COMMONWEALTH OF VIRGINIA
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ)
HB 206 Small Renewable Energy Projects: 2023 Regulatory Advisory Panel (RAP)

2023 RAP Meeting 2: Tuesday, July 25, 2023 | 10 am – 3 pm

Meeting Location: DEQ Piedmont Regional Office | 4949-A Cox Road | Glen Allen, VA 23060

Facilitated by: Tanya Denckla Cobb | Michelle Montserrat Oliva
Institute for Engagement & Negotiation (IEN), University of Virginia

MEETING NOTES (MINUTES)

RAP Primary Members Attendance (Name, Organization – alphabetical order by Last Name) - ☒=present, ☐=absent

- ☒ Josephus Allmond-Southern Env. Law Center
- ☒ Cathy Binder-King George County
- ☐ Amelia Boschen-Dominion Energy
- ☐ Sam Brumberg-VMDAEC
- ☒ Brad Copenhaver-VA Agribusiness Council
- ☒ Chip Dicks-Gentry Locke
- ☒ Rick Drazenovich-City of Danville
- ☒ Judy Dunscomb-The Nature Conservancy
- ☐ Chris Hawk-Advanced Energy United
- ☒ Dan Holmes-Piedmont Environmental Council
- ☒ Zach Jacobs-VA Farm Bureau Federation
- ☒ Stephanie Johnson-CHESSA
- ☒ Adrienne Kotula-Chesapeake Bay Comm.
- ☒ Joe Lerch-VA Assoc. of Counties
- ☐ Josh Levi-Data Center Coalition
- ☒ David Murray-American Clean Power Assoc.
- ☒ Peggy Sanner-Chesapeake Bay Foundation
- ☐ Ben Saunders-AES Clean Energy
- ☒ Tim Seldon-Geosyntech Consultants
- ☐ Susan Seward-VA Forest Products Assoc.
- ☒ Kyle Shreve-VA Forestry Assoc.
- ☐ Dominika Sink-Energix Renewables
- ☐ Bill Street-James River Association
- ☒ Tyson Utt-CEP Solar

RAP Alternate Members Attendance (Name, Organization – alphabetical order by Last Name) - ☒=present, ☐=absent

- ☐ Robert Crockett-Advantus Strategies
- ☒ Tom Dunlap-James River Association
- ☒ Don Giecek-CEP Solar
- ☐ Greg Habeeb-Gentry Locke
- ☒ Jeff Hammond-Advanced Energy United
- ☒ Jayme Huston-Energix Renewables
- ☒ Ashish Kapoor-Piedmont Enviro. Council
- ☐ Martha Moore-VA Farm Bureau Federation
- ☐ Jacob Newton-VMDAEC
- ☒ Nikki Rovner-The Nature Conservancy
- ☒ Brandon Searcey-Dominion Energy
- ☐ Cliff Williamson-VA Agribusiness Council

RAP
Subject Matter Expert (SME) Members Attendance including Virginia State Agencies and Universities (Name, Organization – alphabetical order by Last Name) - ☒=present, ☐=absent

- ☒ Jenny Belville-Marrion-DHR
- ☒ Aaron Berryhill-VA Energy
- ☐ Jason Bulluck-DCR
- ☐ Mike Cizenski-SCC
- ☒ Lee Daniels-VT
- ☐ Michael Dreiling-VA EDP
- ☐ Kevin Farrelly-VA EDP
- ☐ Jonah Fogel-UVA
- ☐ Charles Green-DACS
- ☒ Joe Guthrie-DACS

☒ David Harper-USDA
☐ Carrie Hearne-VA Energy
☒ Rene' Hypes-DCR
☒ John Ignosh-VT
☐ Neil Joshipura-SCC
☒ Ken Jurman-VA Energy
☐ Terry Lasher-DOF
☒ Martha Little-VOF
☐ James Martin-DCR
☐ Amy Martin-DWR
☒ Kevin Schmidt-DACS
☐ Michael Skiffington-VA Energy
☐ Caitlin Verdu-DOF
☒ Joe Weber-DCR

Dept of Environmental Quality & **Facilitation Team, IEN, University of Virginia - ☒=present, ☐=absent**

☐ Meade Anderson-DEQ
☒ Melanie Davenport-DEQ
☐ Mike Dowd-DEQ
☒ Chris Egghart-DEQ
☒ Amber Foster-DEQ
☒ Sigrid Lampe-DEQ
☐ Meghan Mayfield-DEQ
☒ Jonathan Rak-DEQ
☒ Rebeccah Rochet-DEQ
☒ Reilly Stiles-DEQ
☒ Tamera Thompson-DEQ
☒ Susan Tripp-DEQ
☒ Tanya Denckla Cobb-UVA
☒ Michelle Montserrat Oliva-UVA
☒ Em Mortimer-UVA
☐ Mike Rolband-DEQ

The meeting began at approximately 10:00am EDT.

