

**EASTERN VIRGINIA GROUNDWATER MANAGEMENT  
ADVISORY COMMITTEE**

**JOINT MEETING #3**

**WORKGROUP #1 – ALTERNATIVE SOURCES OF SUPPLY  
(MEETING #10)**

**WORKGROUP #2A – ALTERNATIVE MANAGEMENT STRUCTURES  
(MEETING #9)**

**MEETING NOTES – FINAL**

**TUESDAY, NOVEMBER 15, 2016  
DEQ PIEDMONT REGIONAL OFFICE – TRAINING ROOM**

**9:00 – 12:00**

**Meeting Attendees**

<b>EVGMAC WG #1 &amp; EVGMAC WG #2A</b>	
Elizabeth Andrews – WG#2A - William & Mary	Whitney Katchmark – WG#1 & WG#2A - HRPDC
Richard Costello – WG#1 - VA Home Builders	Mike Kearns – WG#1 - Sussex Service Authority
Larry Dame – WG#1 - New Kent County	Eric Lassalle – Smithfield Foods, Inc. – WG#1
Judy Dunscomb – WG#1 - The Nature Conservancy	Kristen Lentz – WG#1 - City of Norfolk
Jason Early – WG#1 - CARDNO	Jamie Mitchell – WG#1 & WG#2A - Hampton Roads Sanitation District
Katie Frazier – WG#1 - VA Agribusiness Council	Don Rice – WG#1 - Newport News Waterworks
Carole Hamner – WG#1 - WestRock	Wilmer Stoneman – WG#2A - VA Farm Bureau
Steve Herzog – WG#1 - Hanover County	Erika Wettergreen – WG#2A - Marstel-Day
David Jurgens – WG#1 - City of Chesapeake	Andrea Wortzel – WG#2A - Troutman Sanders/Mission H2O

NOTE: Advisory Committee Members NOT in attendance: Kyle Duffy – WG#1 - International Paper; Jeff Gregson – WG#1 - VA Well Drillers Association; Bill Gill – WG#1 - Smithfield Foods; Rhea Hale – WG#2A – WestRock; Brent Hutchinson – WG#1 & WG#2A - Aqua Virginia; James Maupin – WG#2A - Maupin’s Well Drilling – VWWA; Britt McMillan – WG#1 & WG#2A – ARCADIS; Doug Powell – WG#1 - James City County; Paul Rogers, Jr. – WG#1 - Farmer – Production Agriculture; Erik Rosenfeldt – WG#1 - Hazen and Sawyer; Rebecca Rubin – WG#2A - Marstel-Day; Gina Shaw – WG#1 - City of Norfolk – Department of Utilities; Kurt Stephenson – WG#2A - Virginia Tech; Thomas Swartzwelder – WG#1 - King and Queen County; Chris Thomas – WG#1 - King George County SA; Eric Tucker – WG#2A - City of Norfolk; Brett Vassey – WG#1 - VA Manufacturers Association; Michael Vergakis – WG#1 - James City Service Authority

EVGMAC STATE AGENCIES WG #1 & WG #2A	
Drew Hammond – WG#1 - VDH-ODW	Dwayne Roadcap – WG#2A - VDH-OEHS
Scott Kudlas – WG#1 & WG#2A - DEQ	Mark Rubin – VCU – Mtg. Facilitator

NOTE: EVGMAC WORKGROUP STATE AGENCIES NOT in Attendance: Susan Douglas – WG#2A - VDH-ODW; Skip Harper – WG#1 - VA Department of Housing and Community Development – State Building Codes Office; John Loftus – WG#1 - VA Economic Development Partnership; Sandi McNinch – WG#2A - VA Economic Development Partnership; Steve Pellei – VDH-ODW

INTERESTED PARTIES ATTENDING MEETING	
Arielle Brown – Virginia Farm Bureau	Nikki Rovner - The Nature Conservancy
Andy Flavin – Troutman Sanders	Matt Wells - WestRock
Jonathan Harding – VA Agribusiness Council	

SUPPORT STAFF ATTENDING MEETING	
Brandon Bull - DEQ	Mark Rubin – VA Center for Consensus Building
Craig Nicol - DEQ	Jutta Schneider - DEQ
Bill Norris - DEQ	

**HANDOUTS:**

- **Draft Meeting Agenda (Emailed and Hard Copy at Meeting);**
- **Revised Strategy Matrix with Homework Responses Compiled (Emailed and Hard Copy at Meeting);**
- **Definitions of Options Document (Emailed and Hard Copy at Meeting)**

**1. Welcome & Opening Comments – Introductions (Mark Rubin – Meeting Facilitator)**

Mark Rubin, Executive Director of the Virginia Center for Consensus Building at VCU, opened the meeting and welcomed everyone to this, the second joint meeting of the Eastern Virginia Groundwater Management Advisory Committee Workgroups on Alternative Sources of Supply (WG#1) and Alternative Management Structures (WG#2A). He asked for introductions of those in attendance.

