Board can decide on tonight. The Chairman stated he thinks it is an education for staff and the Board on the alternatives, and for the Board to be expansive, "think out of the box," have a discussion, and try to capture the universe of possibilities and good ideas. He added he does not see this as a decision-making meeting, although there may be some things the Board Members all agree on, something obvious, that perhaps they may want to pursue; he added he doesn't think he and most of his colleagues came here to make decisions tonight on what they are going to do for 2045 and 2050, but they want to ponder how they might approach this big question of water source and supply alternatives; there may be alternatives they can identify. There may be some things that are time-sensitive that require action from the Board. Mrs. Eagles shared that she expected to get a wider range of ideas of water supply options. Mrs. Thomas Watson stated that one caveat for her is that if information is presented and if time is of the essence in some aspect, she doesn't feel the Board should be limited to not making a decision if

they feel they have received enough information. Mr. O' Meara agreed with Mrs. Thomas Watson that the Board Members should not limit themselves; it never hurts to consider a lot of options and be ready to act.

Mr. Kirk introduced himself and his team with Brown and Caldwell and noted they look forward to presenting to the Board at this meeting.

## 1. WATER SOURCE & SUPPLY ALTERNATIVES WORK SESSION

Mr. Kirk explained the four components of their presentation: Project Overview and Activities; Supply Alternatives; Alternatives Analysis and Findings; and Next Steps. He also provided some background on the master plan and the work his team has done with the Prince William County Service Authority (Authority).

Mr. Jackson provided information about the nine (9) alternatives they studied as water sources (including wells and ground water). They narrowed those options down to three (3), which they discussed in more detail at this meeting. One of the baselines was setting a 20 MGD (million gallons per day) supply potential framework to use as a baseline. That was based on looking at the east and west service districts' average day demand and allowing the Authority to choose a point as it thinks about providing a reliable and resilient source that can supplement the current Fairfax Water source.

### Three Alternatives Chosen to be Considered

1. Lake Jackson Dam Raise
2. Potomac/Occoquan Estuary
3. Quarry Storage (Existing quarry near the City of Manassas)

#### 1. Lake Jackson Dam Raise

The dam would need to be raised to allow for additional storage of water to provide operational flexibility to use more water. Would need to construct a new water treatment plant (could be a more conventional water treatment plant) in this area. The dam raise would increase the water level and would potentially impact the public around the area; approximately 100 acres would be flooded as a result of this work (affecting approximately 50 properties).

#### 2. Potomac and Occoquan Estuary

The water in Occoquan Bay and the Potomac River in this area is brackish (has a higher level of salinity and total dissolved solids), so a more advanced water treatment plant would have to be constructed, including installation of a reverse osmosis type of technology to be able to remove and manage the high levels of salinity and total dissolved solids.

#### 3. Quarry Storage

This active quarry would be a surface water source (non-brackish water). It could be used for a couple of different purposes: (1) Routine raw water storage pond (take water from Broad Run and Bull Run and send it to this reservoir); or (2) Emergency storage (e.g., for drought conditions, high flows, etc.). Could

hold up to eight (8) billion gallons of storage, although the Authority would not want to use that water for day-to-day operations because of water quality concerns (i.e., standing water); the Authority would only want to use approximately two (2) billion gallons. However, this resource does provide some value in an emergency. The Authority would be able to incorporate a conventional water treatment plant and connect it to the distribution system. Mr. Jackson noted staff considered placing a water treatment plant on this (quarry) site; however, other locations for the treatment facility could be evaluated in a siting study that still utilize the quarry as the raw water source. It is feasible to have the water treatment plant in a different location than the raw water supply.

Discussion held about two of the three options taking water from Fairfax Water's sources.

Mr. Wiggins commented about building a water treatment plant next to the H.L. Mooney Advanced Water Reclamation Facility (Mooney), although Mr. Farr has stated there is not enough land there. As an alternative, Mr. Wiggins asked if the Authority could draw 10 MGD water from Mooney. It was noted that the average flow at Mooney is 13 MGD, so it is reasonable to draw up to 10 MGD for reuse. He asked if there is a reason that was not an option. Mr. Jackson advised that alternative was originally considered in the original list of nine but was excluded because the original 20 MGD threshold that was set was not attainable with that option [of 10 MGD].

Mr. O'Meara commented on the land next to Mooney and wondered if there was enough to locate a water treatment facility. He also noted Neabsco Creek is not in the Occoquan Watershed and wondered if the Authority could have a water treatment plant at Mooney and pull water from the creek without infringing on regional agreements. He expressed his support for exploring this alternative.

