



Combined Emergency Action Plans

Texas Association Watershed Sponsors

May 14, 2025



Overview

- Emergency Action Plan (EAP) Purpose and Requirements
- Combined EAPs for Portfolio of dams
- Other considerations:
 - Combined Breach Analyses
 - Combined Tabletops



EAP Purpose

- History has shown that, on occasion, dams do fail
- Plan for effective response to prevent failure of the dam
- Protect lives from an uncontrolled release of the reservoir
- Does not replace good maintenance and operation



40-second time-lapse of Edenville Dam Breach
FEMA Incident Response Review 2022

EAP Requirements

- Per State dam safety regulations (Texas Administrative Code, Ch. 299)
 - All significant and high hazard dams
 - Include Breach Inundation Maps
 - Annual review and update
 - Tabletop exercise at least every five years
 - Training for employees



Guidelines for Developing Emergency Action Plans for Dams in Texas

**Dam Safety Program
Critical Infrastructure Division
Texas Commission on Environmental Quality**

**GI-394
Revised December 2019**

Combined EAP for a Portfolio of Dams



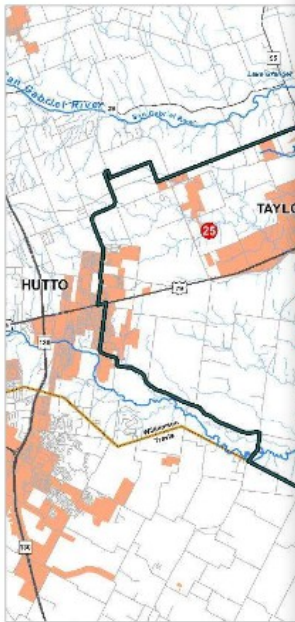
Concept

- General Content in Front
 - Related to owner
 - Emergency observations and classifications
- Notification Flowcharts
 - Up front if consistent
 - In tabs if not
- Site Specific Info as “Tab” for each Dam
 - Access
 - Breach maps
 - Contact info.



Example

LOWER BRUSHY CREEK WATER CONTROL DISTRICT FLOOD EMERGENCY



NOTIFICATION FLOWCHART

NOTIFICATION FLOWCHART

EAP APPROVAL AND IMPLEMENTATION

1. PURPOSE

2. RESPONSIBILITIES

2.1. Dam Owner's Responsibilities

2.2. Responsibilities for Flood Control

2.3. Emergency Operations

2.4. Responsibilities for Flood Control

2.5. Responsibilities for Flood Control

3. COMMUNICATIONS

4. EMERGENCY DETECTION

4.1. Emergency Situation

4.2. Emergency Evaluation

5. POTENTIAL OBSERVATIONS

5.1. Seepage through embankment

5.2. Boils in downstream

5.3. Upstream whirlpool

5.4. Slides or Severe Erosion

5.5. Sinkholes

5.6. Settlement

5.7. Cracking

5.8. Rapidly Rising Lake Level

5.9. Structural Failure

5.10. Sabotage

6. RESOURCES AND DOCUMENTATION

6.1. Equipment, Supplies

6.2. Technical Reference

6.3. Documentation of Emergency

7. EAP UPDATING, TESTING

7.1. Updating

7.2. Testing

7.3. Training

7.4. Forms

SITE SPECIFIC INFORMATION – TABS BY DAM NUMBER

<u>Dam No.</u>	<u>Dam Name</u>	<u>ID</u>	<u>Longitude</u>	<u>Latitude</u>
2	Lower Brushy Creek WS SCS Site 2 Dam	TX01335	-97.338756	30.620378
3	Lower Brushy Creek WS SCS Site 3 Dam	TX01343	-97.315015	30.639418
4-A	Lower Brushy Creek WS SCS Site 4A Dam	TX01338	-97.305941	30.624661
6	Lower Brushy Creek WS SCS Site 6 Dam	TX01344	-97.295747	30.635686
7	Lower Brushy Creek WS SCS Site 7 Dam	TX01346	-97.290651	30.645222
8	Lower Brushy Creek WS SCS Site 8 Dam	TX01345	-97.26219	30.630408
9	Lower Brushy Creek WS SCS Site 9 Dam	TX01333	-97.242011	30.625721
10	Lower Brushy Creek WS SCS Site 10 Dam	TX01347	-97.252501	30.652967
12	Lower Brushy Creek WS SCS Site 12 Dam	TX01326	-97.33891	30.429138
13	Lower Brushy Creek WS SCS Site 13 Dam	TX01327	-97.330437	30.439692
17	Lower Brushy Creek WS SCS Site 17 Dam	TX01336	-97.250757	30.51851
18	Lower Brushy Creek WS SCS Site 18 Dam	TX01337	-97.298402	30.573658
20	Lower Brushy Creek WS SCS Site 20 Dam	TX01328	-97.242638	30.596912
21	Lower Brushy Creek WS SCS Site 21 Dam	TX01329	-97.226893	30.533896
22	Lower Brushy Creek WS SCS Site 22 Dam	TX01330	-97.221486	30.541786
23	Lower Brushy Creek WS SCS Site 23 Dam	TX01331	-97.213371	30.555275
24	Lower Brushy Creek WS SCS Site 24 Dam	TX02377	-97.173917	30.555047
25	Upper Brushy Creek WS SCS Site 25 Dam	TX01339	-97.482663	30.577357
29	Upper Brushy Creek WS SCS Site 29 Dam	TX01340	-97.430876	30.524298
30	Upper Brushy Creek WS SCS Site 30 Dam	TX01341	-97.401532	30.517622
31	Upper Brushy Creek WS SCS Site 31 Dam	TX04488	-97.377125	30.511066
32	Upper Brushy Creek WS SCS Site 32 Dam	TX01325	-97.383593	30.456243
33	Upper Brushy Creek WS SCS Site 33 Dam	TX01334	-97.317522	30.547727