**2. Introduction: Scoring Matrix with Homework Responses Compiled (Bill Norris):**

Bill Norris provided an overview of the revised scoring matrix and explained the process he used to include the homework assignment responses in the scoring matrix. He noted that when the original scoring matrix was discussed at the last meeting that the decision was made to send it out to the workgroup members and ask them as part of a “homework assignment” to fill it in; to score the projects and project types and otherwise provide information that could be used to finalize the chart. He noted that only a few members had responded but those responses required a revision of the original chart so that the information could be included. He noted that some additional specific projects had been suggested as well as an additional project type (“Permit Reductions”). He also noted that a “Comment/Notes” field had also been added as well as an additional comments sheet to accommodate the additional information that was provided in the homework assignment responses.

### **3. Discussions: Scoring Matrix with Homework Responses (Mark Rubin/Workgroup):**

Mark asked the workgroup for comments on the “scoring matrix”. The discussions included the following:

- It was noted that the previous discussions had included the concept of adding some “context” to each of the columns (entries) – without the “context” someone looking at this chart a year from now will not understand the reason for the entry and it will likely not be useful without that clarifying information. We need to include the how and the why for each of the entries in the chart for it to be useful for other readers in the future.
- In terms of “context” is that more in the form of explanation for the top row in the chart? Not so much for the top row but more in terms of specific descriptions of potential considerations for each of the items. For example, for “One Water Management” you would describe each of the potential considerations that went into that category (what were the stormwater and surface water effects). The idea would be to be very specific about the considerations for each of the entries in the column headers. For “Available technology” you could talk about what those technologies are and where they are being used.
- It was suggested that the workgroup had gone through one of these as an example in the last meeting of the workgroups. The discussions that the group went through would be helpful.
- It was recommended that the chart should be revised to include context – there needs to be an explanation on why a specific response (i.e., “Yes” or “No”) is included in the chart – the thought process needs to be included as information. The thoughts on the conclusions for the entries in the table/chart are not there but would be very useful. Is it possible to add comments and notes? You could include general comments at the end of the row for each of the project types. There is a value in including the “comments” as part of the chart/table.
- Part of the discussion would be guided by how we intend for the chart to be used in the future. If you are handing this over to the full committee for them to make a recommendation, does this give them enough information to make those recommendations? If we are thinking about this being a tool for the General Assembly members to use, it probably needs to be shorter with fewer details. The challenge is how can it be a meaningful tool for them to understand the tradeoffs that they are making by choosing one option over another? At the moment it is a tool for the main Advisory Committee to be able to use to make decisions. What would come out of it in terms of a product for inclusion in the final report would be subject to what comes out of the main Advisory Committee. For the time being, we need to think about this as a tool for the Advisory Committee to be able to make some decisions.
- It was suggested that it would probably be impossible to develop the needed “context” information in this large group but it might be possible to pull together a small subgroup of the workgroup members that could work on that task and then circulate that information to the balance of the workgroup members.

- Is it worthwhile to go through the matrix to try to prioritize the current projects and project types and then try to pick out which ones, under the various project types would be ones that the workgroup would suggest that the Advisory Committee really ought to be aware of or looking at with the others identified as “possibilities”? It was suggested that maybe the group could come up with a short list of those viable/preferred options.
- If this is going to be used by the Advisory Committee is there an explanation; a key or a legend to define some of the items included on the chart? For example what is the difference between the “\$” and “\$\$”; what is considered “long”; what is “short”. It was noted that the original spreadsheet included a key at the end of the table that apparently was not included on the latest version.

**The key on the original spreadsheet included the following:**

Definitions
Direct benefit to permittee: meet’s a water user’s need.
Indirect benefit to aquifer or to permittee: reduces water level decline (by reducing withdrawals from aquifer)
Time to realize benefits: timeframe for benefits to be felt in the aquifer from the time a project becomes operational
One Water: recognition of other water system benefits, in addition to benefits to the aquifer. Allows for consideration of the impacts on the holistic water system.
Currently in use in Virginia: reflects whether a given project type has been implemented successfully in Virginia
Permitting Feasibility: ease and availability of obtaining necessary permits
Policy/Regulatory Framework: regulatory jurisdiction not defined or not ideal
Management Structure: changes to management structure needed for project or would improve likelihood of success for the project
<b>NOTE:</b> The ratings do not represent an endorsement of the state agencies participating in the Eastern Virginia Groundwater Management Advisory Committee Process, nor do they predetermine permitting decisions.

