

Draft Meeting minutes
2023 Virginia Stormwater Handbook
Stakeholder Advisory Group (SAG) Meeting #1

Tuesday, July 12, 2022

Start – 9:30 AM

Attendees:

- SAG Members
 - Mike Hogan, American Council of Engineering Companies of Virginia (ACEC Virginia)
 - Jared Webb, American Electric Power
 - Justin Curtis, AquaLaw
 - Fernando Pasquel, Arcadis
 - James Taylor, Balzer & Associates
 - Peggy Sanner, Chesapeake Bay Foundation (CBF)
 - Travis Ostrom, Center for Watershed Protection (CWP) - *alternate*
 - Melanie Mason, City of Alexandria
 - Jack Dawson, City of Charlottesville
 - Mike Huggins, City of Danville - *alternate*
 - Scott Smith, City of Hampton
 - Matthew Huston, City of Harrisonburg
 - Charles Bodnar, City of Virginia Beach
 - Logan Borrer, City of Waynesboro
 - Richard Jacobs, Culpeper Soil and Water Conservation District (SWCD)
 - Rene' Hypes, Virginia Department of Conservation and Recreation (DCR)
 - James Filson, Dewberry - *alternate*
 - Jason Ericson, Dominion - *alternate*
 - Jerry Stonefield, Fairfax County
 - Martin Hurd, Fairfax County - *alternate*
 - Joe Wilder, Frederick County
 - Chip Dicks, Gentry Locke
 - Doug Moseley, GKY & Associates
 - Benjamin Slaughter, Hazen and Sawyer
 - Andrew Clark, Home Builders Association of Virginia
 - Scott Jackson, Henrico County
 - KC Filippino, Hampton Roads Planning District Commission (HRPDC)
 - Chris French, Hydro International
 - Justin Doyle, James River Association
 - Melissa Burgh, JMT (Johnson, Mirmiran & Thompson, Inc)
 - Dale Chestnut, James Madison University
 - Laurence Benson, Kimley-Horn
 - John Irby, Luck Ecosystems - *alternate*
 - Seth Brown, National Municipal Stormwater Alliance (NMSA)

- Norm Goulet, Northern Virginia Regional Commission (NOVARC)
 - Raj Bidari, Prince William County
 - Dave Maxwell , Prince William County - *alternate*
 - Joseph Caterino, RES (Resource Environmental Solutions, LLC)
 - Ashley Hall, Stantec
 - Brent Niemann, Strata Clean Energy
 - Jacob Dorman, SW Manufacturers Assn
 - Liz Scheessele, Timmons Group
 - Phil Abraham, Virginia Association for Commercial Real Estate (VACRE)
 - Darrell Marshall, Virginia Department of Agriculture and Consumer Services (VDACS)
 - Victoria Bains, Virginia Department of Transportation (VDOT) - *alternate*
 - Kevin Young, Virginia Tech
 - Rob Lanham, Virginia Transportation Construction Alliance (VTCA)
 - Frank Graziano, Wetland Studies and Solutions, Inc. (WSSI)
 - Excused Absences
 - Patricia Colatosti, Justin St. Clair, Town of Christiansburg
 - Shawn Harden, Dewberry
 - Cindy Linkenhoker, Roanoke County
 - John Burke, Montgomery County
 - Kevin Conner, Shah LLC
 - Richard Street, Street Development
 - David Hirschman, Hirschman Environmental
 - Blair Blanchette, VCAP
 - Mike Kitchen, CCL
 - Public
 - Ernie Watts, TRC Chicago LLC
 - Zach LeMaster, Gentry Locke Consulting
 - Stephanie Johnson, Gentry Locke
 - Speaker Pollard, Williams Mullen
 - Erin Reilly, James River Association
 - Virginia Department of Environmental Quality (DEQ) Staff
 - Mike Rolband
 - Melanie Davenport
 - Evan Branosky
 - Andrew Hammond
 - W. Brandon Bull
 - Nelson Daniel
 - Joe Crook
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Welcome and Introductions

Mike Rolband (Director, DEQ) welcomed the SAG members and thanked them for their support in the agency's efforts to create a new stormwater handbook. He explained that the new handbook is part of a larger effort to address issues in DEQ's stormwater program. DEQ is currently working to complete the consolidated stormwater and erosion and sediment control program regulations, update the Virginia

Runoff Reduction Method, and issue guidance for a streamlined stormwater plan review process (when DEQ is the VSMP authority).

The goals of the new stormwater handbook include keeping it up-to-date, eliminating guidance in older manuals that no longer makes sense, and creating a single set of standards. The Director asked SAG members to bring ideas and information about best practices and said they would serve in a role comparable to a “board of directors” for the contractor that DEQ will hire to actually produce the handbook. DEQ’s objective is to complete the handbook by the end of 2023.

