



What's in Your Pond?  
Technical Issues

# 5 Minute Break

# Technical Memos & Hot Topics

Identifying and Closing Gaps

What's in Your Pond

14 October 2020

John Roche, P.E.



**Maryland**  
Department of  
the Environment



What's in your pond?

# HOT TOPICS

# Thermal Reviews: Ponds in Use III Waters

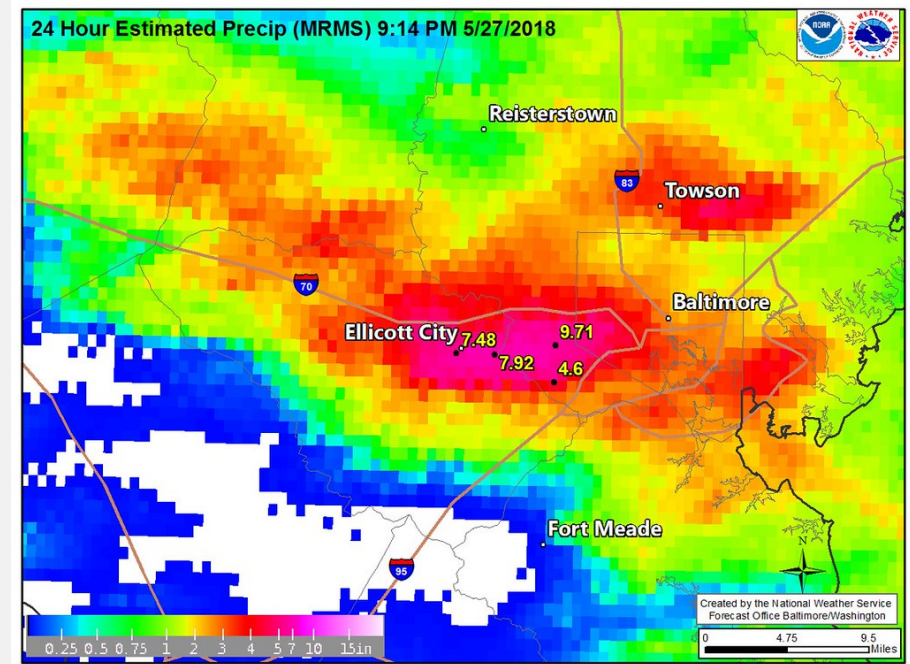


- MDE Previously allowed local discretion under certain conditions to review/approve ponds in Use III
  - MDE Attorneys advised Dam Safety that COMAR is clear, we cannot offer discretion.
- All ponds in Use III waters must be submitted for Dam Safety Permit
  - Submit via the Joint Permit Application Process described on MDE website
  - County responsible for SWM review, grading permits, erosion & sediment control approvals
  - Ponds exempt from MD378 approvals (e.g., under 4 ft) do not need Dam Safety review/permitting
- Regulatory change under way to remove the requirement for Dam Safety to permit ponds in Use III
  - Spring 2021 likely effective date
- “Thermal Best Practices” document needed from DNR



# Impact of a Changing Climate

- We cannot deny that the climate is changing
  - Storms are more intense, bigger temperature swings, prolonged drought
- Are changes necessary in design storms?
  - Annual exceedance probability (AEP) and duration change?
  - Should NOAA Atlas14 be updated?
  - Should design storm for dam safety = design storm for SWM?
- Dam Safety is pursuing grant funding for a state-specific PMP study
  - Will include an evaluation of climate change factors
  - Includes evaluation of temporal distribution of rainfall
  - May also include evaluation of storms with lesser AEP (i.e., 10, 100-yr 24-hr storms)



Top: "[In The Bullseye - Ellicott City Flood Of May 27, 2018](#)" by [France1978](#) is licensed under [CC BY-SA 2.0](#) Bottom: "[Ellicott City Flood Recovery, bridge](#)" by [presmd](#) is licensed under [CC BY-SA 2.0](#)



# Dams are Aging, Maintenance is Lacking

- Average age of inventory dams in Maryland is over 50 years
- Increasingly finding ponds with new owners who have no idea of required maintenance, obligations
- Who is responsible for inspections/enforcement?
  - Original SCS/SCD pond approvals included maintenance requirements
  - Should local SWM agency include in triennial reviews in interest of public/environmental safety?
  - Should MDE inspect/enforce? May be low organizational priority.
- What carrot/sticks are in our toolboxes to bring pond owners into compliance?
  - Education / Outreach?
  - Opportunities for MS4 credits?
  - Grants / funding from NGOs?



MDE File Photos: Martin Farm Dam. Harford County.