- Starting with the “aquifer recharge projects” as identified in the chart and see which ones we would pick as things to present to the Advisory Group as being of a higher priority. Would it be fair to say that the HRSD SWIFT project would be the number one priority in this category? There was some concurrence to this but it was also noted that maybe it should be included as a class of project. The class of project should be “aquifer recharge – purified wastewater”. Whether it is HRSD SWIFT and it does one plant or six plants or whether it is Hanover; or Henrico; or New Kent, they are all the same class of project with the same goal. Right now HRSD SWIFT just happens to be the largest project with the largest potential on the table.

- Are we looking for “tools” or “specific projects”? If it is tools that we are trying to identify then it would be “aquifer recharge using purified wastewater” as the class of project and there are lots of places where that could occur. So the thought is that you would take a class of project and use that as your “prioritization factor”. It was noted that we have gone around and around about this approach in previous meetings. It all goes back to what is the purpose of the chart/matrix. What is the goal to come out of this exercise? We have talked about having a kind of generic chart that suggests ideas or concepts or tools that the Advisory Committee could evaluate but on the flipside there are some “active” projects that have been proposed that already have a “champion” that are “on the table” so shouldn’t we provide some feedback about those projects and where those projects fit? We have talked about having one combined chart – we have talked about having two separate charts – it does confuse things to have actual projects combined with more generic project types. We have talked about presenting the information in separate charts with actual projects identified on one and generic projects/concepts identified on the other. It was suggested that you could focus on generic concepts and include information on specific projects could be identified with an “asterisk” in the chart.
- It was suggested that the overall chart of this entire project is to identify the types of projects not to select specific projects. Some of the projects have more PR than others and are further along in the process than others. Aquifer recharge using purified wastewater may be appropriate as the #1 solution. Someone else can then decide which of the existing or proposed projects would be better – that would be fairer to all of the projects instead on ranking them on a specific project basis. You could include examples of specific projects under the generic project type headings. This would be essentially looking at the class of project and using that as your ranking factor instead of trying to assess and rank it on a specific project basis.
- It was suggested that this is an overall policy recommendation project rather a specific project recommendation effort. It was also noted that at the same time, the whole reason that this process was started was that we have a problem that we are trying to solve. If there are active proposals on the table, it seems like we would be remiss not to provide some analysis of how that specific project does or does not help solve or fit into the overall approach to solving the problem.
- It was suggested that “Aquifer Recharge” would be the number one project type. It was noted then that there are two different approaches under “aquifer recharge” that would need to be taken into consideration – “use of purifies wastewater” and “use of purified surface water”. If you were to prioritize these approaches based on public acceptance that aquifer recharge using purified surface water is likely to be more ideal. So maybe we need to consider a prioritization process based initially on “public acceptance”. As part of this process, we should also be identifying challenges to specific projects and to generic project types. It was noted that HRSD has identified several challenges that the HRSD SWIFT projects faces where the state could have a role with the project. Without that assistance the project might not happen – with assistance it will. For example, a challenge might be how to get additional monies (\$30 million/year) from other people who are not currently HRSD rate payers? There are hurdles to

the project, but HRSD is making the necessary investments in an effort to implement the project. It was noted that there have been struggles with identifying the money needed for the HRSD SWIFT project for inclusion on the chart because HRSD has already built the money needed for this project into their current rate structure, so the rates won't be going up for their rate payers. The issue is whether or not EPA accepts HRSD's "Integrated Plan". The project is self-funded so funding is not an issue. HRSD of course wouldn't turn down additional funding if it became available but that is not a deciding factor for the project moving forward.

Mark asked the group whether everyone was okay with walking through the classes of projects and base the priorities on the "class" of project rather than on a "specific project" and then the next piece would be identifying specific projects under those classes of projects followed by an analysis of that class of project and/or specific project. It was noted that the original electronic spreadsheet was set up with "drop-downs"/"drop-ups" that included that type of information.

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**Flip Chart Notes:**

- 1. Aquifer Recharge (AR):**
  - a. Purified wastewater;**
  - b. Purified surface water**
- 2. Aquifer Storage and Recovery (ASR):**
- 3. Impoundments:**
  - a. Reservoirs;**
  - b. Quarries;**
  - c. Stormwater Ponds**

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**Continued Discussions included the following:**

- It was suggested that it appears that in addition to considering the "project type" and "source of water" but also the "scale" of the project – is it "local" or "regional"?
- It was noted that the only thing that makes the HRSD SWIFT project "regional" is that they are doing it at multiple places. Each project is actually a "local project" – it is just that the overall project is happening at a lot of locations that makes it "regional" – it is still just one entity. It could be argued that it does have "regional funding".
- It was suggested that we not worry about the scale of the project in our current discussions because that will end up being part of the "context information" for each of the projects.
- It was noted that the original concept was that we were going to fill the entire chart and that having all of those details was going to help us get to the answer. Now we are talking about just going to the answer and explain why through filling in all of these categories and that's okay it is just interesting in how our approach to this has changed since our last meeting.