Meeting Purpose: This regulatory advisory panel (RAP) convened for Meeting #2 with the purpose of discussing a suite of policy proposals prepared by the Department of Environmental Quality relating to the protection of Prime Agricultural Soils. Several subject matter experts also gave presentations expanding on the essential supplementary scientific and regulatory context that underpinned many of the featured policy proposals.

Welcome & Today's Agenda: Coordinator of the DEQ's Renewable Energy Permit-by-Rule program Susan Tripp welcomed all participants to the second session in the 2023 HB206 RAP series. Facilitators Michelle Oliva and Tanya Denckla Cobb gave a reminder to all present that only primary RAP members and SMEs are to speak during the proceedings and reviewed the guidelines for participation for primaries, alternates, SMEs, and the public. Ms. Oliva restated the guidelines for discussion that the primary RAP members agreed to in the previous meeting, which included:

(1) one speaker at a time
(2) all perspectives are welcome
(3) listen for new understanding, be curious and open
(4) (electronic) e-etiquette

Ms. Oliva then explained a new mechanism that would be used during discussion, the "temperature gauge," where RAP members were to hold up one of three colored cards (red, yellow, or green) to indicate their level of support for a given policy proposal when prompted to by one of the facilitators. Finally, Ms. Denckla Cobb shared a google form where primary RAP members could submit additional comments or questions on the presented proposals after the meeting ended. The form was created to collect any additional RAP feedback that could not be voiced during the meeting because the agenda required the RAP to address multiple, varying policy proposals and pending challenges over limited periods.

DEQ Draft Proposals: Prime Agricultural Soils

At this meeting, the DEQ introduced one or a group of related proposals to the RAP, followed by SME presentations where necessary. Afterwards, the RAP was invited to provide comments, concerns, or ask clarifying questions. Facilitators prompted RAP members to voice any questions for clarification, elements of support or concern, or any recommendations to improve/modify the proposal. The following meeting notes repeatedly reference, paraphrase, or quote from the *DEQ HB 206 Draft Proposals: Prime Agricultural Soils* document, which all RAP members were asked to review in depth ahead of the RAP meeting. An updated version of this file is attached in the post-RAP materials package.

A. Mapping

Proposal A1 - Use NRCS Web Soil Survey "Prime Farmland" layer for mapping prime agricultural soils. Based on feedback from their colleagues at Virginia Tech, DEQ has decided to not use the VALEN Map as the official public resource available to applicants. Instead, DEQ has identified the NRCS Web Soil Survey to be the best publicly available resource for the purpose of locating and mapping prime farmlands. This resource is maintained by Virginia's Natural Resource Conservation Service, a branch of the United States Department of Agriculture.

PRESENTATION: NCRS Web Soil Survey Demonstration.
Presenter: J. David Harper, Soil Scientist, NRCS.
See attached PDF handout for details.

SME J. David Harper, NRCS State Soil Scientist, completed a live demonstration of the site wherein he showed the RAP how to use the NRCS Web Soil Survey's "Prime Farmland" layer to measure the acreage of disturbed farmland within a hypothetical project site. After a user selects their Area of Interest (AOI) matching their proposed project site, they can move to the "Soil Data Explorer" window, click into the smaller "Soil Reports" tab, and select "Land Classifications" to download a report on the acreage of prime and other farmlands within their AOI. The data under this tab will report to the user which portions of the AOI are categorized as "prime farmland," "farmland of statewide importance," or "not prime farmland." Only those areas that are determined to be "prime farmland" are of issue to this set of regulations.

This site allows users to export this data into a shapefile, which can then be uploaded and mapped on the user's own computer. The maximum size accepted by the site when creating an AOI is 100,000 acres. Users are able to draw data from multiple counties. On the home page of the website, RAP participants can find several different sets of instructions on how to navigate the site's interface. For more information, please see the attached resource provided by Mr. Harper that explains further how the site can be used.

RAP Member Comment (Tyson Utt, CEP Solar): Solar developers typically start off with quite a large area of interest that contains several different, smaller plots on which the project could be sited. The "buildable envelope" available to developers within a proposed project site is often much larger than the area that is ultimately occupied by buildings and equipment. To guide the solar developer as they're investigating how much of the disturbed area is considered prime agricultural soil, how will DEQ define what areas are "disturbed" within a project site?

- DEQ Response: DEQ is expecting that by the time the solar developer is preparing to file their Permit-By-Rule application with the DEQ, they should have clearly defined the limits of the project's disturbed area. If need be, the solar developer will need to make an approximation of their true disturbed area ahead of

the final stage of the project, and from there they should investigate how many acres are categorized as prime farmland.

RAP Member Comment (David Murray, ACPA): How often is the Web Soil Survey website updated, and how is the data on the site verified?