SAG members commented on the challenge of creating standard processes when every site is different.

Project Purpose & Process

Evan Branosky (Chief Stormwater Policy Advisor, DEQ) led the remainder of the meeting. Evan began by reviewing the project purpose and process for developing the handbook with the SAG members. DEQ’s main goal is to consolidate the 1989 Chesapeake Bay Local Assistance Manual, 1992 DEQ Erosion and Sediment Control Handbook, 1999 DEQ Stormwater Management Handbook, 2013 Draft DEQ Stormwater Management Handbook, VDOT design manuals (Drainage and BMP Maintenance), and over two dozen DEQ guidance documents into one comprehensive stormwater handbook that is up-to date, concise, easier to use, and understandable.

Evan asked SAG members to help create the best in class stormwater handbook, to bring ideas, and solutions, while avoiding issues requiring additional statutes, rulemaking (regulations), or guidance documents. He expects SAG members will also help by contributing to technical content, volunteering for ad hoc subcommittees, and seeking input from colleagues.

This effort will use the “Plan, Do, Check, Adjust” project management cycle:

- Plan – the SAG directs, suggests handbook content; may also receive input from project contractor;
- Do – contractor prepares content for the handbook; SAG and subcommittees may also contribute; goal is to consolidate, structure, organize content in a systematic way;
- Check – SAG, subcommittees, DEQ staff review content and recommend revisions as needed;
- Adjust – contractor will adjust and revise the handbook as needed.

DEQ intends for the handbook to be a guidance document, not a regulation. As guidance, it will not be enforceable, but it also does not need to go through the rulemaking process. Before DEQ can post a completed handbook as guidance it has to go through a 30-day public comment period. As the SAG identifies the need for regulatory and/or statutory changes, DEQ will note these. SAG members commented that some requirements/standards in the stormwater regulations are out of date and, without updating the regulations, the new handbook will not be able to utilize current methods/data/technology (examples cited include the 2011 BMP specs and the IDF (intensity-duration-frequency) curves). DEQ noted that the handbook, as a guidance document, can be revised to remain consistent with statutory and regulatory changes.

There are four main tasks for this effort:

1. Form the SAG, and begin monthly meetings to determine what should be in the handbook; form subgroups as required to address specific issues/tasks. Initiate the process to hire a contractor to compile/draft the handbook.
2. Establish a contract with a firm to develop the handbook (contract procurement process).
3. Develop and publish draft handbook; SAG and DEQ will work with contractor to check, adjust;
4. Publish handbook on Town Hall for 30-day public comment period.

Regarding procedures, DEQ will attempt to find consensus amongst the SAG members during the plan and review process with the handbook using the 3,2,1 method. DEQ may move forward on an issue without finding consensus. When voting, only one person from each organization may vote.

Additionally, SAG members are permitted to be absent from meetings. Members must email Evan Branosky to provide notification of absence. If an organization is absent from two consecutive meetings without notifying DEQ, then the organization's seat as a SAG member will be offered to another interested stakeholder. In addition, any SAG organization or member that is selected as a prime or subcontractor in response to the Handbook RFP must resign from SAG membership. Finally, if a SAG member acts adversarial, then they can be removed from SAG membership at the discretion of DEQ. The SAG meetings are public meetings and subject to Virginia's Freedom of Information Act. SAG members asked DEQ staff to look into the public meeting requirements for subcommittee meetings, particularly with respect to conducting the meetings by electronic communication means.

Potential Focus Areas

Evan stated that DEQ does not wish to be prescriptive in determining focus areas and content, and DEQ wants SAG members and the Contractor to recommend an outline for the handbook using their best professional judgement. However, as a starting point, Evan presented a word cloud slide with suggested topics for the SAG to consider. The font size reflected DEQ's idea of the importance of each suggested topic – from smallest to largest (larger font suggesting greater importance) the topics included:

- Administrative process,
- Stormwater impacts (water quality, hydrologic),
- Capital, operation and maintenance costs,
- Engineering calculations and hydrologic methods,
- Kart features,
- Enforcement,
- Chesapeake Bay Preservation Act Performance Criteria,
- Code of Virginia and the Virginia Administrative Code (i.e., existing legal and regulatory requirements),
- Minimum Standards
- Adaptive management (i.e., updating the handbook and legal and regulatory requirements as needed),
- Manufactured Treatment Devices (including proprietary and non-proprietary BMPs),
- The Virginia Runoff Reduction Method,
- Offsite compliance that includes compliance through construction general permits,
- Climate resiliency,
- Rainfall intensity,

- Erosion and sediment control (ESC) BMP specs, and
- Post-development BMP specs.