- It was suggested that the overarching committee members are likely to want a document that tells them “what are the benefits”: “what are the costs”; “whether there is public acceptance” and then identify “what policy recommendations are needed to make this project feasible?”
- A concern was raised over the possibility of “information overload” for the detailed information that would be included in the current chart/matrix. What we develop to send to the Advisory Committee needs to be simplified.
- The chart needs to be smaller and have more concise information.
- It was suggested that a simpler chart could contain information on “Benefits”; “Costs”; and “Feasibility” as a way to organize each of the issues. The only missing piece of information in this approach would be “What do we need to do to make it happen?” Are there regulatory or statutory changes needed to make this happen? The last column should be “what actions does the master committee need to take in order to make these feasible projects regulatory of framework feasible?” The main committee needs to know “What will work” and what do they need to do – what changes are needed to make it work”.
- In the context under which this committee is looking at this issue, it seems like the policy question that the Advisory Committee really has to grapple with is: “Are we going to solve the problem with local permittee by permittee projects or are we going to solve this problem by looking at regional projects?” The question was raised earlier about “how do we distinguish local versus regional”? Having the “project specific information” included helps to provide some context for making decisions on a project type moving forward. The HRSD project, because of its scale does provide far wider benefits than a smaller project.
- A concern was noted that just having a generic column that just says “aquifer recharge” doesn’t provide enough information because if there is a project that is putting in 3 mgd and the cost is \$50 million – how does that compare with a project injecting 120 mgd in multiple locations and spending however much money is associated with that. How do we “tee up” that kind of question? We have to consider the context for each of these projects and project types.
- If we establish the framework under which a certain type of project can occur then it can become a local entity’s decision on the cost/benefit considerations. We probably then don’t need to focus on the cost/benefit piece for individual projects because we want to make the framework available for decision-making for future projects – other potential projects may come up in the future.
- Maybe having two separate charts might make some sense. Either you are going to have say 6 out of the 14 permittees each spend millions of dollars to reduce their withdrawals to achieve a short-term solution but that isn’t going to be enough to solve the problem on a long-term basis. That is a short-term measure that is being taken. Or we say we are going to look at a larger scale project that enables us to move forward for the next 10 years and then we are going to have a generic framework for what happens next. So we have a plan for what happens when we reach the next permit cycle.
- It was suggested that if you are using the various factors to figure out the benefits; costs; and feasibility, doesn’t that create the framework that you would be using in the future? Don’t you

effectively already have the framework in place through this exercise? Then it is only a question of how you would reflect it. There was disagreement that this was the case. What we end up with is a list of options not a framework. There is still a piece missing – all we have is a list of options. Some of what is missing is “funding” and “regulatory capability” and “How we overcome past decisions that have been made that seem to set expectations on how we are going to manage and regulate water in the future?”

- The original assignment to the committee was referenced: HB 1924 & SB 1341

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**§ 62.1-256.1. Eastern Virginia Groundwater Management Advisory Committee established.**

*A. The Eastern Virginia Groundwater Management Advisory Committee (the Committee) is hereby established as an advisory committee to assist the State Water Commission and the Department of Environmental Quality in developing, revising, and implementing a management strategy for groundwater in the Eastern Virginia Groundwater Management Area. The Committee shall be appointed by the Director of the Department of Environmental Quality and shall be composed of nonlegislative citizen members consisting of representatives of industrial and municipal water users; representatives of public and private water providers; developers and representatives from the economic development community; representatives of agricultural, conservation, and environmental organizations; state and federal agencies' officials; and university faculty and citizens with expertise in water resources-related issues. The Committee shall meet at least four times each calendar year. Members of the Committee shall receive no compensation for their service and shall not be entitled to reimbursement for expenses incurred in the performance of their duties.*