- DEQ Response: The dataset containing the prime farmland layer was collected by the USDA from the 40's up to 2012 for the entire state. During that timeframe some layers were updated, with the western coal mine and higher ridge counties being updated the most recently. Some areas have been updated since the dataset's inception but only where external funding was provided to do so. The website does not mark which counties' datasets have since been updated. Additionally, if an area's zoning code has been altered, or if there has been construction in the area that likely has already destroyed any productive qualities in the soil, the Web Soil Survey site would not register a change to the prime farmland status of an area.

RAP Member Comment (Chip Dicks III, CSSA): If an error in the Web Soil Survey data were discovered and reported by an applicant on their project site, would the DEQ then move to update the USDA map with any new findings?

- DEQ Response: The DEQ will honor the determination made by a qualified third-party field verification, but the DEQ is unable to alter the larger USDA soil survey data set in any way.

The DEQ reminded the RAP that in the last meeting, they proposed allowing applicants to provide third-party field verification of a site's prime agricultural acreage. As an alternative to the USDA Web Soil Survey resource, an applicant may provide a site-specific determination of such areas by a qualified private consultant. This policy proposal will continue to be developed by the DEQ; more details are to come. See the attached presentation for more details.

PRESENTATION: Procedures and Cost of Conservation Easements.
Presenter: Martha H. Little, Deputy Director of Conservation, Virginia Outdoors Foundation
See attached PDF of presentation slides for details.

SME Martha Little gave a 10-minute presentation covering her experience with obtaining conservation easements as a leader at the Virginia Outdoors Foundation (VOF), which is one of the largest holders of open-space easements in the nation. VOF is a quasi-state agency with unique abilities to acquire land and preserve rights for the public. The VOF divides the state of Virginia into five conservation "regions," each with a separate VOF office located within the region. Landowners can choose to either donate or sell some of the development rights on a parcel of land. VOF usually limits development on their conservation easements in the following ways: restricting the subdivision of land; establishing no-build zones to protect ecological resources; limiting impervious cover across the property; and prohibiting the landowner from adopting uses of a higher intensity on the land. Exceptions are often made for agricultural use.
An ideal easement agreement is as simple and clear as possible. Landowners are encouraged to obtain attorney representation during the negotiation proceedings, as the agreement results in perpetual restrictions on the use of the land. All future titleholders will be subject to the same constraints. A survey of the land is almost always necessary once the easement negotiations have reached the final stages. If a co-holder is involved, this involves a separate legal process. Easement valuation is determined by an independent appraiser when it is donated for tax credits. The value of a conservation easement will depend on the land's location, context, and development rights. The price of an easement sold by a landowner is affected by the same factors but the final price will be determined by a negotiation between the purchaser (e.g. solar developer) and the landowner. Additionally, the easement holder incurs fees that cover general transaction

costs, baseline documentation, and long-term stewardship that is estimated to run between $15,000-$35,000 per easement. A solar developer would need to pay these fees.

Deputy Director Little provided a real-world example involving VOF and a solar developer wherein the developer had to pay VOF to purchase an additional conservation easement after their solar project necessarily interfered with an existing VOF-owned easement. In return, developers purchased 200 acres, paying a little over $7,000 per acre for the 200 acres.

B. Off-Site/Baseline Mitigation Requirement

Proposal B1 - Mitigation for disturbing prime agricultural soils shall require conserving off-site prime agricultural soils at a ratio of 1:1.

RAP Member Comment (Brandon Searcey, DE): Creating a conservation easement can involve additional unanticipated costs. To fully realize the conservation easement, the developer had to pay roughly $5,000 per acre (per Brandon, this information came from the Office of Farmland Preservation Annual Report (2022): Office of Farmland Preservation Annual Report – December 1, 2022 (virginia.gov).

- DEQ Response: DEQ is in the process of obtaining data from the Virginia Department of Taxation on this subject. By December 2023, DEQ should be able to come up with an accurate expectation of how much a conservation easement would cost a developer.

RAP Member Comment (Joe Lerch, VACO): Will DEQ consider allowing an applicant to allocate monetary resources to a local conservation organization in replacement of mitigation?

RAP Member Comment (David Murray, ACPA): Is the goal of this policy proposal to preserve the value of the land, improve economic productivity, or to preserve ecosystem services? The graph included by DEQ in their presentation seems to suggest that they are prioritizing economic output of conserved lands.

- DEQ Response: Economic value will not be prioritized over environmental/ecosystem values on the land. The claim that the graph makes is not wholly connected to the policy proposal, nor does it represent the DEQ's rationale moving through this process. It was merely used as a visual aid to demonstrate the decline in agricultural lands.

