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A Message from Dr. Mike Marcus, Bureau of Water Chief

Greetings from the Dam Safety Program. Hurricane Season 2018 wrapped up on November 30 and continued the string — four years running — of bestowing significant tropical activity on the state. Although in a strange way, mid-September seems like a long time ago, we are keenly aware that some of our fellow citizens’ lives are far from back to normal; we must not lose sight of that.

Much of the disruption was brought by the flooding associated with Hurricane Florence. It was like being stalked by a turtle. A very big, very wet turtle. Prior to the advent of the flood event, there were some instances of dams being compromised, or coming close to being compromised. But as you will read in this newsletter, much planning and execution by the Dam Safety staff went into addressing this event, as well as the October Hurricane Michael remnants, in order to minimize the number of dam-related events and their consequences.

Commencing with the Great Flood of

2015, all involved directly with dams (owners, policymakers, resource and infrastructure managers, regulators) and the general public have been on an expedited learning curve. This has not gone unused because we believe that we never stop learning and applying sound scientific and engineering principles to achieve positive outcomes. The Dam Safety Program will continue on its path of enlightened development (that learning curve thing) and will continue to work with policymakers and dam owners on the laws and regulations that cover dams. We remain committed to our focus on High and Significant Hazard Dams in order to protect the citizens of the state. And in reference to that protection, having seen first-hand the outstanding job delivered by the Dam Safety Program staff and other agency personnel seconded to the program for the duration of the event, this is a public affirmation of (and thank you for) their knowledge, dedication and resourcefulness.

Reminder: Transferring Ownership

If you transfer ownership of your dam, remember to complete the “Transfer of Ownership” form (available at www.scdhec.gov/dams). In the event of an emergency, it is important that DHEC has correct

contact information for the current owner. If you have any questions, please call Meagan O’Leary at 803-898-4050 or email us at response@dhec.sc.gov.

Preparing for Summer Storms & Hurricane Season

June 1 signaled the start of hurricane season in the Atlantic. As witnessed in recent years, tropical weather systems can severely impact dams. When intense rainfall or heavy winds are in the forecast, dam owners should begin making preparations. Likewise, a summer thunderstorm that sits over a drainage basin for an extended period of time can drop 6-8" of rain in a matter of hours.

When such an event is forecast or has occurred, dam owners should:

- Evaluate the water level in the pond/lake and determine if water levels can be safely lowered to make room for incoming flows.
- Coordinate with dam owners and/or property owners downstream.
- Routinely clear debris from spillways.
- Review your Emergency Action Plan.

- Keep alert. As the storm passes, watch for rising waters.
- Report any concerns to the DHEC Dam Safety Program staff at 803-898-1939.

CodeRED

DHEC has contracted with OnSolve to utilize their CodeRED emergency notification tool. This new tool allows the Dam Safety Program to send pre-programmed voice calls, text messages, and emails to owners and operators of regulated dams. CodeRED messages are able to be targeted to only those dams in counties which may be affected by a given condition, to specific dams identified by the program, or comprehensively to all dams across the state.

DHEC Dam Safety Alerts notify owners and operators of potential hazards or emergent situations so that they can take any necessary

actions to protect or maintain their dam. The program may also utilize this system to request that owners check on the condition of their dam if severe weather has recently affected an area of the state.

In preparation for the upcoming hurricane season and for inclement seasonal weather, DHEC conducted a test of the CodeRED emergency notification system on May 30, 2019. If you did not receive a notification via call, text, or email and believe that you have already subscribed, if you wish to update your methods of contact for alerts, or if you have not yet registered your contact information with DHEC for CodeRED, please call Meagan O'Leary with the Dam Safety Program at 803-898-4050 or email us at: response@dhec.sc.gov.



Meet Your Area 3 Regional Engineer



The committed DHEC engineers and staff who work with dam owners and consultants to make dams safe are the heart of South Carolina's Dam Safety Program.

Each edition of this newsletter will highlight a different staff member.