*B. The Committee shall examine (i) **options for developing long-term alternative water sources, including water reclamation and reuse, ground water recharge, desalination, and surface water options, including creation of storage reservoirs**; (ii) the interaction between the Department of Environmental Quality's ground water management programs and local and regional water supply plans within the Eastern Virginia Groundwater Management Area for purposes of determining water demand and possible solutions for meeting that demand; (iii) potential funding options both for study and for implementation of management options; (iv) alternative management structures, such as a water resource trading program, formation of a long-term ground water management committee, and formation of a commission; (v) additional data needed to more fully assess aquifer health and sustainable ground water management strategies; (vi) potential future ground water permitting criteria; and (vii) other policies and procedures that the Director of the Department of Environmental Quality determines may enhance the effectiveness of ground water management in the Eastern Virginia Groundwater Management Area. **The Committee shall develop specific statutory, budgetary, and regulatory recommendations, as necessary, to implement its recommendations.***

*C. The Committee shall report the results of its examination and related recommendations to the State Water Commission and the Director of the Department of Environmental Quality no later than August 1, 2017. The Director of the Department of Environmental Quality shall issue a report responding to the Committee's recommendations to the Governor, the State Water Commission, the Chairman of the House Committee on Agriculture, Chesapeake and Natural Resources, the Chairman of the Senate Committee on Agriculture, Conservation and Natural Resources.*

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- It was noted that based on this original wording that the charge to the committee is to study all of the options and then we are to recommend to the General Assembly specific statutory, budgetary, and regulatory recommendations as necessary to implement those recommendations. Based on that our recommendation to the General Assembly is that we have studied all of the options and to a great degree “aquifer recharge” of some description is probably the most appropriate way to address the aquifer. The problem is that all of the projects, big or small, are costly ventures and so the questions are: “Is there a budgetary way that we can fix that?”; “Is there a statutory way that we can enhance that?”; “Is there a regulatory way that we can



enhance that?” There is nothing in the original legislation and the charge to the Advisory Committee that was passed by the General Assembly and signed by the Governor that we are to “pick a project”. It says to “identify the options”; “identify the regulatory changes that are needed”; and “identify the statutory changes that are needed”. Then someone else – way above our pay-grade will select the specific project or projects. It also instructs the committee to look at the permitting criteria and the management structure as part of the overall charge to the group.

- It was suggested that this workgroup could look at each of the project types and try to identify the regulatory and statutory stumbling blocks that the General Assembly would need to address/fix or could be addressed/fixed for that type of project could move forward.
- It was suggested that it has never been the charge to this group to select a specific project.
- We can provide information regarding a particular project type/concept and try to identify the challenges associated with that class of project and also provide examples of the types of specific projects that could be undertaken or are being undertaken.
- If there was a listing of the projects with information that would allow you to analyze each of them would that get us to where we want to be without prioritizing the projects?
- What is the function of identifying specific projects? They could be provided as a “proof of concept” about what challenges are associated with doing that particular type/class of project. The end result is not to identify a specific project that should be funded by the state. The goal should be to provide example projects and some of the challenges associated with implementing this type of project and identification of some possible solutions that might resolve some of those challenges. The function of the listing of the projects is not clear. We are not trying to bless a specific project or set of projects. The idea should be to provide a number of approaches, i.e., aquifer recharge, and here are the challenges and here is what it would take to implement that type of approach.
- Part of the reason that it appears that “aquifer recharge” should be ranked #1 is that we have the HRSD SWIFT project on the table. If someone had “desalination plant” on the table that they were prepared to fund and that was going to be of a scale that would provide regional benefits and they were championing it and getting a lot of information out there then “desalination” would be our Number 1 recommendation. If the enabling conditions were there for a desalination project then there might be projects being considered. It is a “chicken and egg” thing.
- The problem that we are trying to solve is an “aquifer problem”. A desalination project requires a distribution system and right now the aquifer is the distribution system. So if you don’t take care of the aquifer then you end up having to put in a multi-billion dollar distribution system to get the water where it is needed.
- Aquifer recharge should be high on the list of options and desalination should be lower on the list of priorities. Desalination has to be located in the eastern areas of the state but the critical areas are in the western edge of the Groundwater Management Area.
- If you look at the mapping, all of the critical areas are along I-95.
- Aquifer recharge addresses a number of problems, including land subsidence, saltwater intrusion in addition to aquifer recharge. The HRSD project uses the aquifer as a distribution system and adds more water to the aquifer than nature puts there. The other option to protect the aquifer is to reduce the amount of water that we are withdrawing from the aquifer.
- Maybe the chart needs to be revised to contain specific information on benefits; costs; and feasibility so that it could be more useful.

- The priorities should be: Priority #1: Preserve the Aquifer and Priority #2: Replenish/Restore the Aquifer.
- The concept of having a direct replenishment of the aquifer where the biggest withdrawals are taking place was raised. Why not ask the biggest withdrawers to inject treated water back into the aquifer? Who would pay for that?