RAP Member Comment (Judy Dunscomb, TNC): 1:1 mitigation is not a viable strategy for restoration, and that there was no precedent among existing land preservation programs using such a ratio. The policy proposal in question was created to offset losses due to development. If a preservation action is taken on lands that were never at risk of being converted to a higher, more destructive land use, then there is no value added back to the system to make up for the resource loss done by the solar project. DEQ should reference an existing tool, a "development vulnerability model" developed by the Department of Conservation and Recreation, that could be used to screen which sites vulnerable to future development.

- DEQ Response: The purpose of the DEQ's wetlands regulations is to achieve "zero net loss" of wetland resources. In practice, if a site is impacting 10 acres of the highest quality wetland, then the developer would be required to replace 20 acres of wetlands by conserving or improving wetlands in another location. Additionally, the ratios may be modified once the DEQ receives relevant state tax data that could inform their expectations around the cost to developers of off-site mitigation.

RAP Member Comment (Rick Drazenovich, City of Danville): A 1:1 mitigation ratio is not high enough to be satisfactory. This could lead to a community being half locked into solar projects and half farmland. Rural lands hold immense cultural and community value, and without a larger mitigation ratio, residents may hesitate to

support any new solar projects in their area. One of the impacts considered by these regulations should be the potential negative consequences for residential and rural neighborhoods.

- DEQ Response: DEQ agrees that the preservation of communities is important and that they will consider this input.

RAP Member Comment (Jayme Huston, Energix Renewables): Will DEQ distinguish between lands supporting certain intensive agricultural uses (hayfields, cattle pasture, etc.) and those supporting row crops on the basis of productivity?

- DEQ Response: DEQ is not currently distinguishing between agricultural uses, although it may be something they wish to consider.

RAP Member Comment (Brad Copenhaver, Agribusiness Council): Measures of agricultural productivity should consider the resultant economic value that the conservation easement and its current use is producing. Even if an agricultural use is not considered to be as "productive" in terms of crop output, it may still be productive in terms of the outsize amount that use contributes to the local economy.

RAP Member Comment (Judy Dunscomb, TNC): It would aid our discussion to see a "standard" conservation easement example exploring how different land use scenarios would be treated by DEQ.

RAP Member Comment (Josephus Allmond, SELC): Without a better understanding of what off-site mitigation may cost solar developers per area, it is difficult to realistically respond to any related policy proposal.

RAP Member Comment (Jeff Hammond, AEE) I agree with Josephus. Leasing land for a solar project is incredibly complex. Adding the extra step of locating conservation easements to fulfil an off-site mitigation requirement could lengthen the solar process so much that it severely stifles solar power development in Virginia.

Proposal B2 - establishment of riparian forest buffers on agricultural lands off-site shall mitigate 2 acres of disturbance for each acre of buffer. "In other words, this would reduce the mitigation ratio to 1: 0.50. This proposal is intended to provide a monetary incentive for landowners to install this essential, protective measure to improve water quality efforts in Virginia. Riparian forest buffers improve the productivity of existing conserved land." (*DEQ HB 206 Draft Proposals: Prime Agricultural Soils*, pg 4) For additional details, please refer to the attached briefing document.

RAP Member Comment (Kyle Shreve, VFA): What mechanism will DEQ use to monitor the successful implementation of riparian buffers on conservation easements across the state? Will DEQ have the capacity to monitor these buffer areas without utilizing external, private organizations like the Chesapeake Bay Foundation? If this proposal were to be applied to the forest regulations as well, then providing off-site mitigation credit for planting riparian buffers seems hypocritical; DEQ would be accepting less conserved acreage for trees in one area versus trees in another.

- DEQ Response: This proposal is solely targeted towards prime farmland, and RAP members should not expect this exact policy to be replicated in the proposed forestry proposals.

RAP Member Comment (Dan Holmes, PEC): Water quality improvements don't necessarily offset the destruction of soil resources. The value of prime agricultural soils cannot be replicated by the establishment of riparian buffers. Water quality should not be prioritized over resource protection by DEQ in this specific set of regulations.

RAP Member Comment (Brandon Searcey, DE): Existing wetlands regulations may not be the best example to guide this conversation. Projects impacting wetlands are typically forced to avoid disturbance when siting, so that ultimately their impact is extremely minimal compared to the scale of impact of a utility-scale solar project. It is common for the disturbed area on a solar project to exceed 100 acres in size.

Proposal B3 - mitigation will be required for the total acreage disturbed, including acres below the threshold for mitigation. The wording of HB206 is that mitigation will be required for solar projects that disturb "greater than 10 acres" of prime farmland. For sites that meet the HB206 threshold, the DEQ requires that solar developers include the initial 10 acres in their final "disturbed acreage" total and dismisses any other interpretations of the phrase. RAP Members accepted the proposal and did not need to discuss it at length during the meeting.