Additions, Removal, and Reprioritize

SAG members suggested the following items for further consideration:

- BMPs specific to the Tidewater region with regard to infiltration,
- Application of specifications and sequence of requirements in regards to ESC,
- Maintenance of BMPs and cost of typical cost of maintenance,
- BMP tolerance, BMP design, BMP minimum requirements, BMP verification, BMP as built requirements, BMP substantial conformance,
- Clarification as to what BMPs are acceptable to the State,
- Coastal zone features (which, like karst areas, have unique hydrologic characteristics),
- Real-time BMP control, BMPs with adaptive-control,
- Treatment trains and citing specific BMPs within a treatment train,
- Virginia runoff tolerance, hydrological calculations,
- The authority for localities to require (or lack of authority to require) modifications (note: more information is needed concerning whether or not localities may accept different BMP design specifications),
- TMDL retrofit, and the generation of credits,
- Pollution-prevention BMPs,
- Hot spots and BMPs for SWPPPs,
- Linear utilities,
- Vegetation or use of non-invasive vegetation (update list of native vegetation), and
- Water quality standards, turbidity, and impacts.

SAG members asked if the consolidated regulations would be in place when the handbook is complete. Evan said the SAG will develop the handbook under the assumption that the consolidated regulations have been implemented.

SAG members did not suggest removing any topics from the list DEQ developed or members' suggestions.

Updating BMP Specifications

Evan ask the SAG to consider what should be included in a BMP specification and what format the specification should follow. As an example, he compared the format of the BMP specifications in the 1992 Virginia Erosion and Sediment Control Handbook and the 1999 Virginia Stormwater Management Handbook (each using 7 categories) to the 2011 and 2013 DEQ Draft Stormwater Manuals (which used 11 and 13 categories respectively).

When considering these categories, Evan asked the SAG members to think about what high level categories are needed at this point in time. SAG members offered the following feedback:

- Duplication of specs is good,

- The handbook should be digital with hyperlinks to other necessary documents that will allow users to jump around within the document, and hyperlinks will allow DEQ to keep the document up-to-date.

SAG members also raised concerns related to soil specifications, soil media, and infiltration standards.

They also asked if the handbook will be considered a living document, kept online, or remain a permanent printed document unchanging? Moreover, will the BMP clearing house influence adaptive management practices?

BMP Additions & Revisions

Evan presented slides listing every proprietary and non-proprietary BMP used over the last 30 years in Virginia (based on the lists in the existing manuals, handbooks, regulations, and BMP clearinghouse). The list from the BMP clearinghouse included Manufactured Treatment Devices that must follow the approval process and requirements of regulation informed by 2022 General Assembly House Bill 1224. Though the list included proprietary BMPs, the final BMP specifications could group multiple proprietary BMPs into broad, nonproprietary categories.. Therefore, any overlap will need to be addressed, while considering other non-proprietary BMPs and the importance of BMPs used in neighboring states.

Workgroup Discussions and Report on results

Evan divided SAG members into workgroups of six to eight people and asked them to brainstorm responses to two questions:

- What key information should BMP specifications should provide?
- What additional proprietary and non-proprietary BMP specifications should DEQ review?

Before starting the exercise, SAG members asked if they can include BMPs used for construction, post-construction or stream restoration – and commented that the meaning of ESD (environmental site design) varies depending on use and location and suggested it is comparable to LID (low impact development) in Virginia when using engineered devices to mimic the pre-development hydrology.

After allowing about 20 minutes for the workgroups to consider the questions and compile their responses, one member from each workgroup reported-out to the SAG (not all workgroups reported on both questions):

First workgroup report:

- Specifications should include:
 - Limitations (location, size, drainage area, suitable soil characteristics, etc.)
 - Description
 - Design Criteria (size, pre-treat, pollution remediation,)
 - Construction (sequence, inspection, as-built requirements)
 - Maintenance (procedures, costs, responsibilities)
 - Planning Considerations, including cost and who is responsible for bearing it (locality, owner, etc.)
 - Standard Details (design; construction)

Second workgroup report:

- Specifications should include:
 - GeoTech testing requirements / soil requirements
 - Treatment capacity / limitations (silt fencing – slope, length, etc.)
 - Inspection requirements / milestones
 - Clarification regarding “Shall, May, Must” and “proscriptive vs prescriptive”
 - Erosion eels (gutter buddies → general category – generic class)
 - Maintenance schedule / requirements – dictate the minimum requirements
- Additional proprietary and non-proprietary BMP specifications:
 - Silt Fence on Pavement (FODS – construction/trackout control mats)
 - CRAFS “Silt fence + stone” SWM – Sub grade wetlands (mo) “Silt fence on Center”
 - Smart fence / woven BELTEO SF
 - Remove straw bales / brush barriers