## Flip Chart Notes:

### Chart/Matrix:

#### Project Type

1. **Necessary Actions – Permitting/Statutory Changes**
  - a. **Benefits/Costs/Feasibility - Limitations**
2. **Examples**
  - a. **Benefits/Costs/Feasibility - Limitations**
  - b. **Context – Limitations/Geography – Evaluation Context**

- Staff noted that the group continues to talk about aquifer recharge as if it is an unlimited alternative. That is not really the case. There are some practical limitations of recharge in terms of how much pressure you can inject into the system before you reach a point of “the law of diminishing returns” or “unintended consequences”. The system has currently only been modeled to 50 years out. At 50 years out you start to exceed the predevelopment head. Nobody really knows what the end result of that will be. There are issues associated with continued injection – there are potential issue with pushing lower quality water into the overlying unit or up through the unit – there is a potential limit to how much can be done. It was suggested that you could create seismic activity from over injection. The aquifer is not an infinite receiving body. This needs to be included in our discussions.
- There are multiple monitoring wells needed for every injection well. Perhaps we need a state research program to address the monitoring required for an injection program.
- Injection into the aquifer of “excess water” would allow the aquifer to be available for additional demand for development – that could be a benefit. Aquifer recharge results in a complex management approach/activity – people have to realize and accept that if you have a recession or something that prevents you from maintaining the inflow and outflow balance that you might have to stop injection – you have to plan for that possibility upfront.
- There needs to be an “off-ramp” for excess water in given circumstances.
- How does geography tie into this? If there are industries that come to counties along the fall-line – they are not asking for 10’s of thousands of gallons – they are asking for 100’s of thousands of gallons of water – the locality can’t call DEQ and say that they need more injection water – maybe what they are looking at instead is the potential use of reclaimed water – purified and discharged. Maybe what the locality does is to tell them that if you want to bring industry into a county that doesn’t have available groundwater resources that they are going to have to consider using processed water, because you are close to the fall-line and the groundwater is precious so there needs to be “purple pipe” put in the ground in the industrial parts that are being developed to use that water. What may work in the Tidewater area may not work in Sussex, Surry or Prince George Counties – that is something that we can’t lose sight of

in our discussions. If the committee goes to the legislature and provides them with a list of things that should be considered – those various legislators are going to try to figure out what is going to work in their own districts – so the preferred option will be different depending on where you are in the state. Geography matters in permitting and siting – some of the project types may not work in certain areas. Geography can be a limitation/a factor that needs to be considered. Geography can make a difference as to what project type is appropriate.

- Some project types will be feasible in some areas and not feasible in others.
- Social externality is created by big withdrawals along the coastal plain.
- It was suggested that instead of identifying one of the project types as “Permit Reductions” that it might be more appropriate to classify it as “Reduce Aquifer Dependence”.

#### **4. BREAK – 10:25 – 10:40**

#### **5. Continued Discussions – Scoring Matrix/Chart:**

Mark asked for additional comments regarding the Scoring Matrix/Chart:

#### **Discussions by the group included the following:**

- Is the current idea that we are going to separate out the specific projects from the chart and address it more in nature of concepts to consider – as examples of things to consider? Are we only listing prospective or anticipated projects as examples?
- If you are a policy maker wouldn't you want a more comprehensive view about the current projects that are out there that could possibly be expanded? Do we identify only an inventory of what's in the pipeline now or do we make an effort to also identify prospective projects?
- The project in Chesapeake was discussed. It was noted that in order to expand that project that there would need to be a regulatory framework that would provide the locality to receive value for the injection effort – right now it is being done at a loss. For example, if somebody has access to more surface water than they need to meet their immediate (mid-range) demands and they decide to inject that water into the aquifer there would need to be a regulatory framework developed and in place that would provide that if someone puts water into the aquifer (the aquifer is the pipeline) and someone else withdraws a given amount that there would be a financial transaction – buying the water that someone else is injecting. There needs to be a value for injecting more water.
- Feasibility Factors: The group has talked about the impact of geology/geography on feasibility. Maybe we also need to take into consideration “demonstrated experience” – are they currently operating somewhere – is it working somewhere else? Need to promote the feasibility factors, including threshold limitations and limitations on where these projects types could be located.

**CONSENSUS:** The group decided that we would not rank the project types. We would include information on the benefits; costs; and feasibility and then the advisory committee could figure it out for themselves.

**ACTION ITEM:** A Sub-Workgroup of this Joint Workgroup is needed to redraw and finalize the scoring matrix/chart given what we have discussed today and what needs to be developed as “context” for inclusion in the matrix/chart.