Proposal B4 - the off-site mitigation will be documented through a conservation easement. The conservation easement must include a state agency as the holder or co-holder of the easement. "Examples of state agencies include Virginia Outdoors Foundation, Virginia Department of Forestry, or Virginia Department of Agriculture and Consumer Services. Qualified conservation organizations can be the holder of the easement if the co-holder is a state agency." (*DEQ HB 206 Draft Proposals: Prime Agricultural Soils*, pg 6)

RAP Member Comment (Kyle Shreve, VFA): Could a solar developer seek a partnership with a local government or a locality's Soil and Water Conservation District to satisfy the requirement that a state agency need be a co-holder? The DEQ should not be too limiting when considering which organizations qualify as a state entity.

- SME Comment (Martha Little, VOF): Any public entity or public holder under the Virginia Open-Space Land Act should be considered a qualified public holder.

- DEQ Response: DEQ responded to this and other concerns with the suggestion of conservation easement "banks" where the value of the required mitigation is determined and the solar developer pays this amount to the VOF, which would use those funds to acquire conservation easement on their behalf. This is a solution that DEQ is exploring seriously.

Proposal B5 - off-site conservation easements for mitigation must be located in the same region as the impacted site. "The eligible region shall be determined in the same manner as compensatory mitigation for wetland impacts. HB 206 requires consideration of impacts to the local agricultural economy and the loss of ecosystem benefits. If compensatory conservation of prime farmland occurs far away from the impacts, it will not provide mitigation of these losses. The use of hydrologic units to determine the location of mitigation relates to the water quality impacts of disturbance." (*DEQ HB 206 Draft Proposals: Prime Agricultural Soils*, pg 7)

RAP Member Comment (Dan Holmes, PEC): Why were hydrological units chosen as mitigation regions for a set of regulations aiming to protect soil resources? Hydrological units are extremely large in size and don't seem to directly solve the issue.

- DEQ Response: This system is already in use across Virginia. There is some relationship between mitigation of solar development and water quality and the hydrologic units provide a rough proxy for a local region. However, the type and size of the region this proposal involves is up for discussion.

RAP Member Comment (Judy Dunscomb, TNC): The option for a solar developer to co-hold an easement with a state agency is not very feasible at this time, as many organizations (including VOF) have decided to not sign onto any new co-held conservation easements. This policy proposal is missing some essential context—most

easements are accredited by an association associated with the Land Trust Alliance, an independent land crediting association that places strict requirements on the terms of creation and ongoing maintenance of conservation easements across the United States. Finally, the Nature Conservancy does operate its own successful in-lieu fee program, which serves all types of private and public easement-holding entities.

RAP Member Comment (Undetermined RAP member): The DEQ should alter its proposal to allow private nonprofits to hold and manage these easements. This would maximize both the efficiency of easement procurement and the effectiveness of eventual land conservation and protection.

- DEQ Response: DEQ may consider allowing non-state entities to hold and manage these easements, as long as they can be assured that any easement agreement made is to remain active in perpetuity.

RAP Member Comment (Chip Dicks III, Gentry Locke): Placing a geographical limit on off-site mitigation efforts would overcomplicate the process for a developer and hamper solar power development in the state.

Proposal B6 - off-site easements will be required to be perpetual. Off-site conservation easement periods are not to be coterminous with the length of a solar project's lease. Because the development of solar power on prime agricultural soil will permanently alter Virginia's prime farmland, it is necessary to ensure that the mechanism for its preservation is perpetual. "The net present value (cost) of a 30-year conservation easement is similar to the net present value of a perpetual easement." (*DEQ HB 206 Draft Proposals: Prime Agricultural Soils*, pg 7)

RAP Member Comment (Chip Dicks III, CSSA): Given the efforts made by solar developers in the decommissioning phase to restore the site to the to its original condition, such strong mitigation requirements would not be necessary to preserve prime farmland.

RAP Member Comment (Dan Holmes, PEC): Securing easements in perpetuity is required because no matter the steps the developer takes during the decommissioning phase, it is assured that some irreparable damage has been done to site's soil resources. While the DEQ should still strive to limit complexity in future policy proposals, this "in perpetuity" proposal does adequately counter the equally permanent harm done by solar development. Holding an easement in perpetuity is an extremely common term, and landowners understand what it is they're agreeing to.

RAP Member Comment (David Murray, ACPA): This policy will drive demand for conservation easements through the roof. Land holding organizations could take advantage of this increased demand by "selling" existing conservation easements as credits to solar power companies seeking to satisfy their off-site mitigation requirement for their own economic gain. This may result in both an ineffective conservation program and an inefficient wealth transfer from solar developers to easement holders.

RAP Member Comment (Dan Holmes, PEC): No land trust would compromise on additionality to doubly count easements for economic gain.

- DEQ Response: DEQ will not accept easements on land that is already protected.

RAP Member Comment (Jeff Hammond, AEE): It is difficult for a solar developer to extend an existing lease. In the second round of negotiations, landowners often take advantage of developers trying to avoid commissioning and decommissioning sites and seek higher rent payments.