# Closing the Gaps in MD378: Time to Update

- MDE and State NRCS agree MD378 is in need of an update
- Update will require a change in COMAR to reference new standard(s)
- MDE prefers to “own” the document in whole or in part
  - Helps facilitate changes out-of-cycle with changes to national 378 standard
- “New 378” will require hard work, careful thought
  - Workgroups/workshops will be necessary to ensure technical adequacy and consensus on standards.
  - First order of business – submit all your comments, suggestions, grievances, examples of something “better” to [John.Roche@Maryland.gov](mailto:John.Roche@Maryland.gov)
- Once a “New 378” is completed we will need to:
  - Develop criteria for “grandfathering”
  - Develop a schedule for periodic review/updates



# Staffing, Resources, Expertise: Who is performing reviews?

- Some SCDs have agreements with local jurisdictions for technical review
  - Legal gray area, raises concerns within MDE
  - SCD integration in small pond process was accepted given resources and knowledge made available by NRCS
  - Are Counties maintaining a workforce that is current on the state of the practice locally and nationally?
  - Are we thinking “beyond MD378”? How to address gaps between practice and regulation?
- MDE must to be included because regulations and guidance will change and we need to ensure compliance
  - Anne Arundel (2008), Baltimore Co. (1997), Carroll (2014), Cecil (2008), Harford (1999), Montgomery (1985), Prince George’s (2018), Washington (2002)
  - Submit your MOUs to [John.Roche@Maryland.gov](mailto:John.Roche@Maryland.gov) and [Hal.VanAller@Maryland.gov](mailto:Hal.VanAller@Maryland.gov)



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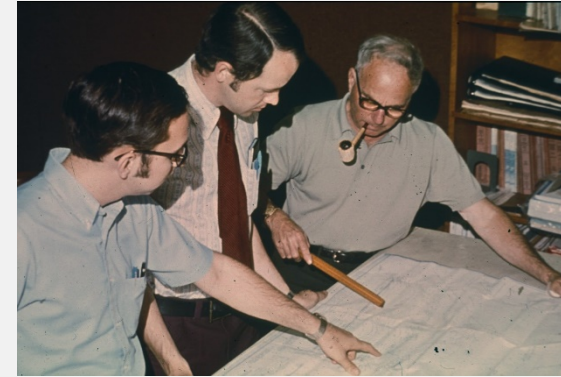




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# GUIDANCE DOCUMENTS

- Dam Safety Division of Water Resources Administration formed in 1978
  - Regulations revised and remain largely unchanged
- MD378 does not meet current needs.
  - Could be clearer
  - Doesn't address many current issues
  - Dam Safety Policy memos clarify acceptable design criteria in accordance with existing regulations (and apply to small ponds and most dams)



MDE File Photos.

## Again, let's remind ourselves of the current laws and regulations.

- Laws:
  - Environment Article § 5-501 through 5-514
- Regulations (COMAR):
  - 26.17.04 (broad, for permitting requirements)
  - 26.17.04.05 (specific for dams)
  - Remember, MD378 is only one part of the regulations in the state



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# Dam Safety Policy Memo 1: Maintenance and Repair, Trees and Woody Vegetation

- 2/25/2019, updated 8/3/2020
- Replaces and expands on former 1993 memo “Plantings on Roadway Dams”
- Clarifies tree removal requirements
- Provides detail for removal