Third workgroup report

- Specifications should include:
 - Pollution removal efficiency (in a linked table – easy updating)
 - Practice description
 - Site applicability / characteristics / feasibility (what specific information do you need from the site – soil, land cover, drainage area size, etc.)
 - Design criteria – to address water quality / quantity
 - Material specification
 - Construction & Maintenance (objectives, sequencing, inspection, etc.)
 - Expected life cycle

Fourth workgroup report:

- Specifications should include (topics that have not already been covered):
 - Design examples
 - Sizing criteria (Hydro)
 - DA thresholds (Landcover & Thresholds)
 - Typical details
 - Siting considerations – eco regions
 - Qualifying conditions – landscaping requirements
 - Maintenance Requirements
 - Resting requirements (pre-design)
 - Sequencing
 - As built requirements / implementation checklist
 - Chain of custody
 - Material specs
 - Performance requirements (pollutant removal)
 - Variable Efficiency (Site / Design specific)

Fifth workgroup report:

- Specifications should include:
 - Practice applicability
 - Design elements
 - Installation
 - Inspection and maintenance
 - Timing of inspection and corrective action
 - ESC
 - Inspection / enforcement
 - Separation
 - ESC
 - Post-development – conversion from Temporary to Permanent
 - Performance variability (i.e., if there is a performance change because of something like the BMP not being able to be installed to full spec.)

Sixth workgroup report:

- Specifications should include:
 - Lumping vs Splitting categories
 - 7 = too few categories
 - 13 = too many categories
 - Purpose / summary
 - Treatment requirements
 - Design Criteria
 - Feasibility / site considerations (Karst)
 - Construction
 - Sequencing
 - Specifications
 - Footbrink material specifications
 - Maintenance
 - Cost? (too variable)
- Additional proprietary and non-proprietary BMP specifications:
 - Detention BMP
 - Criteria
 - Doc underground vs other
 - Bioreaction
 - Con rate more flow than 6 acres through (roadways)
 - Clarify drainage mean can be routed (not fitting but for routing)
 - Buffer restoration + stream restoration
 - Trees
 - Silt fences

Public Comment

Even invited members of the public that were at the meeting to provide comments. No one commented.

Other Questions, Comments or Concerns

Evan invited SAG members to ask questions, share concerns, or offer comments based on the meeting:

- Will the handbook address Grandfathering? The regulations have separate criteria for projects that fall under parts II B and II C; some stormwater authorities have sites with BMPs from before 2011 that someone wants to redevelop – how much credit should the developer get for the older BMPs?
- Cancellation or removal – is this the venue to address the functionality of an old BMP?
- Muddy water concerns – will SAG address downstream property owners concerns regarding turbidity?
- Conservation easements: what is the scope and terms? Also, sheet flows to conservation easements. When is sheet flow considered and when is it used?
- Will the BMP design include a requirement for maintenance access?
- Will the handbook provide suggested BMPs for single-family homes, driveways, farms, solar farms, sports fields, etc.?
- Consider design of maintenance access (based on location of BMP, access for long term maintenance can often be an issue)
- Develop a better description of “common plan of development” – particularly in respect to linear utilities (a SAG member noted EPA’s CGP has some limitations)

Wrap-up

Evan thanked SAG members and the public for their participation. He asked members to review the list of proposed meeting dates and said the presentation, meeting minutes, and dates for future meetings will be sent to all SAG members soon.

The meeting ended at 2:45 pm.



2023 Virginia Stormwater Handbook

Stakeholder Advisory Group

Meeting #1 (July 12, 2022)

Evan Branosky
Chief Stormwater Policy Advisor

Agenda

- Welcome Mike Rolband
- Project Purpose & Process
 - ✓ SAG Terms of Reference Evan Branosky
 - ✓ SAG Processes & Procedures
 - ✓ FOIA Information

Break

- Potential Focus Areas
 - ✓ Suggested Priorities & Discussion Evan Branosky
 - ✓ Pre-Meeting Feedback: BMP Content Melanie Davenport
- Compare BMP Formats Drew Hammond

Lunch Break

- Pre-Meeting Feedback: BMP Additions & Revisions
 - ✓ Proprietary BMPs Evan Branosky
 - ✓ Non-Proprietary BMPs
- Brainstorm: BMP Formats, Additions, & Revisions
 - ✓ Workgroup Discussions/Report Results All
 - ✓ Poll Question