Ryan Sullivan is a 2015 graduate of Clemson University with a B.S. in Mechanical Engineering. He began his career with DHEC and the Dam Safety Program in February 2017 as the Regional Dam Safety Engineer covering Area 4, based out of the Florence office. Ryan recently accepted the Area 3 Regional Dam Safety Engineer position. In his time

with the Dam Safety Program, Ryan has had the opportunity to meet and work with many dam owners across the state. His favorite thing about working in the program is the time spent out of the office visiting new places, while meeting and helping the dam owners. In his free time, Ryan enjoys playing music, as well as cooking and baking with his wife, married on May 25, 2019.

Emergency Action Plans

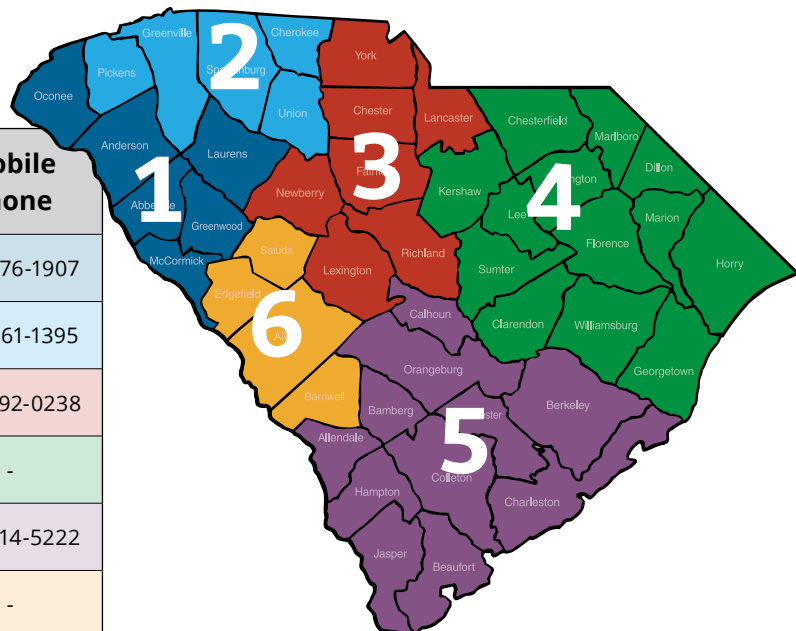
The Department would like to take this chance to remind all dam owners that High Hazard (Class 1) and Significant Hazard (Class 2) dams are required to have an up-to-date Emergency Action Plan (EAP). The regulations require that a current EAP be provided to the DHEC inspector on every routine inspection. These inspections generally take place every two years for Class 1 dams and every three years for Class 2 dams. Even though the department doesn't check EAPs outside of routine inspections,

it is recommended that dam owners update their EAPs annually and provide DHEC with the updates. DHEC makes sure that every county's Emergency Management Department has the most up-to-date versions of the EAPs for the dams in their county. Many High and Significant Hazard dam owners have received pre-populated EAP templates in the mail, and we encourage you to complete those and return them to DHEC as soon as possible. While we all hope that these plans will never need to be

implemented, it is critically important to have a current EAP on hand when an emergency occurs. These EAPs help dam owners and emergency responders mitigate downstream damage and potentially save lives. If you have any questions about whether you need an EAP, or need help completing your EAP, please feel free to contact the Dam Safety Program or your Regional Dam Safety Engineer (see listing below).

DHEC Regional Staff Listing

Area	Regional Office	Dam Safety Staff	Office Phone	Mobile Phone
1	Anderson	Hannah Vinson	864-260-5585	864-276-1907
2	Greenville	Chuck Owens	864-372-3273	864-561-1395
3	Columbia	Ryan Sullivan	803-896-9548	843-992-0238
4	Florence	Vacant	803-898-4050	-
5	Orangeburg	Dani Felkel	803-533-5490	803-614-5222
6	Aiken	Vacant	803-898-4050	-



When Do I Need a DHEC Dam Safety Permit?

The South Carolina Dam Safety Program is governed by the Dams and Reservoirs Safety Act (SC Code of Laws, Title 49, Chapter 11, Article 3) and the Dams and Reservoirs Safety Act Regulations (SC Code of Regulations 72-1 through 72-9). The complete text may be found on our website (www.scdhec.gov/dams), just follow the link labeled "Laws and Regulations." Regulation 72-3 outlines which activities require a permit:

1. Construction of a new dam: (72-3, Section B-1)

"Construction of a new dam shall not commence until the owner has applied for and received a permit to construct from the Department, except for any new dam exempt from the statute."

