Workgroup Meeting 2 Notes – August 21, 2025, 1 – 3 pm via Teams

Attendees

- Thomas Ballestero – UNHSC
- Jeff Dennis – ME DEP
- Gary Fish – ME DACF
- Kerem Gungor – ME DEP
- Nicole Haggerty – CEI
- Jamie Houle – UNHSC
- Andy Johnston – ARC
- Tracy Kruger – ME DEP
- John Kuchinski – City of Lewiston
- Kylie Mason – Sebago Technics
- Dave Moore – Maritime Farms
- Matt Lundsted – CEI
- Cody Obropta – ME DEP
- Alexis Racioppi – MaineDOT
- David Rocque
- Dave Roman – CEI
- David Waddell – ME DEP
- Lauren Walsh – Cianbro

Agenda

- Recap
  - Workgroup Meeting #1 (05/19/2025)
- Updates
  - DEP's ongoing Chapter 500 Work
  - Needs Assessment
  - Best Available Information (BAI) Research
  - Potential Design Tools
  - Potential Manual Outline
- Discussion
  - Feedback on the above updates
- Next Steps

Recap

- See detailed minutes from Workgroup Meeting #1
- General discussion of what needs to be done
  - E.g., alternative analysis, how new rules will apply, vegetation requirements, filter media
- Additional notes on filter media:
  - Difficult to make media to meet specs
  - Lake Champlain, VT (UVM) filter media study- added water treatment residuals (leftover alum)
    - PFAs concerns- no evidence though; not with alum, GAC; potentially extensive permitting for use of alum
  - Nothing about filter media amendments in current Manual
  - UNHSC leaching studies on water treatment residuals

Updates

DEP's Ch 500 Work (rule drafting and technical work)

- How will rules apply to projects
- Drafting new Stormwater Standards

- Parallel contract to develop vegetated stormwater buffer performance curve
    - Draft technical memo under review
    - Can share memo after DEP reviews
- Rulemaking timeline extended- TBD

Needs Assessment/ BAI/ Outline

- Three components: (1) primary topics, (2) what research needs to be done, (3) potential Manual outline
- Feedback on priority topics was collected from April-June 2025
    - High interest in infiltration and soil testing guidance and Stormwater Control Measure (SCM) guidance (e.g., O&M, design criteria)
- BAI research to look into additional research needs- goal to identify the latest and greatest

Potential Design Tools

- Presenting initial ideas- won't be finalized until proposed regulations are set
- Four initially proposed tools: (1) appendix of latest and greatest Performance Curves (PRCs); (2) SCM sizing tools (e.g., UNHSC WPS tool); (3) SCM selection tool (i.e., design hierarchy); (4) tool to help applicants determine applicability of Standards to specific projects

Potential Manual Outline

- Current Manual is three volumes- idea is to update into two volumes by combining existing Volumes 1 and 3; Volume 2 to remain relatively unchanged (minor updates)
- Long memo notes adding nitrogen and chloride as nutrients of concern- to be addressed in new Volume 1 (Chapter 4)

Discussion

- Concern with groundwater hydrology contributing to stormwater hydrology- i.e., oxygenated groundwater table- not identified in NRCS HSGs, based on groundwater table creating anaerobic conditions of soil
    - Separate from potential mounding analysis
    - Regular soil testing doesn't show oxygenated groundwater; require applicants to "identify sensitive hydrologic soil conditions"
    - David Rocque can provide more input
    - Soil series hard to actually find on site- good first cut, but usually doesn't look like that- important to determine actual characteristics (e.g., compaction?)
- Q: BAI outcomes/ source materials- DEP going to review/ validate? Concern with using resources from other states- not always applicable to ME
    - A: DEP provided list of authoritative sources, limited to trustworthy resources; UNHSC also going to review; Info going to DEP project team first, then passing draft to Workgroup for one review
    - Comment: Just potential sources, we will review to see if they are applicable to ME standards; Not cut/ paste, just using as ideas; Sources older than 5 years may also be considered, especially for sources on monitoring SCMs
    - Support shown for UNHSC resources- don't need to recreate the wheel
- Q: Lower ranking on design tools- ways this could show up as ad hoc process? Layers in regulatory process, sometimes tools become regulatory restrictions, could lead to lack of adaptability; want to provide support, not restrict creativity of design