Break

- Public Comment All
- Wrap-Up Evan Branosky

Project Purpose & Process

SAG Terms of Reference



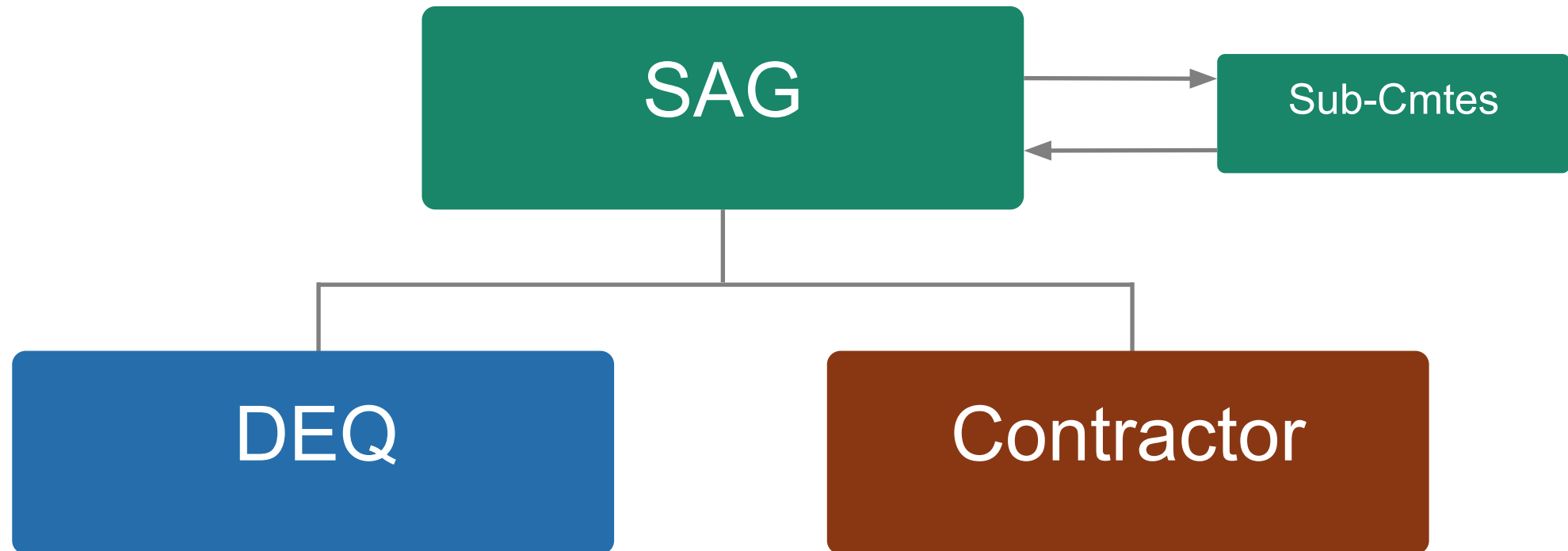
to



- Produce **Best In Class** Stormwater Handbook
- Bring **Ideas, Solutions & Specific Instructions** to DEQ & Contractor
- Avoid Issues Requiring **Statutes, Rulemakings, or Guidance**
- Contribute **Technical Content**
- **Volunteer** for Ad-Hoc Subcommittees
- **Seek Input** from Colleagues