Advantages Comparison

Combined

- ✓ Cost savings (less effort to prepare and update)
- ✓ Avoid Redundancy
- ✓ Fewer plans to keep track of and update
- ✓ One plan in an emergency affecting multiple dams

Separate

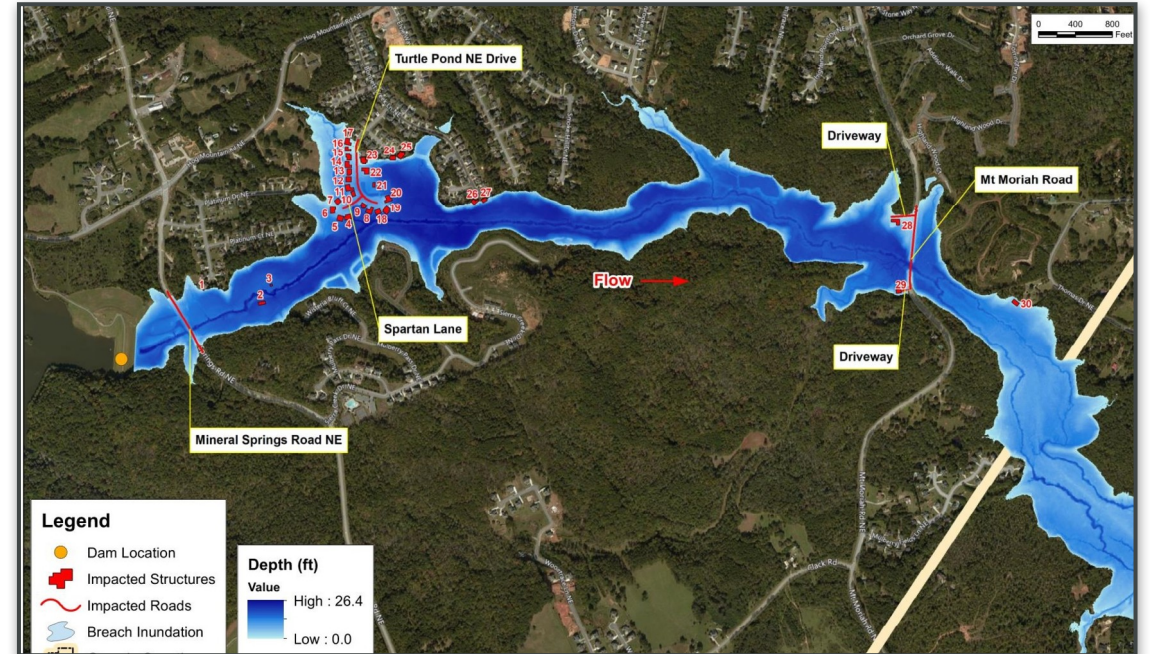
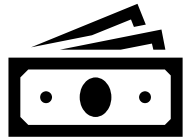
- ✓ Better for diverse portfolio of dams that lack similarities
- ✓ No excess info (about other sites) in an emergency

Breach Analysis Considerations

Economy of scale in performing multiple... especially within a watershed

Cost per dam

Number of Dams



Combined Tabletop Exercise

Appropriate for one owner if:

- ✓ Similar dams
- ✓ Right emergency responders in the room
- ★ NRCS Local Sponsors