Dams exempt from regulation have a maximum impoundment volume less than fifty acre-feet and are below twenty-five feet in height and will not endanger human life in the event of a failure. Others may be exempt if they pose no significant threat to downstream life or property. For example: A dam is immediately upstream of the ocean or other major water body and there are no structures or utilities between the dam and the receiving water body, then that dam may be exempt.

2. Repairs or Alterations to an existing dam: (72-3, Section B-2) and (72-3, Section B-3)

"Repairs proposed voluntarily or pursuant to an inspection and repair order require permitting. Should the owner be uncertain as to whether the proposed work is repair or normal maintenance work, he should contact the Department for clarification. In case of an emergency where the owner finds repairs are necessary to safeguard life or property, the owner may start such repairs immediately but shall notify the Department at once of the proposed repair and work under way."

"Alteration of a dam or reservoir includes but is not limited to changing the height

of a dam, increasing the normal pool or principal spillway elevation, or changing the elevation or physical dimensions of an emergency spillway."

Permits are required for most repairs but are generally not required for maintenance. What is the difference? In general, "repairs" relate to work that impact the design operation or structural integrity of the dam and "maintenance" relates to work that could be considered "good housekeeping" and does not affect the design operation or structural integrity of the dam. "Maintenance" can also be thought of as work that, if neglected or postponed, could result in degradation of the dam to a point where "repairs" become necessary. As an example, a repair (requiring a permit) is removing trees that are greater than four inches in diameter at breast height, because at this size it is expected that the tree's root system will have extended deep into the dam creating a possible structural integrity concern. Trees less than four inches in diameter may be removed as maintenance. Similarly, filling eroded areas twelve inches deep or greater is considered a repair and requires a permit, where as filling eroded areas less than twelve inches deep is considered maintenance and does not require a permit.

3. Removal of an existing dam: (72-3, Section B-4)

"Removal of an existing dam shall not commence until the owner has applied

for and obtained a permit from the Department to accomplish the proposed removal."

A permit is required to remove any non-exempt dam. Just because a dam is not currently impounding water (whether the lake has been drained, or the dam failed in a storm) does not mean that it has been removed. Removal of the dam, which can be a technically complicated issue, generally means permanently removing a section of the dam large enough that the dam loses its ability to impound a potentially dangerous volume of water. An engineering analysis is generally required to demonstrate whether this is true. Once the Department is satisfied that a dam has been removed, then the dam ceases to exist in the eyes of the Department, and the landowner is no longer subject to DHEC's Dam Safety regulations.

Remember, all permit applications AND work performed under a permit requires the involvement of a Professional Engineer licensed in the State of South Carolina. A great deal of time and expense can be avoided by taking care of your dam and performing preventative maintenance to address those small problems before they become big problems requiring repair! If you are not sure whether a proposed dam would be considered exempt, or you have questions about repairs, maintenance, or removal, please contact your Regional Dam Safety Engineer for assistance.

Dam Safety Program

2600 Bull Street
Columbia, SC 29201

Dam Owner Education Opportunities

On November 9, 2018, over 100 dam owners gathered at DHEC's Headquarters in Columbia for the initial offering of a workshop for dam owners called Dam Ownership 101. Instructors Randy Bass and Joe Monroe with the Association of State Dam Safety Officials conducted lessons in State Dam Safety Laws and Regulations, Dam Failure Modes and Case Histories, Operation/Maintenance/Safety Inspections of Dams, Emergency Action Plans, Public Safety, Dam Security, Dam Owner Liability, Dam Repair Projects, Hiring an Engineering Consultant, Dam Repair Costs, and Funding

Options. Additionally, owners had an opportunity to meet and interact with DHEC's Dam Safety Program staff. A big thanks to all the conscientious dam owners who participated in this training. For those unable to attend, the workshop was recorded and will be accessible via DHEC's website: www.scdhec.gov/dam-owner-resources. Additionally, future opportunities similar to the Dam Ownership 101 workshop will be made available by the Dam Safety Program. Watch this newsletter for announcements of future educational opportunities!



We're On Call

Dam Safety Program
Staff are available
24-7 in the event of an
emergency situation at
803-898-1939