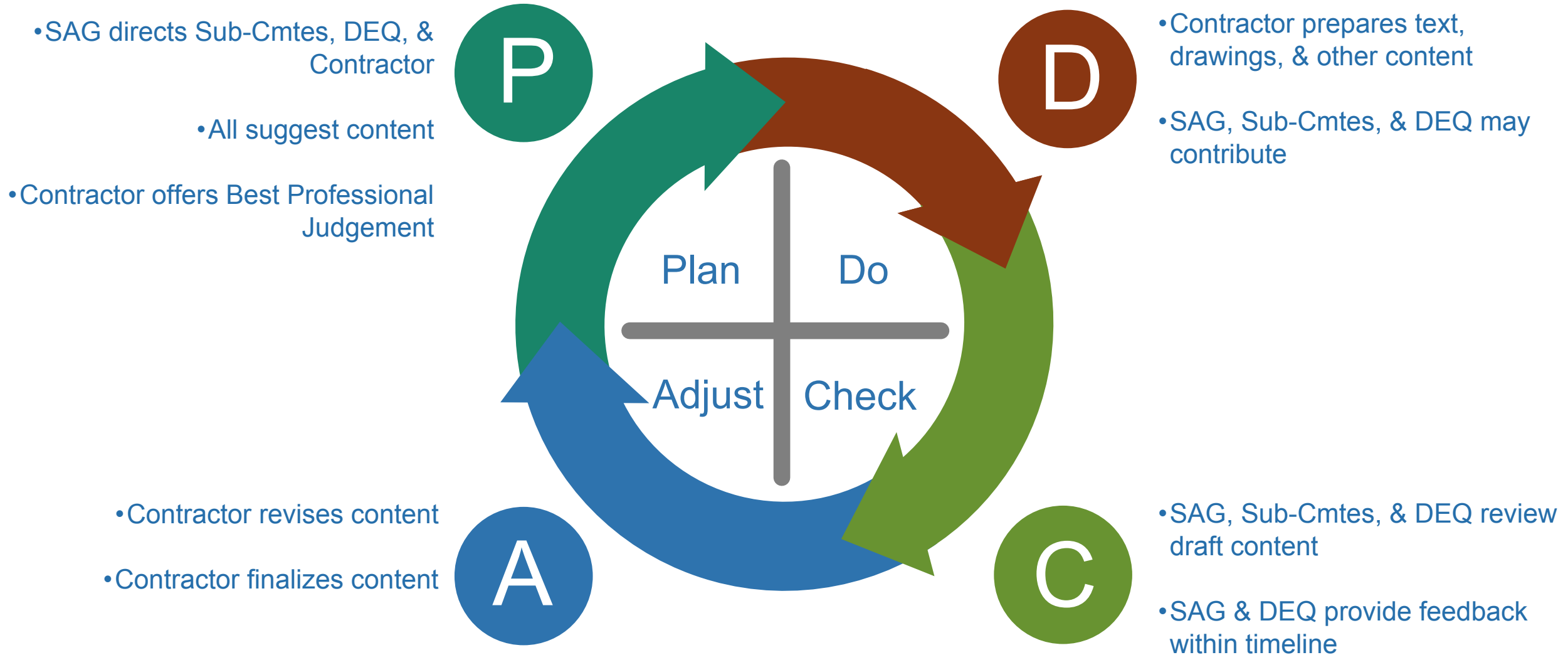
Project Purpose & Process

SAG Terms of Reference (cont'd)



Project Purpose & Process

SAG Processes & Procedures



Project Purpose & Process

SAG Processes & Procedures (cont'd)

NOTE: Schedule is for planning purposes only and subject to change.

| | 2022 | | | | | | | 2023 | | | | | | | | |
|---|------|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|
| | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
| Task 1: Engage Stakeholders •SAG Invitation & RFP Posting •SAG/Sub-Cmte Monthly Meetings | ■ | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | |
| Task 2: Conduct Procurement | ■ | | | | | | | | | | | | | | | |
| Task 3: Produce Handbook | | | | ■ | | | | | | | | | | | | |
| Task 4: Conduct Public Comment | | | | | | | | | | | | | | ■ | | |

Project Purpose & Process

SAG Processes & Procedures (cont'd)

- Consensus & Dispute Resolution

- ✓ The DEQ Project Manager may check consensus periodically on certain issues.

- 3: Strongly support

- 2: Some reservations, but can live with it and will not oppose it

- 1: Serious concerns make it impossible to support and may actively oppose it

NOTE

- Consensus is achieved when all members present indicate a level of interest of “3” or “2”.

- No consensus is reached if any one member expresses a level of interest of “1”.

- Lack of consensus will be noted in meeting minutes, but consensus is not required for decisions.

Project Purpose & Process

SAG Processes & Procedures (cont'd)

•Absence

- ✓ SAG members are welcome to skip meetings that will focus on topics outside of their area of expertise. Please notify the DEQ Project Manager via email if your organization chooses to skip a meeting.
- ✓ SAG members must notify the DEQ Project Manager via email if their organization is unable to attend a monthly meeting. If an organization misses two consecutive monthly meetings without notifying DEQ, it will be removed from the SAG. The organization's position will be given to another organization on the waiting list.

•Conflict of Interest

- ✓ Organizations that serve on the contracting team may not also serve on the SAG.

•Resignation from SAG

- ✓ To resign from the SAG, please notify the DEQ Project Manager via email.

•Removal

- ✓ DEQ may remove organizations or individuals from the SAG that act adversarial, cannot contribute to civil discourse, or repeatedly advocate for actions outside of the project scope.

Project Purpose & Process

FOIA Information

1. The SAG is a public body subject to the Freedom of Information Act (FOIA). As such, all business of the group must be conducted in a public forum that has been noticed in accordance with the Act and minutes must be prepared.
2. Emails may be considered as the conduct of business. Thus, individual members of the SAG should not use "reply to all" when receiving emails from DEQ. Also, any member of the SAG that wants to provide information to the group should send it to the DEQ Project Manager for distribution.
3. If more than two members of the SAG serve on a subcommittee, those subcommittees are also public bodies and thus subject to FOIA rules.