C. On-Site Mitigation Options

PRESENTATION: Required Stormwater Management at Solar Facilities
Presenter: Rebeccah W. Rochet, Deputy Director of Division of Water Permitting, Department of Environmental Quality

Rebeccah Rochet presented on existing erosion and sediment control regulations. The Division of Water Permitting protects water quality during land disturbing activity and controls for harmful post-development stormwater runoff. Deputy Director Rochet has seen many solar-specific management issues in Virginia, including: cut/fill/topsoil burying with compaction; lack of vegetative cover; incorrect curve numbers, compaction and imperviousness; poor maintenance of controls; improper installation of controls; and disregard for natural drainage divides. Deputy Director Rochet emphasized that the primary issue hurting stormwater management on solar sites is the soil compaction that occurs during installation. In 2023, the DEQ Division of Water Permitting released a new design guide, under which solar panels are now considered "unconnected impervious areas." See section 5.500 of the design guide for more information.

Proposal C1 - no mitigation credit will be given for compliance with the Virginia Stormwater Act or the local or state erosion and sediment control regulations.

RAP Member Comment (David Murray, ACPA): Has DEQ completed any studies on the impact of solar projects on downstream water quality?

- DEQ Response: DEQ has recently been working in partnership with Virginia Tech to set up a survey of this kind.

RAP Member Comment (Brandon Searcey, DE): Will on-site mitigation efforts that doubly improve the water quality of the site be counted towards their water quality permitting program?

- DEQ Response: DEQ needs to discuss this matter further, but it agrees that if a mitigation strategy accomplishes water quality goals as well, then the applicant should receive credit under both sets of regulations.

PRESENTATION: On-Site Mitigation of Prime Agricultural Soils
Presenter: Dr. W. Lee Daniels, Virginia Tech
See attached PDF of presentation slides for more details.

The ability to grow crops depends on both the topsoil and the subsoil layers. The subsoil will not support crops again unless the soil is "deep-ripped" to at least 2 feet. When a plot of land is rehabilitated, intense tillage is required to loosen the soil enough for plants to be able to root to the correct depth. Even then, additional efforts are needed to recreate the productive growth environment required to revert the parcel back to farmland—the application of lime fertilizer and organic matter to salvaged topsoil is a necessary step after decompaction is complete.

At Virginia Tech, Dr. Daniels studies the restoration of wasted land on a practical level. Much of the data presented comes from a 10-year replicated study at an immense scale that Dr. Daniels recently completed in which the smallest plot size was 3 acres. The majority of his samples involved land that had been heavily mined. Dr. Daniels and his colleagues were able to restore many of their sample plots so that they sustained crops at a maximum productivity rate of 75% of the land's original capacity. His findings indicate that soil compaction during solar development will result in at least 25% reduction of productive value in farmland soil, even using the best possible strategies for soil restoration. Over 20-25 years, with continued monitoring and management, one can expect the soil to continue to recover and increase in productivity. However, without

initial decompaction of the soil strata, the subsoil layer will never be fully restored, and any recovery in productivity will be limited to the topsoil level.

Over 40 years, a development site suffers from soil compaction, a lowered pH value, a lack of phosphorous, and a lack of organic matter. The latter three issues are easy to tackle through treatments to the soil, but soil compaction can only be addressed by decompacting the soil through deep ripping and tillage of the soil. Ideally, a developer salvages and stores any topsoil taken from the site and returns it after decompaction. Restoration efforts should continue over a period of 10-30 years, long past decommission of a solar power site.

Proposal C2 - Actions to preserve prime agricultural soils ON-SITE will be counted as partial mitigation per Table 2 in Dr. Daniels presentation. "Credit reducing the baseline mitigation requirement will be in proportion to the extent the functions and values of prime agricultural soils are preserved by the on-site mitigation. Preserving soil on-site will reduce, but not eliminate, the requirement for off-site conservation easements. On-site mitigation is categorized below based on the predicted effectiveness of each technique in preserving the functions and values of prime agricultural soils." (*DEQ HB 206 Draft Proposals: Prime Agricultural Soils*, pg 9)

Option 1: No significant change in the grade/soil profile coupled with decompaction of topsoil after closure. 90% of original prime farmland productivity for row crops. Applicant's off-site mitigation ratio would be reduced to 1: 0.10.

Option 2: Grading significantly alters the original soil profile. Salvage return of topsoil coupled with decompaction of both subsoil and returned topsoil. 75% of original prime farmland productivity for row crops. Could get higher return for hayland and pastures. Applicant's off-site mitigation ratio would be reduced to 1: 0.50.

Option 3: Grading and cut/fill significantly alters the original soil profile and topsoil is not salvaged and returned. Final surface soil (only) decompaction and soil amendments will produce a restored soil with 50% of original prime farmland productivity potential for row crops. Applicant's off-site mitigation ratio would be reduced to 1: 0.75.