Mark asked for volunteers to serve on this sub-workgroup. Individuals who volunteered for the sub-workgroup included the following:

- Richard Costello
- Drew Hammond (Will designate a VDH Representative)
- Steve Herzog
- David Jurgens
- Whitney Katchmark
- Jamie Mitchell
- Eric Rosenfeldt
- Andrea Wortzel

**ACTION ITEM:** Bill Norris will send out a Doodle Poll with possible dates for a meeting of the Sub-Workgroup to redo the spreadsheet. The revised spreadsheet will be distributed to the Joint Workgroup Members for comment following the meeting of the sub-workgroup.

#### **6. Terms/Definitions - Discussions (Workgroup Members/Mark Rubin):**

Mark asked for comments from the group on the Definitions of Terms/Options document that had been prepared by Eric Rosenfeldt and revised slightly by Jason Early.

#### **Discussions by the workgroup included the following:**

- Regarding the definition for “aquifer recharge” and “aquifer storage and recovery” – the definitions were transposed in the original version of the document.
- A definition of “shallow aquifer” has been added to the document as information to address some discussions that had taken place in another workgroup.
- From the Health Department’s perspective the “greywater” regulatory definition is “sewage”. VDH treats “greywater” as “sewage”. The document should reference the definition from the Virginia Department of Health – right now the definition is one from the UK.
- For “rainwater harvesting” the Health Department does not recommend that it be used for drinking water purposes because there are no associated operation and maintenance components or oversight or treatment criteria for systems that aren’t subject to the “Safe Drinking Water Act” regulations. VDH has a guidance manual for the use of rainwater that should probably be referenced.
- It was suggested that maybe we need to revise the definitions list so that it more accurately reflects the items that are identified in the spreadsheet. It should mirror the column headings in the chart/spreadsheet. In approving the list of definitions maybe we should delete definitions not

associated with project types and make sure that the definitions cover the list of projects. There appear to be some definitions missing. The list appears to be incomplete – maybe we need to expand some of the definitions. Also, a “do nothing” scenario is different from a “conservation” or “permit reduction” project type or option and is not on the chart. What happens when there is “no option”?

- Use “reclaimed” instead of “non-potable reuse”.
- The list of options was compiled from notes taken over the course of several meetings and was provided as an information/reference for the group.
- It was suggested that “graywater” is a subcategory of “reuse” and “rain barrels” is a microcosm of “stormwater”.

**ACTION ITEM:** It was suggested that the list of options probably needs to be revisited to incorporate the discussions from today’s meeting and to make sure that it matches up with the work of the sub-workgroup on the chart.

## **7. Alternative Management Structures – Discussion (Mark Rubin/Workgroup Members):**

A question was raised as to whether the Alternative Management Structures Workgroup (WG #2A) would be meeting again. Today’s meeting represents a Joint Meeting of Workgroup #1 – Alternative Sources of Supply and Workgroup #2A – Alternative Management Structures. Mark noted that most of the planned discussions related to “Alternative Management Structures” will likely occur on the permitting side (WG #3 – Alternative Permitting Criteria) even though the majority of the discussions and focus of that workgroup has been on “unpermitted withdrawals”. Staff raised the question as to what remains to be discussed related to “Alternative Management Structures”. What do we need to discuss related to “alternative management structures”?

### **Discussions by the workgroup included the following:**

- The JLARC report addressed management structure.
- There were two themes to consider: (1) initial problem today and (2) how to improve planning going forward.
- There were discussions regarding a regional body – an advisory committee to provide an opportunity for stakeholders to come together as a means to collaboratively manage the aquifer, possibly being done through non-profit, regional planning.
- There were discussions also about moving from just groundwater management to the concept of “One Water Management”.
- There was a presentation to the main advisory committee regarding the work of the workgroups and the feedback was to go forward and consider all options/nothing was taken off the table – there was an apparent appetite for change and the direction was to consider all options. The workgroup has not met as a separate workgroup since it received that feedback.

