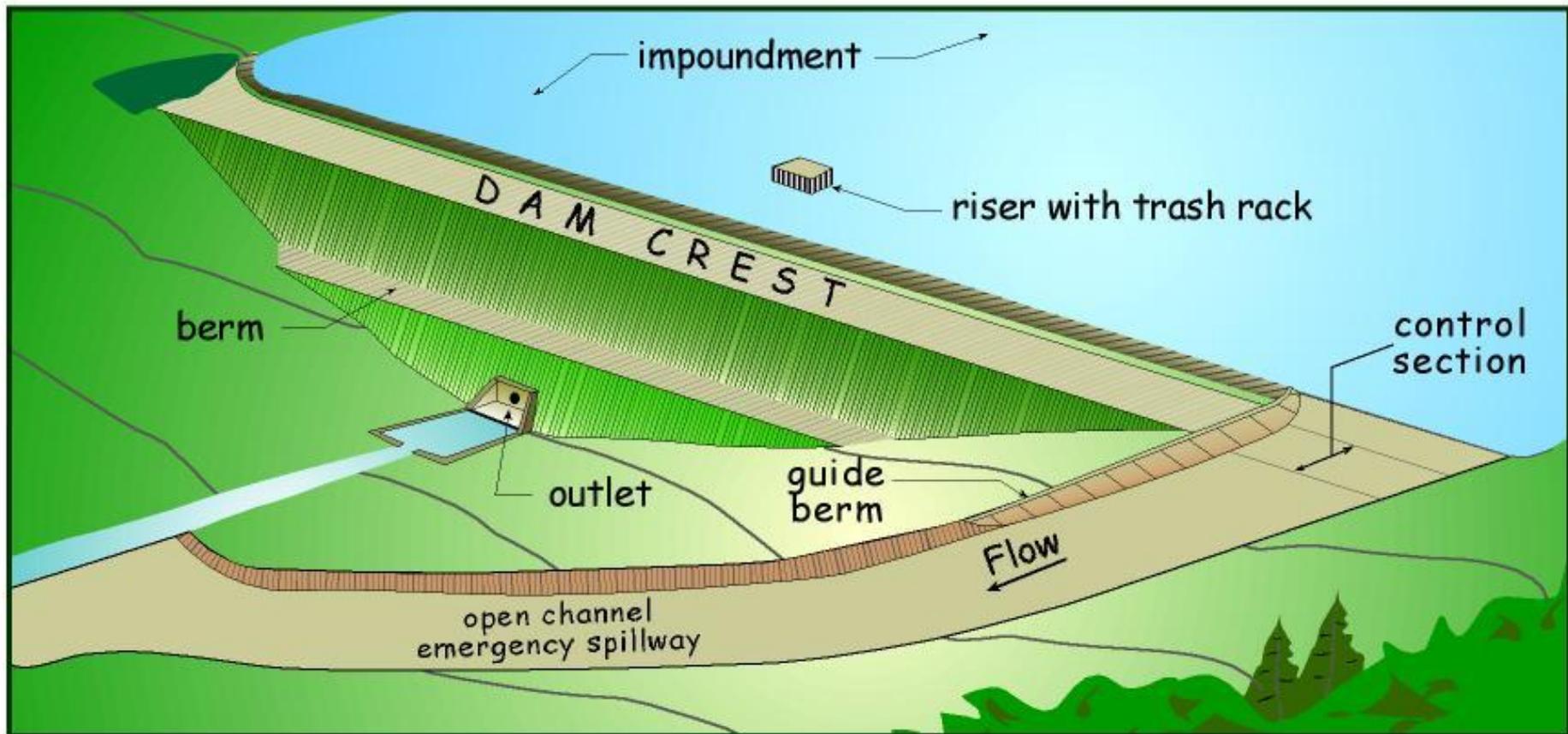


Why do we need all these DAM rehabs?!

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November 14, 2017

Parts of an Embankment Dam



History

- Flood Control Dams construction by USDA-Natural Resources Conservation Service (formally Soil Conservation Service-SCS) 1950s-1990s (a couple as late as the 2000s, but the “youngest” District dam is from the 1990s)
- Soil and Water Conservation Districts (Districts) are the sponsors for 104 in VA
- What does “sponsor” mean?

Present

- 12 Districts are responsible for the safe operation and maintenance (O&M) of these 104 dams through agreements with NRCS
- DCR provides the Professional Engineering services:
 - Inspections
 - O&M Certificates and Activities
 - Small Dam Repairs
 - Maintenance Funding and Technical Assistance
- Many are in need of rehabilitation

What is hazard class?

- Based on what would happen downstream if the dam were to break
- High Hazard-probable loss of life
 - Residential and commercial structures
 - Primary roads and interstates
- Significant Hazard-possible loss of life
 - Secondary Roads
 - Railroads
- Low Hazard-no loss of life

How did we get here?

- NRCS Hazard Classification determined by Sunny Day only
- Sunny Day is a dam failure without a storm event
- Regulations require:
 - Sunny Day
 - Probable Maximum Flood (PMF)
 - SDF

Another big issue-Dams built to protect agricultural land.



That has now been developed...hazard creep!



What does this mean?

- Dams built as low hazard structures, now impact primary roads and residential structures, making them high hazard
- The required Spillway Design Flood (SDF) for low hazard dams is the 100-yr storm
- For high hazard dams it is the Probably Maximum Flood (PMF)...

It means we have a lot of dams to rehab!

Let's talk numbers...

- 104 District Dams
- 66 High Hazard
- 29 Significant Hazard
- 9 Low Hazard
- From the 2013 draft report *Plan for the Rehabilitation of Virginia's Soil and Water Conservation District Dams*:
 - 46 High Hazard Dams identified as needing rehabilitation

Questions???