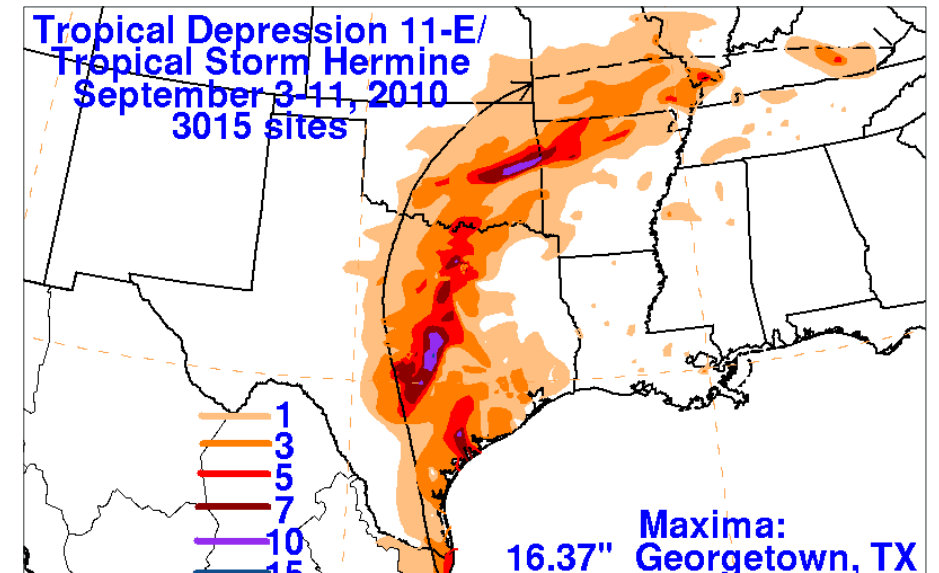
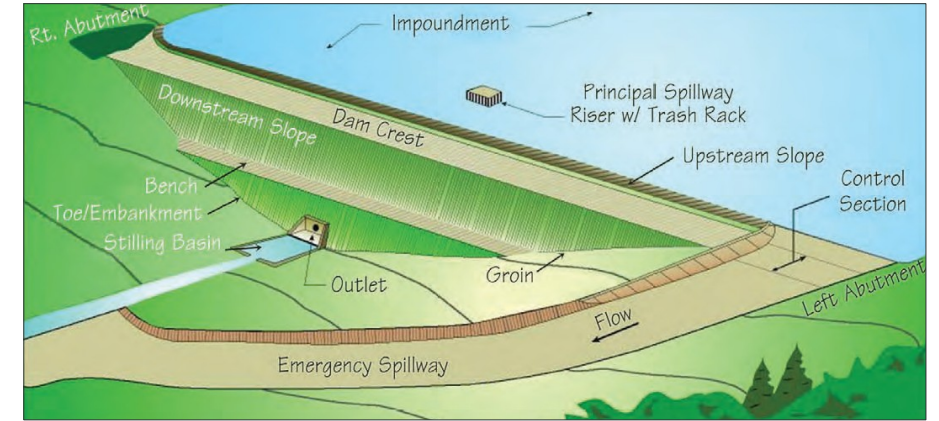


Tabletop Exercise

Combined Tabletop Exercise

Scenario Considerations

- Use a “typical” dam for the scenario
 - Use “what if” scenarios if needed to look at other dams
- Or use a scenario where event triggers watch conditions on multiple dams



TCEQ EAP Review Considerations

- One TCEQ reviewer for combined EAP
 - Additional reviewers may be needed for breach reports
- Reduced review effort on background information
- Format of the EAP can be modified considering:
 - Dam Notification requirements
 - Emergency Procedures to be followed
 - Supplies/resources available at each site
 - Etc.



Additional EAP Training

- TCEQ Annual Dam Owner Workshop
 - Thursday, July 24, 2025
 - 9 am – 5 pm
 - Commons Conference Center, The University of Texas at Austin

 CONFERENCES SEMINARS WORKSHOPS DAM SAFETY WORKSHOP	
9:00 a.m.	Session 1 - Trina Lancaster, P. E. Dam Safety Program Updates, Emergency Action Plans , Dam Failure example
10:00 a.m.	Meet with the Experts
10:15 a.m.	Session 2 - David Trujillo, P. E. Operation & Maintenance of Dams & Spillways
11:15 am	Lunch
12:45 pm	Session 3 - Johnny Cosgrove, P. E. Construction Requirements
1:45 pm	Meet with the Experts
2:00 pm	Session 4 - Dee McCalley, P. E. Emergency Action Plan Preparation
3:00 pm	Session 5 Mock Tabletop Exercise
4:00 pm	Question & Answer Session

Questions?

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