Mr. Kirk referenced Brown and Caldwell's obligation to the Authority, as their consultants, to consider what the minimum amount/threshold would need to be. As it was not studied in their analysis, he asked if 10 MGD would be enough to maintain a condition that could service all or portions of the service area. Brown and Caldwell would need to understand what that minimum would be. Mr. Kirk also advised that the Authority is looking at 2045 right now; he asked if the Authority wants to limit itself to a scenario that it cannot expand beyond what is being considered at this time.

Mr. Dickey asked if the intention of this meeting is to consider the absolute lowest cost, did Brown and Caldwell investigate purchasing additional capacity from Fairfax Water? He noted the Authority has the right to purchase many more millions of gallons from Fairfax Water, and it may be less expensive. Mr. Jackson advised staff was looking at just the feasibility of potential other sources; they did not incorporate purchasing additional capacity as part of their comparative analysis of the three alternatives. Mr. Kirk noted that an upcoming slide will show the price point on what purchasing additional capacity would be, based on projections to come, but it was not included as a fourth alternative in comparing and contrasting options for other water sources.

Mr. Jackson reviewed Brown and Caldwell's evaluation criteria and rating system for identifying the three water source alternatives chosen for consideration. He shared the comparative cost information for each alternative and provided the estimated cost per gallon of additional capacity from Fairfax Water.

With respect to the scalability of costs, Mr. Jackson explained that construction of a 10 MGD water treatment plant would cost approximately \$30 million; 20 MGD would be \$60 million; and 30 MGD

would be \$90 million. Staffing needs/costs would increase with a larger facility, but not proportionately so. However, energy and chemical costs would increase proportionally with a larger plant size.

Mr. Jackson explained the major components that were incorporated into the assessment of the water source alternatives.

Mrs. Thomas Watson asked if the original thought about building a water treatment plant was to not be dependent on Fairfax Water; Chairman Kooyoomjian noted that Mrs. Thomas Watson's understanding was correct.

Mr. Kirk reviewed the next steps for the Board's consideration.

Chairman Kooyoomjian asked Board Members for their comments.

Mr. Dickey commented that, based on the information provided, it would not be beneficial to consider studying Lake Jackson as a source. Mr. Wiggins agreed with Mr. Dickey. The Chairman and Mr. O'Meara agreed as well.

Mr. O'Meara added that data centers have been of interest in Prince William County (PWC) recently. One property was the Compton property next to Manassas Mall; a data center developer wanted to initiate a land use amendment to classify the approximately 75 acres for data centers. He noted that part of the narrative description in one developer's application for the property stated, "...while it does not extend to the property, there is no meaningful difference between the Vulcan Quarry and the property in terms of data center development potential or access to infrastructure." Mr. O'Meara interpreted that as meaning the data centers have not overlooked the rock quarry. He stated his support for staff to examine this alternative very closely with the idea that time is of the essence. Chairman Kooyoomjian stated he would like to see the quarry be considered a resource for the Authority's regional partners as well, as it has value to Manassas, Fairfax, and Prince William as a system. He suggested discussions with those entities to acquire this resource for the mutual benefit of all parties. Mr. O'Meara asked if the Authority has contacted Vulcan about its interest in the property. Mr. Farr noted that negotiation strategy discussions could be held in a closed meeting.

With the Board agreeing to remove the Lake Jackson Dam Raise from consideration, Mr. Wiggins asked to add a third alternative with Mooney, building a water treatment plant at Mooney with the possibility of drawing water out of Neabsco Creek in addition to drawing water from Mooney, if the Board agrees with that suggestion. Board Members agreed with Mr. Wiggins' suggestion. Mr. Farr asked for clarification that the Authority is looking at all options for water supply, not just its own standalone system; the Chairman confirmed Mr. Farr's understanding. Mr. Dickey asked Mr. Farr to explain his question further. Mr. Farr stated he does not understand the urgency for a water treatment plant; however, he does agree with forward thinking for land acquisition for future planning. He noted that if water demands showed that current capacity may not serve the Authority until 2035, the Authority would need to be more aggressive about a solution. However, current water projections take the Authority to 2045. Mr. Farr asked if the goal is for the Authority to have its own water treatment plant or is it to make sure it has additional water supply, as they are two different things. Chairman Kooyoomjian stated his opinion that it is the latter, that the Authority assures it has a water supply, but others may feel differently. Mr. Wiggins asked if staff has had discussions about future water needs from Fairfax Water. Mr. Dickey advised that when he was General Manager of the Authority, he spoke with the former General Manager, Chuck