- Do we need to have a few suggestions for regulatory changes? Is a regulatory change needed to have a planning group? It was suggested that currently the planning process has no “teeth”.
- How do we improve the planning process? Is there enforcement needed in the planning process and if so how would that work?
- Need and want to make the planning process more robust. There needs to be more stakeholder involvement.
- How does planning fit with the permitting process?
- What would be more robust? 1) Stakeholder involvement; 2) JLARC, regional planning, more inducement for regional planning.
- It is hard to operationalize bringing and making people/localities to come to the table to participate in regional planning. There is no authority to force localities together to participate in a regional plan.
- Two issues: Don’t want 1:1 negotiation with DEQ on individual permitting/planning. The group discussed the Alabama organization – the group has no authority. The State Water Control Board is that entity in Virginia you would just need to bolster what they do.
- The idea would be to have some agency to have a broad overview of the process while the State Water Control Board would have the broad view of the permitting process.
- The VA-Tech study that showed that surface water works in some locations and groundwater works in others was referenced.
- Mixing the planning and permitting processes would take some thought, but we need an over-arching view.
- There is a need for approval from the State Water Control Board. What is the authority for the SWCB? There are no criteria to determine whether a golf course could have access to groundwater, there is no clear authority to say that a locality must have a surface water source and they need to start planning for that. Those are the types of conversations that are being contemplated – creating a new authority won’t resolve those types of conflicts.
- The JLARC Report recommendations were broader than groundwater. There needs to be more leadership to convene and identify problems through the planning process. If you ask for groundwater approvals on a regional basis, DEQ runs the model, going through the appropriate agency or agencies, for surface water permits you need review and approvals from VMRC; US Fish and Wildlife; the Army Corps of Engineers, etc. If you add another permitting layer – it will be very difficult. Adding another layer will not speed up the process or even yield a better result. Getting the same result after adding another layer to the process won’t help.
- This won’t streamline the process, DEQ depends on other agencies – you can’t get the water without impacting something else. Need to get all of the stakeholders and the agencies together and involved in the process – they need to be part of the discussions.
- A stakeholder group can provide input into the process. Would it be a new acronym for DEQ to talk to? How do you make sure they are at the table without any authority? How do you make sure that all stakeholders are involved in the process?

- There is a “disconnect” that we have to recognize – groundwater is free and surface water has a cost. Groundwater is used because it is free. It is a scarce resource. In terms of alternative management structure, should there be a cost for use of groundwater, otherwise, it is clean, available, and cheapest. How do you make the economics work? Until the economics are more balanced, it is difficult to resolve.
- Does a stakeholder forum make sense? Should it be regional?
- What inputs would the stakeholder group provide to DEQ for the permitting process? 1) Alternative locations/sources; 2) Who has plans; 3) Only applies to new applicants and expansions.
- What if the applicant says: “I don’t like the options available, so I want to move forward with my individual source. They don’t have to have groundwater – is there another source available instead? That is something that the committee/forum could do, but this evaluation process is supposed to be part of the plan as part of your due diligence.
- The idea is to create a dialogue of users so that there is no surprise in the process.
- What is the value added? Unless DEQ can make the permittee use an alternative source, there is not a different result.
- The question is whether it is the regional body’s responsibility to maintain that list of alternative sources. That is something that is outside of DEQ’s responsibility. It is a regional toolbox; DEQ can ask that question in looking at the regional plans, just like it is done now. Is this something that the agency would need to pick up?
- We would want the group to look at the efficient use of water. The goal is to make sure that the water is used efficiently.
- It was suggested that for it to be effective, the stakeholder group would need to have authority.
- If it is a non-profit group/organization, how do new comers get in? How do you keep it from being in collusion with the big players/companies? Don’t want to create a club that you can’t easily get into.
- Is there consensus on recommending a regional stakeholder forum to discuss regional issues and specific requests? There was little agreement or “feel-good” feeling voiced for this approach. There is value in communication but the issue is trying to force that communication.

## **8. Flip Chart Notes (Mark Rubin):**

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### **Flip Chart Notes:**

- 1. Improve Planning Process – the process needs more “teeth”**
- 2. Form a Regional Body (How do you establish and be inclusive of all stakeholders?)**
  - a. PDCs**
  - b. Non-Profit**
  - c. Continue the Eastern Virginia Groundwater Management Advisory Committee in some form – maybe not meeting as frequently**

- d. Stakeholder forum – opportunity to comment on the permitting process
  - e. 3 Separate Regions?
  - f. Block on DEQ form – Did you show this/share this with stakeholders – Did you get stakeholder feedback?
- 3. One Water Management**
- 4. Planning Process**
- a. More Robust
    - i. Stakeholder involvement – Create a Planning Body
    - ii. Induce Local Governments to participate in Regional Plans
    - iii. Use funding
    - iv. Plan must come from a Regional Body with involved stakeholders
  - b. Broader stakeholder involvement
  - c. Fit planning with permitting
    - i. Solid Waste Model – Individual project must be blessed by a regional body
    - ii. If approved – get funding
    - iii. Regional Body – defines what you do and how you allocate resources
    - iv. SWCB – approval based on best place for groundwater source – would need new authorities
    - v. Overview – Permittees have an opportunity to meet and talk.
  - d. Define regions
  - e. Need more Staff and/or Money (\$\$)
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**9. Public Comment: No public comment was offered.**

**10. Meeting Adjournment:**

The meeting was adjourned at approximately 12:10 P.M.