Table 2: SUMMARY: ON-SITE Soil Mitigation Options & Requirements for Disturbance of Prime Agricultural Soils

Mitigation Options	Option 1 No Change in Grade	Option 2 Preservation of Topsoil	Option 3 Decompaction of Surface Soil on Cut/Fill Areas	Baseline No ON-SITE Mitigation
OFF-SITE Conservation Required for Each Acre of Prime Ag Soil Disturbed				
Ratio	1 : 0.10	1 : 0.25	1: 0.5	1 : 1
Example: For a 100-Acre Site, # of Acres to be conserved OFF-SITE	10	25	50	100

RAP Member Comment (Judy Dunscomb, TNC): It is difficult to establish and maintain vegetation on a project site. How will DEQ treat a situation where the planned on-site mediation was ultimately unsuccessful?

- DEQ Response: After DEQ has approved an agreement, after a period of time, they will check back in with the applicant to ensure that they've completed their off- and on-site mitigation requirements. If they are found to be lacking in a certain area, the applicant's permit will be in jeopardy and may be rescinded.

RAP Member Comment (Undetermined RAP Member): What will the consequences be if an applicant fails to obtain the necessary conservation easement by their application deadline?

- DEQ Response: DEQ responded that the solar operation would be halted, and the solar developer will either need to complete an amendment to their application meeting all requirements.

Proposal C3 - implementation of a plan to maintain any of the following management alternatives in combination with ON-SITE soil mitigation will decrease the required acreage of OFF-SITE conservation per Table 3 by 25%. This policy proposal intends to incentivize the expansion of agrivoltaic farming strategies as an add-on to onsite mitigation.

- Managed Grazing
- Active Cropping Including Hayland
- Establishment and Maintenance of Pollinator Smart Habitat/Vegetation

This proposal relates to additional on-site mitigation options. It applies only for projects which include soil mitigation per DEQ Proposal C.2 above. Actions to preserve certain functions of prime agricultural land, such as grazing, interspersed crops, and maintenance of pollinator habitat provide some of the benefits of prime agricultural land. DEQ is proposing partial credit because certain functions and values of prime agricultural soils will be lost. Portions of the site occupied by the solar arrays displace the agricultural activity and impacts to soil structure may not be entirely prevented.

RAP Member Comment (Brad Copenhaver, Virginia Agribusiness Council): What rationale underpins the part of Proposal C3 stating that pollinator habitat must cover at least 30% of the land?

- SME Comment (Dr. Lee Daniels, VT): This statement was actually a typo. The slide should say that 30% of vegetative cover must be pollinator species.

RAP Member Comment (David Murray, ACPA): What score or level would an applicant need to achieve in the "pollinator smart" scorecard in order to qualify for this management credit?

- DEQ Response: Under the existing "pollinator smart" criteria, at least 10% of the site should be made into a pollinator habitat. DEQ will separately determine what level on the scorecard would be adequate for an applicant to qualify for this management credit.

RAP Member Comment (Tyson Utt, CEP Solar): The credit awarded for Managed Grazing is too low. Not only does this management alternative contribute to the restoration of soil resources, but it also involves an original function of prime farmland.

- DEQ Response: While this management use does preserve an original function of prime farmland, it doesn't go far enough in preserving the value of prime farmland, and so the credit awarded is appropriate.

RAP Member Comment (Dan Holmes, PEC): Will credit awarded for the management alternatives vary based on the workable acreage of the site? For example, if a developer were pursuing the Managed Grazing option, it wouldn't be feasible to enable livestock to graze the area directly underneath the solar panels.

- DEQ Response: DEQ didn't have a complete answer to this question, but it is assumed that these management use credits will be completed in tandem with the on-site mitigation strategies from C2. DEQ expects that where feasible, the management alternative will be in place, but it is expected that certain areas of a solar project site are impossible to utilize in these manners.

RAP Member Comment (Dan Holmes, PEC): Soil decompaction is likely impossible to complete while construction is ongoing. Even if a developer completed a round of deep ripping after construction was completed, the project site would need to be leveled once again to prevent water management issues on the

site. What is feasible on the mining sites that Dr. Daniels worked on may be more challenging on a solar project site.