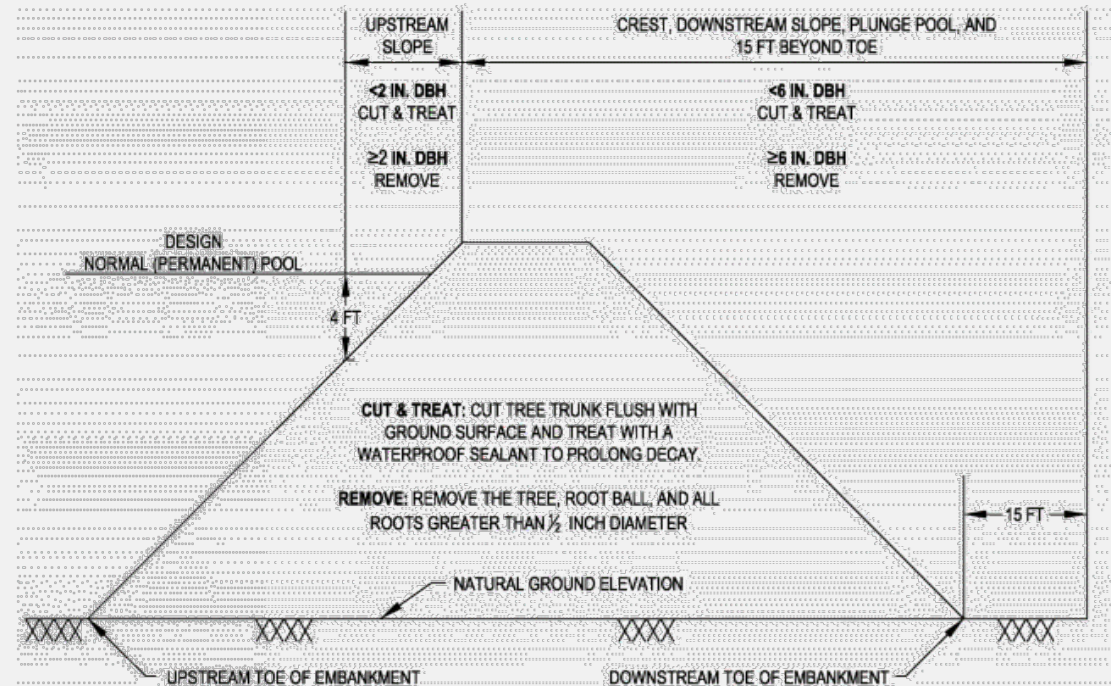


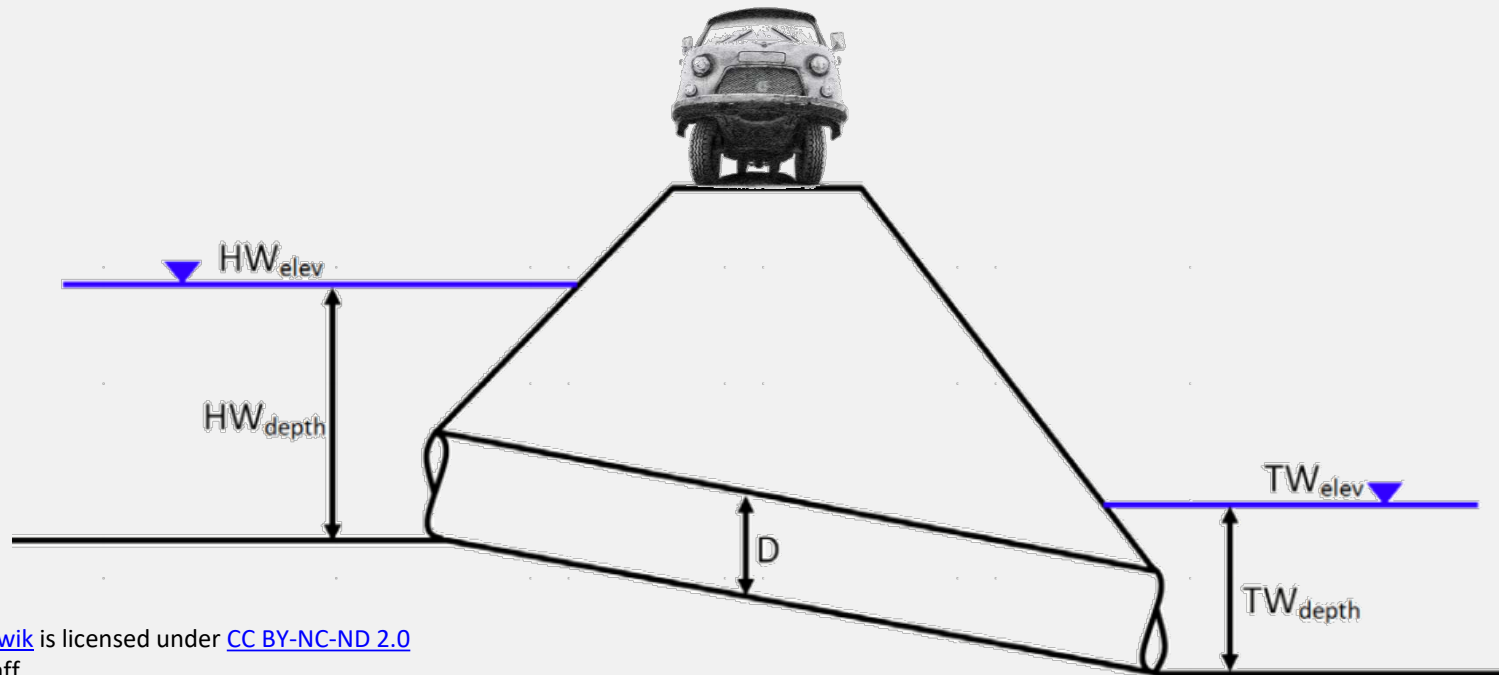
Image from MDE Dam Safety Policy Memo 1





# Dam Safety Policy Memo 2: Roadway/Railroad Embankment with Culvert Crossing

- 6/11/2019, updated 10/9/2019 and 2/21/2020
- Issued to resolve confusion in existing MD 378 language for road embankments
- Adds clarifying definitions to ensure consistent application