Murray, at Fairfax Water about future capacity needs. They discussed how long the additional water would be available to the Authority; Mr. Murray assured Mr. Dickey they would have water well into the future, and the Authority would not need to purchase more capacity at that time [which was three or four years ago]. Mr. Dickey added that Fairfax Water is planning another expansion if or when it is needed again. He noted the origin of the discussion about a water treatment plant originated several years ago with a former Authority Board Member. That member was very concerned that the Authority was the only major county in Virginia that did not have a treatment plant; his additional concerns were resiliency and redundancy.

Mr. Wiggins shared that, in terms of regional cooperation, he is not opposed to buying additional water from Fairfax Water or the City of Manassas rather than proceed with a massive capital expansion. Chairman Kooyoomjian added his agreement on working with regional partners with respect to the Vulcan quarry property. Mr. Dickey suggested if the Authority wants to take any action at all, they should bring other regional partners into the discussion unless the Authority just wants to purchase additional capacity. He noted Fairfax Water was ready to sell the Authority additional capacity three years ago, but it wasn't needed at that time. If the Authority is going to do anything with the Occoquan River and the drainage area around Occoquan, Mr. Dickey recommended staff discuss future actions with those regional partners.

Mr. Wiggins said he would like Mr. Farr and staff to communicate with Fairfax Water and determine what their plan is in terms of increased capacity for both entities. If buying additional water is more cost effective than building a plant, he supports the former.

Mrs. Thomas Watson asked to hear staff's thoughts on this matter. Mr. Pannell stated that comparing the Fairfax Water option [of buying additional capacity] to the water source alternatives makes sense. He thinks it would be great to engage with Fairfax Water; one thing that staff heard from the Board was that having a larger stake in how Fairfax Water operates their water system, as a stakeholder, and having that dialogue with them about purchases is a great time to talk about, as customers, what's important to the Authority as a water system. It would be right in keeping with analyzing the Fairfax option. Mr. Farr added that he supports regional partnerships, especially regarding the important issue of water supply. He agrees with communicating with Fairfax Water as well as reviewing other options.

Chairman Kooyoomjian shared comments regarding past discussions about regional partnerships as well as public concerns. Mrs. Eagles shared her concurrence about working with regional partners and strengthening them to help all of them do better. Dr. Kooyoomjian added comments about watershed management.

Mr. Roberts recommended the Board outline the choices made at this meeting in the form of a motion to show their consensus on those items and have a record in the meeting minutes.

Motion: Mr. O'Meara moved that the Prince William County Board of Directors direct staff to remove the Lake Jackson Dam Raise alternative from consideration.

Second: Mr. Dickey

The motion passed by unanimous vote.

Motion: Mr. Wiggins moved to include a Mooney option as discussed at this meeting as a water source alternative (including using Neabsco Creek as a water resource).

Second: Mr. O'Meara

The motion passed by a unanimous vote.

Motion: Mr. Wiggins moved that Authority staff report back to the Board, at the September 2021 Board meeting, regarding their conversations with Fairfax Water.

Second: Mrs. Thomas Watson

Mr. Farr advised staff is meeting with Fairfax Water next month and will be ready to report back to the Board of Directors in September.

Mr. Almond asked if Board Members could receive the staff report from the meeting with Fairfax Water in advance, prior to the September Board meeting, to allow them to review it and prepare any questions they may have; he suggested this would keep the discussion at the Board meeting streamlined and efficient. Mr. Farr noted staff does not expect to have any decisions made in the conversation with Fairfax Water, although he expects to be able to report something back to the Board in September.

The motion passed by a unanimous vote.

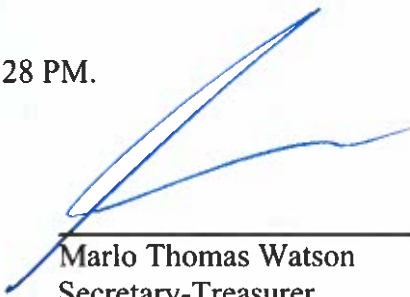
2. CLOSED MEETING

There was no need for a closed meeting.

Chairman Kooyoomjian thanked Brown and Caldwell staff for their work on this issue.

3. ADJOURNMENT

The work session adjourned at 8:28 PM.



Marlo Thomas Watson  
Secretary-Treasurer