D. Fee in Lieu

Proposal D1 - No separate fee in lieu will be available to mitigate impacts to prime agricultural soils. "The ability to purchase easements for mitigation will provide applicants with a monetary alternative to avoidance of prime agricultural soils or on-site mitigation. Using the easements will ensure that the amount of mitigation matches the impacts even as the price fluctuates. DEQ will cooperate with entities that facilitate the acquisition of easements including "banks" that contract for mitigation easements and sell to solar developers. Conversion of these valuable resources is caused by many other development pressures. Mitigation via conservation easements protects these lands from all development threats through voluntary (paid) cooperation of the affected landowners in the most economically efficient way." (*DEQ HB 206 Draft Proposals: Prime Agricultural Soils*, pg 9). DEQ are open to allowing payment to funds where it is assured that the funds will accomplish the purposes of these mitigation requirements.
RAP members were asked to discuss Proposal D1. The following questions and comments were raised:

RAP Member Comment (Joe Lerch, VACO): A fee in lieu should be an option for developers. There is an existing program established by the Virginia Department of Agriculture and Consumer Services that DEQ could imitate where a private entity provides a 50% matching grant to a locality seeking to acquire an easement.

RAP Member Comment (Dan Holmes, PEC): This issue may require a fee-in-lieu mechanism other than the traditional fund where the cost of conservation is determined based on the area in which development is occurring.

RAP Member Comment (Rick Drazenovich, City of Danville): A fee-in-lieu for this issue would be a poor idea. With the option for on-site mitigation that allows a solar developer to lessen their off-site mitigation requirement to just 7.5% of their project acreage, a developer could get away with paying an extremely low fee-in-lieu. If a developer chooses to opt for a fee-in-lieu, their on-site mitigation efforts shouldn't diminish their final payment amount.

RAP Member Comment (Judy Dunscomb, TNC): A successful, efficient fee-in-lieu program was implemented to regulate natural gas pipelines posing an immense risk to intact forests. In this scenario, the Virginia Secretary of Natural Resources worked with developers of the Atlantic Coast and Mountain Valley pipelines to first improve the siting of development, and their resulting disturbed acreage amounts were offset by fees-in-lieu. This program produced $25-30 million dollars that went towards the purchasing of conservation easements under VOF. This fee-in-lieu program was efficient, effective, and addressed local concerns. DEQ should discuss this program with VOF.

RAP Member Comment (Kyle Shreve, Virginia Agribusiness Council): The option to pay a fee-in-lieu would solve the "phasing" issue with solar development and mitigation. The Forest Sustainability Fund, managed by the DOF, incentivizes localities to conserve forested lands using funds collected from fee-in-lieu mitigation requirements. Asking a developer to locate plots of land for off-site mitigation on their own is cumbersome enough to seriously delay a solar project.

RAP Member Comment (Jeff Hammond, AEE): The qualifying requirements proposed by DEQ make the off-site mitigation requirement difficult to comply with.

RAP Member Comment (Chip Dicks, Gentry Lock): The task of locating and purchasing conservation easements seems unnecessarily burdensome for developers, particularly when there are plenty of conservation groups in Virginia who have the relevant expertise, experience, and reputation. Involving existing conservation organizations would also have the impact of contributing to a more unified, state-wide vision of conservation. Additionally, MAI appraisers could be used to determine the fair market value of a conservation easement, which would inform the developer's required fee-in-lieu. DEQ should avoid "reinventing the wheel" with these regulations.

- DEQ Response: DEQ will consider thoroughly what a fee-in-lieu option could look like. It would be helpful for the DEQ to gather a list of the existing organizations that are involved in a similar program so that DEQ can determine what may work best for this particular policy issue.

RAP Member Comment (Tyson Utt, CEP Solar): A real-world example is needed for the RAP to visualize what financial impact that this policy proposal may have.

- DEQ Response: We may try to work with the SMEs to produce a mock-up of how this option could work.

Session Wrap-up

Ms. Oliva and Ms. Denckla Cobb asked the RAP to consider whether they'd prefer to extend the length of the next meeting to allow for extended discussions. Ultimately, the RAP decided to remain with the scheduled 10:00am-3:00pm meeting time. The DEQ team thanked the RAP members for their participation and reminded the RAP that primary members could submit additional comments through a Google Form provided at the start of the meeting. Any additional comments submitted through this form were due by 5:00 PM on Thursday, July 27th.

Per the schedule below, the next RAP meeting is on Friday, September 8, 2023, from 10:00am-3:00pm at the DEQ Piedmont Regional Office.

2023 RAP MEETINGS: 10 am-3 pm at the DEQ Piedmont Regional Office	**Dates**
1: Overview of the Current Situation (Informational)	Fri Jun 23
2: Issues focusing on Soil	Tue Jul 25
3: Issues focusing on Forestry	Fri Sep 8
4: Issues focusing on Local Control	Thu Sep 28
5: Wrap-up meeting	Tue Oct 31

ANNEXES: See separate attachments

ANNEX 1: PDF: DEQ HB 206 Draft Proposals: Prime Agricultural Soils
ANNEX 2: PDF: RAP Member Written Comments to DEQ Draft Proposals
ANNEX 3: PDF: Meeting Presentations
ANNEX 4: PDF: Additional SME-Provided Resources

Additional resources in response to RAP requests:

- VA DCR – DNH Solar Site Pollinator-Smart Guide