# Dam Safety Policy Memo 3: Impoundments Adjacent to Steep Slopes

- 5/23/2019
- Discusses potential dangers of siting a dam/pond at crest of steep slope



# Dam Safety Policy Memo 4: Hazard Classification – Small Impoundments

- 4/5/2019
- Provides for simplified hazard classification for certain low height, low storage volume dams.
- Supplements “Guidance for Completing a Dam Breach Analysis for Small Ponds and Dams in Maryland”



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# Dam Safety Policy Memo 5: Best Practices for Construction of Dams and Small Ponds

- Currently under development
- Presented in 2019 MDE Seminar
- Supplements MD378 “Specifications” which lack detail, are not comprehensive
- Intended to aid designers, contractors, inspectors





# Dam Safety Policy Memo 6: Dam Decommissioning

- 5/23/2019
- Provides general concepts to consider when planning a dam removal
- Provides criteria for appropriate design of controlled breaches



MDE File Photo: Martin Farm Dam. Harford County. Controlled Breach



# Dam Safety Policy Memo 7: Impoundment Filling Plans

- 5/23/2019
- Impoundment filling plans required as permit condition
- Provides clarification on considerations for first filling and content of filling plan.





# Dam Safety Policy Memo 8: Structural Considerations for Risers and Trash Racks

- Under Development
- Multi-stakeholder input received
- Clarifies structural design guidance where COMAR 26.17.04.05(A)(3) and MD378 lack important details



# Dam Safety Policy Memo 9: Water Storage and Collection Tanks

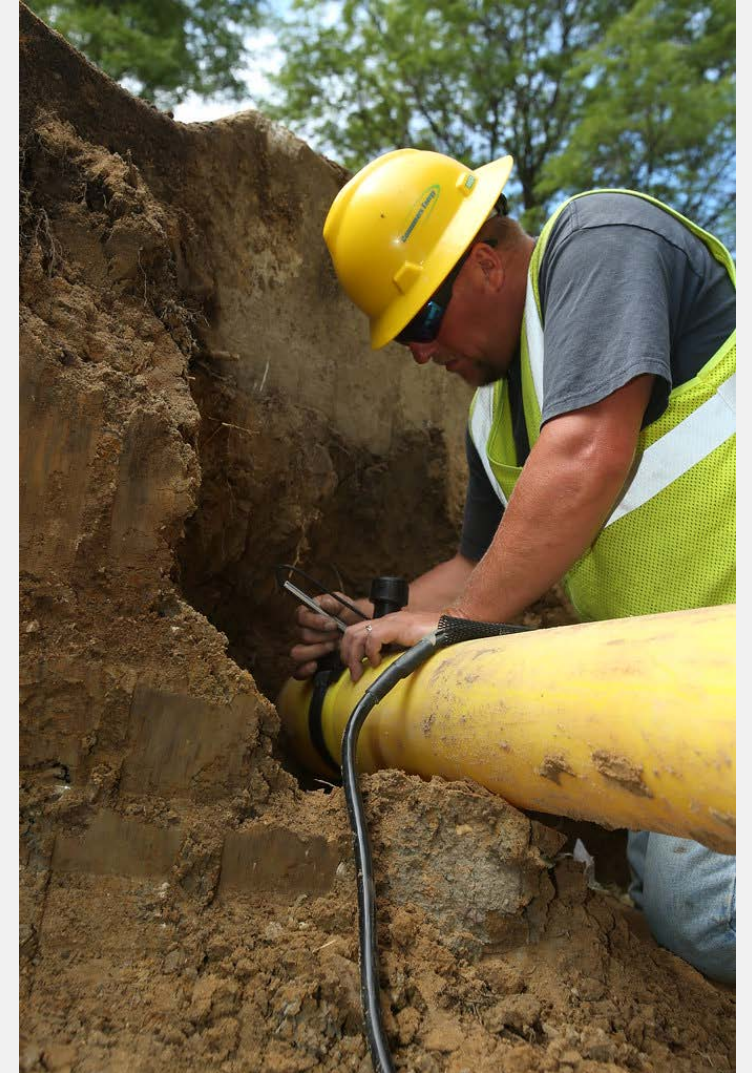
- 2/24/2020, updated 8/3/2020
- Addresses broad definition of “dam” in regulations
- Discusses when Dam Safety involvement may be necessary for permitting water storage and collection tanks.