NOTE

- Subcommittees seeking to meet virtually will be subject to § 2.2-3708.2. (Meetings held through electronic communication means), of the *Code of Virginia*.

Break

Potential Focus Areas

Suggested Priorities

Additions?

Reprioritize?

Removals?

Climate Resiliency CBPA Performance Criteria
Manufactured Treatment Devices
Capital & O&M Costs Code of Virginia
Administrative Code
Virginia Runoff Reduction Method
SW Hydrologic Impacts Adaptive Management
ESC BMP Specs
Karst Features SW Water Quality Impacts
Engineering Calcs **Minimum Standards**
Hydrologic Methods
Enforcement **Rainfall Intensity**
Post-Dev BMP Specs
Offsite Compliance Administrative Processes

Potential Focus Areas

Pre-Meeting Feedback: BMP Content

- What content requires updates and revisions?
- ✓ Format of Specifications
- ✓ Content of Specifications
 - ✓ “New” BMPs (i.e., approved variances, other approved practices)
 - ✓ Revisions to existing BMP specifications
 - ✓ Locality approvals
 - ✓ Removals
- ✓ Revised “proprietary” and “nonproprietary” lists

Compare BMP Formats

Compare BMP Formats

| 1992 VESCH & 1999 SWM | 2011 & 2013 Design Specs | 2011 & 2013 Design Specs (cont'd) |
|--------------------------------------|---|---|
| 1. Definition | 1. Description | 1. Description of Practice |
| 2. Purpose | 2. Performance | 2. Performance Criteria |
| 3. Conditions Where Practice Applies | 3. Design Table | 3. Practice Applications & Feasibility |
| 4. Planning Considerations | 4. Typical Details | 4. Environmental & Community Considerations |
| 5. Design Criteria | 5. Physical Feasibility & Design Applications | 5. Design Applications & Variations |
| 6. Construction Specifications | 6. Design Criteria | 6. Sizing & Testing Guidelines |
| 7. Maintenance | 7. Regional & Special Case Design Adaptations | 7. Design Criteria |
| | 8. Construction | 8. Regional & Climate Design Variations |
| | 9. Maintenance | 9. Typical Graphical Details |
| | 10. Community & Environmental Concerns | 10. Material Specifications |
| | 11. References | 11. Construction Sequence & Inspection |
| | | 12. Operations & Maintenance |
| | | 13. References |

Compare BMP Formats

Compare BMP Formats (cont'd)

| 2000 (2009) MD | 2020 NC | 2016 PA | 2006 (2016) WV |
|--------------------------|--|------------------------------------|--------------------------------------|
| 1. Feasibility Criteria | 1. Design Objective | 1. Description | 1. Introduction |
| 2. Conveyance Criteria | 2. Design Volume | 2. Variations | 2. Conditions Where Practice Applies |
| 3. Pretreatment Criteria | 3. Important Links | 3. Applications | 3. Conditions Where Practice Applies |
| 4. Treatment Criteria | 4. Guidance on the Minimum Design Criteria | 4. Detailed SW Functions | 4. Planning Considerations |
| 5. Landscaping Criteria | 5. Recommendations | 5. Construction Sequence | 5. Design Criteria |
| 6. Maintenance Criteria | 6. Design Variants | 6. Maintenance & Inspection Issues | 6. Construction Specifications |
| | 7. Maintenance | | 7. Maintenance |

Lunch Break

Pre-Meeting Feedback: BMP Additions & Revisions

Proprietary BMPs

- ACF Environmental Pretx
- ACF Environmental Rain Guardian
- ACF Environmental Trash Guard Plus
- Aqua-Swirl SW Treatment System
- Aqua-Swirl Xcelerator Treatment System
- Aqua-Filter Stormwater Filtration System
- Aqua-Ponic Stormwater Biofiltration System
- Barracuda Max Hydrodynamic Separator
- BayFilter using Enhanced Media Cartridges
- BioPod Biofilter
- Cascade Separator
- Continuous Deflective Separator Stormwater Treatment Device
- Dandy Curb, Bag, Curb Bag, Sack, & Curb Sack
- Dandy Dewatering Bag/Dirt Bag
- Debris Separating Baffle Box Hydrodynamic Separator
- Downstream Defender
- Dual Vortex Separator Stormwater Treatment Device
- EcoPure BioFilter Filtration System
- Erosion Eel
- Fiber Filter Tubes (e.g., Terra Tube – Fiber Filtration Tube)
- Filtrex Compost Filter Sock
- Filtrex Compost Blankets
- Filterra Bioretention Systems
- Filterra Bioscape
- First Defense Optimum Vortex Separator
- FloGard Perk Filter (using ZPC Filter Media)
- FocalPoint High Performance Modular Biofiltration System
- Grate Pyramid
- Gutter Buddy & Gutter Gator
- HydroChain Vortex Filter
- HydroDome Stormwater Separator
- HydroFilter
- HydroStorm Hydrodynamic Separator