    - A: Manual is guidance document; there will be alternatives accepted as long as intent and goal of Standards in Ch 500 rules are met; tools can help with consistency and provide more structured approach
- Q: Hierarchy for SCMs and alternatives- anticipated requirements on how to exhaust? Has rule-making caught up to what this might look like?
    - A: DEP is working on it; this is where the tool will be useful; goal is nature based solutions to be used to maximum
- Q: Soil assessment- in addition to test pits or taking borings at each proposed SCM location, elevation and location of the seasonal high-water table, bedrock elevation, and soil profile descriptions, what other geotechnical factors do we need onsite?
    - A: David Rocque put together standards to help identify oxygenated groundwater tables e.g., septic system design manual- needs to be identified, especially on hilly terrain/ near coast where there's shallow bedrock; will overwhelm stormwater systems
    - Frost depth is touched upon in Manual- is important, should provide more guidance on that
    - Soil quality is very important, particularly soil structure in the upper horizons. Much more attention needs to be paid to the quality of the soils in a buffer area.
- Should test new design guidance tools at a "test site" to see how it will apply in real world- as part of an appendix, offer an example site (graphic depiction could be more inspirational)- show how tools apply to site, show different pathways, demonstrate alternatives
    - Each chapter will have examples, good idea
- Moving toward nature based solutions- a lot of pitfalls on how/ what plants are used, requirements for continued maintenance (e.g., pest problems)
    - Gary Fish can provide assistance
    - Need SCM-specific plant recommendations; don't want constant maintenance and replanting
        - E.g., engineered soils with native plants are not compatible
    - Leave space for contradiction of requirements (e.g., no growth until failure), offer some forgiveness (do not have contradicting guidance to standards)
    - Engineered soils have always struggled as they are largely designed for infiltration capacity. Any guidance for plantings would forward the field. Possibly, focusing on seed mixes?
    - Filter soil materials are currently over prescriptive in Manual- bake in a good degree of flexibility (e.g., soil drains in 2-3in/hr and support vegetation- then leave it to the landscape architects); Best would be natural soil with limited amendments
    - SCMs are supposed to take 24-48 hours to drain, ponding does not equal failing
    - Emphasis on difficulty to practically meet DEP soil requirements
- Vegetated buffers concern- focus on planting, little attention to quality of soils of the buffer (structure, porosity), important consideration to add
    - Mixing soils without soil structure- becomes a problem (e.g., septic system testing mixing materials, fines settle and clog)
    - Need soil structure- created by microbial activity, needs to be anerobic and relatively dry; moving soil = destroying structure; soil pits only tell you conditions in that pit at that time, now the soil structure is different; important for a buffer to function; soil structure may take ~1 year to develop
    - Infiltration is due to soil structure, not just soil type
    - Buffer soils – can't grade the site, then plant a meadow buffer- need an existing soil there with minimal disturbance, be clear about that

- UNHSC: Bioretention areas are primarily physical soil filters. Plants can enhance function and add additional beneficial unit processes but its possible we just need to call it what it is. These systems are treating urbanized areas. Maybe our expectations for diverse native vegetation sustenance needs to be checked. The design guidance gains more flexibility toward more structural and sustaining soils as the hydrologic loading ratio decreases. If we are treating an acre of impervious cover and expecting robust native plants it is unrealistic.
    - Sounds like we are compartmentalizing design approaches based on hydrologic loading ratio (HLR) which might be a good direction...
- Any restrictions on using synthetic plants/trees in Filterra units and/ or biocells to maintain look and also pedestrian safety for units abutting sidewalks?
- Note on Manual outline: will likely change as updated Manual is developed
- Site planning is increasingly important due to natural drainageway protection standards- site layout needs to consider this; need to emphasize that this is the first step, don't lose natural stormwater patterns
    - Leave space for land price and land availability considerations for developers, also constraints such as frontage requirements
    - Will need examples in the Manual for guidance
    - Need for better standards and guidance for subdivisions
    - Emphasize fitting project to site, not altering site to fit project (objective, maybe not a regulatory requirement)
- Note: presentation by Jamie H regarding a study on a bioretention filter (UDSF). A Public Works director would not allow UNH to put plant in the UDSF but insisted on grass seed. UNH found that the UDSF with grass worked just as well as the planted ones.
- Ensure Manual is supplementing/ supporting Long Memo goals
    - DEP is working on Long Memo updates as Standards are being drafted- stakeholders will provide input once draft is ready
    - E.g., Flooding standard- Long Memo noted adding easements from downstream abutter- may be hard to achieve, may need quantity control to lessen impacts to abutters
- LID and Environmentally Sensitive Site Design (ESSD)[1] definition should include matching pre and post development subdrainage areas. This will likely involve multiple points of analysis and estimates of time of concentration. Sometimes hard to enforce.
- Q: Where does runoff volume reduction show up in Manual outline in form of capture and reuse on site via green roof?
    - A: Appendix will have SCM fact sheets, including rainwater harvesting; goal of rainwater harvesting is to help people meet volume reduction Standard when site soils are not ideal for infiltration
- Q: Where will design tools be included in the Manual?
    - A: To be called out via callout boxes throughout Manual where applicable, possibly having a webpage with links to all tools, maybe separate Appendix
- Design tool idea- educational video on soils/ filter media

[1] According to current Massachusetts Stormwater Handbook Vol 1(1): "*The Wetlands Regulations, 310 CMR 10.04, and the Water Quality Certification Regulations, 314 CMR 9.02, define environmentally sensitive site design to mean design that incorporates low impact development techniques to prevent the generation of stormwater and non-point source pollution by reducing impervious surfaces, disconnecting flow paths, treating stormwater at its source, maximizing open space, minimizing disturbance, protecting natural features and processes, and/or enhancing wildlife habitat.*"

- Q: ESC moving out of Ch 500- will there be overlapped discussion in site planning section? New requirements for large construction projects (MCGP)
    - DEP update (subject to change): Some ESC to be included in Ch 500; improve site design to minimize erosion and sedimentation
- Q: Incentivized opportunity to lessen impact on already impaired sites within Ch 500 rules?
    - A: Redevelopment provision, but DEP will take a closer look when developing Standards
- Q: How does Phosphorus standard integrate with PRCs?
    - A: Volume 2 of Manual will be updated for consistency with PRCs

Potential Updates on Needs Assessment/ Manual Outline Based on Feedback

- Additional considerations for infiltration/ soil testing:
    - Sensitive hydrologic soil conditions
    - Compaction/ soil structure
    - Frost depth
    - Structure and porosity of buffer soils
- Emphasis on need for updated filter media and planting guidance
- Examples using design tools on a “test site”
- Potential idea for design tool: educational videos

Next Steps

- To incorporate feedback from today’s discussion, finalize findings
    - Additional feedback will be accepted via email
- Finalize scope for Manual updates
- Commence work on Draft 1 of Manual
    - Goal to finalize Manual by end of July 2026