# Dam Safety Policy Memo 10: Utilities in Dam Embankments

- 7/29/2019
- Addresses treatment of utilities within and near dam embankments



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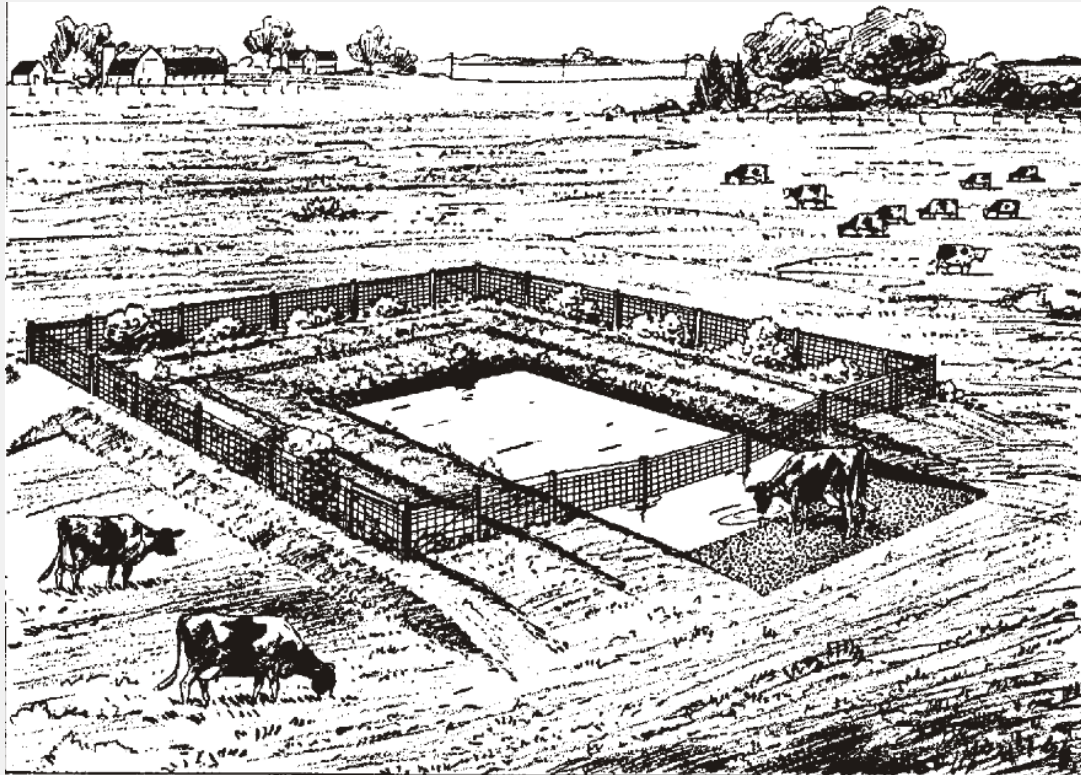
# Dam Safety Policy Memo 11: Activities Not Requiring Dam Safety Permit

- 7/29/2019
- Provides clarification of activities considered normal maintenance (no permit/authorization required) and those considered repairs/modifications (permit/authorization required)



# Dam Safety Policy Memo 12: Excavated Ponds

- Under Development
- Multi-stakeholder input received
- Clarifies potentially contradictory language in MD378



# Future Work Planned

- Project Review Guide
  - Provides clarity on expected submissions for permitting
    - COMAR 26.17.05.05(A)(3)
- Weir Wall Design Guidance
  - MD378 refers to NEH Sec. 11 for Drop Spillways
    - NRCS rescinded this in 1986
    - 174 pages, can pertinent parts be pulled out and simplified?
- Geotechnical Investigations / Design Guidance
  - Both COMAR 26.17.05.05(A)(3) and MD378 do not offer adequate detail
- Filter Diaphragm Design Aid





# Future Work Planned

- Considerations for Dam Siting
  - Address issues with ability to properly maintain dam and prevent hydraulic trespassing
- Screening Level Risk Analysis Guidance [For larger dams]



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# Future Work Unplanned

– What else do YOU need?



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# Thank You

John.Roche@Maryland.gov

410-537-3552

[mde.maryland.gov/programs/Water/DamSafety](http://mde.maryland.gov/programs/Water/DamSafety)



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