Pre-Meeting Feedback: BMP Additions & Revisions

Proprietary BMPs (cont'd)

- Jellyfish Filter
- Kraken Membrane Filter
- Kraken Stormwater Filtration Systems
- MATRAX AlturnaMATS
- MATRAX VersaMATS
- MWS-Linear Modular Wetland
- Modular Wetland System Linear
- Nutrient Separating Baffle Box with Hydro-Variant Technology Stormwater Treatment Device
- SciClone Hydrodynamic Separator
- SciCloneX Hydrodynamic Separator
- Shoremax Flexible Transition Mat
- SiltSack
- SiltSaver Belted Silt Retention Fence
- SiltSaver Under Grate Sediment Bags
- SiteSaver
- StormTree Biofiltration Practice
- StormGarden Modular Stormwater Bio-filtration System
- StormKeeper Sediment Strip
- StormKleener Cartridge System
- StormScape Filter
- StormTech Isolator Row PLUS
- Stormwater Management StormFilter with Phosphosorb media
- Stormwater Management StormFilter with ZPG media
- Trench Drain Slot Guard
- Trench Drain/Yard Drain Filter Fabric
- The Stormwater Management StormFilter with Phosphosorb media
- Up-Flo Filter Using Filter Ribbons
- Up-Flo Filter Extended Maintenance Cartridge

Pre-Meeting Feedback: BMP Additions & Revisions

Non-proprietary BMPs (Any Letters Denote Specific State/Local Specs)

- Culpeper Dirt & Gravel Rd BMPs
- DC, MD, PA, Loudon Co. Super Silt Fence
- Henrico Co. Level Spreader
- ME Pumped Discharge Sediment Control Device
- MD Diversion Fence
- MD Filter Log
- MD Onsite Concrete Washout Structure
- MD Plunge Pool
- MD Precast Rise Connector
- DC, MD Silt Fence on Pavement
- MD Wash Rack Option
- NC Compost Blankets
- NC Compost Sock
- NC Sediment Basin Skimmers
- NC Silt Fence Breaks
- NC Silt Fence Outlets
- NC Temporary Diversions
- PA Cofferdam Crossing
- PA Compost Filter Sock
- PA Compost Sock Sediment Trap
- PA Dam & Pump Crossing
- PA Filter Bag
- PA Flume Crossing
- PA Rock Filter Outlet
- PA Silt Fence (Filter Fabric Fence)
- PA Straw Bale Barrier
- VT Deep Sump Catch Basins
- MA, MN, NJ, WI, Montgomery Co. (MD) Rain Garden
- Conservation Landscaping
- End Treatment for Right-of-Way Diversions
- Regenerative Conveyance
- Right-of-Way Diversions
- Slope Drains
- Stream Restoration
- Vegetated Roofs

Brainstorm: ESC BMP Formats, Additions, & Revisions

Workgroup Discussions/Report Results

- What key information should BMP specifications provide?
- What additional proprietary and non-proprietary BMP specifications should DEQ review?

Brainstorm: ESC BMP Formats, Additions, & Revisions

Poll Question

- Scan QR code or navigate to website and enter pin
- Answer Question:
 - ✓ Are you or your colleagues familiar with the following BMPs?
- Enter your name

Public Comment

Wrap-Up

- Key Dates

- ✓ July 27, 2:00 pm: HB proposals due

- ✓ Tentative SAG and/or Sub-Cmte meeting dates

2022

Wednesday, August 17, 2022
Wednesday, September 14, 2022
Wednesday, October 12, 2022
Wednesday, November 16, 2022
Wednesday, December 14, 2022

2023

Friday, January 20, 2023
Friday, February 17, 2023
Friday, March 17, 2023
Wednesday, April 12, 2023
Wednesday, May 17, 2023
Wednesday, June 14, 2023
Wednesday, July 12, 2023

2023 General
Assembly Session



2023 Virginia Stormwater Handbook

Stakeholder Advisory Group

Meeting #1 (July 12, 2022)

The meeting is adjourned.

Contact: Evan Branosky
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