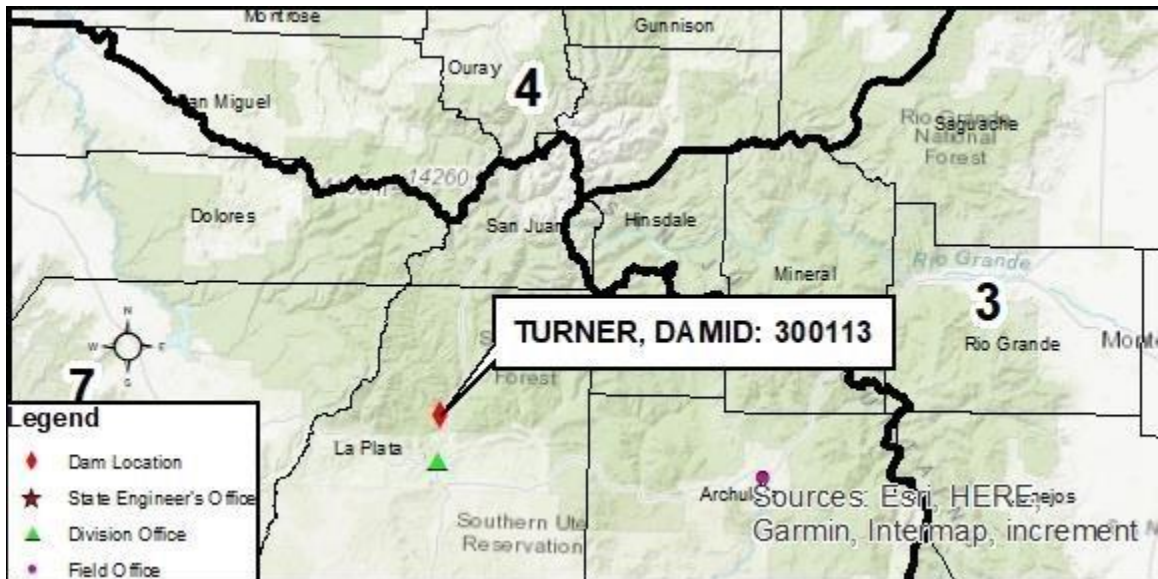


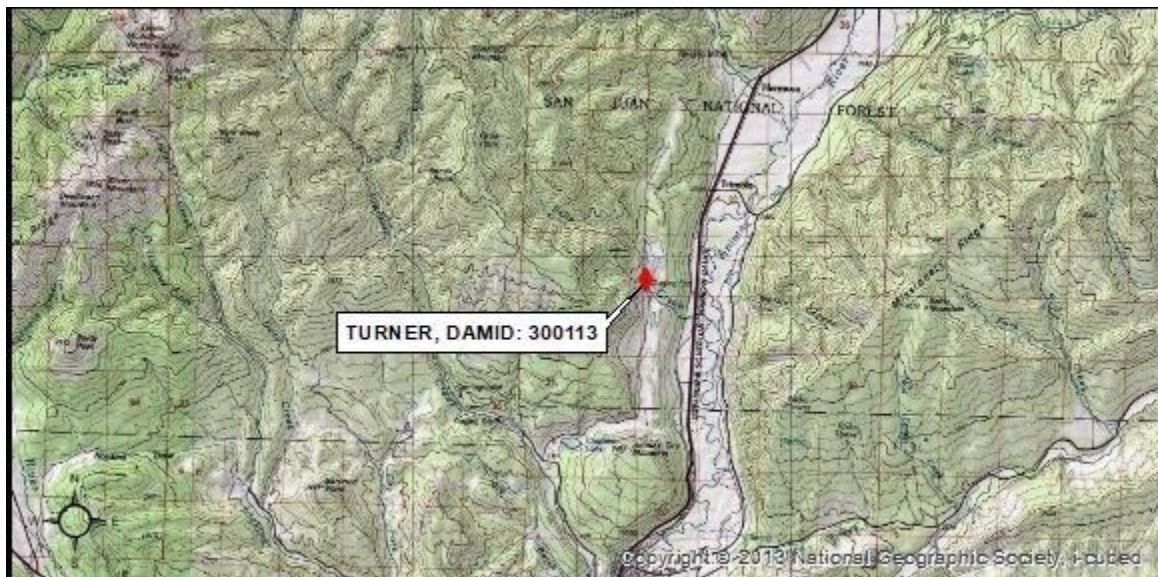
EMERGENCY ACTION PLAN (EAP) *Notifications and Essential Information*

TURNER DAM LA PLATA COUNTY, COLORADO HAZARD CLASSIFICATION: High State of Colorado DAMID: 300113

Location Map:



Vicinity Map:



EAP Date: 07202021

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ESSENTIAL DAM INFORMATION

Dam Owner

- Primary Contact: SCOTT SOUTHWORTH
- Organization: FALLS CREEK RANCH ASSOCIATION, INC.
- Address: 6350 FALLS CREEK MAIN
- 6350 FALLS CREEK MAIN, DURANGO, CO 81301-0000
- Contact info: (970) 247-9506

Location of Dam

- County: LA PLATA
- Nearest Downstream Town: DURANGO
- River/Drainage: FALLS CREEK
- Coordinates: 37.36835°N, -107.866878°W
- Closest Physical Address: 6350 Falls Creek Main, Durango, CO 81301

Description of the Dam

Dam Type & Dimensions

- | | |
|--|--|
| <ul style="list-style-type: none"> ● Type of Dam: ● Dam Height: ● Crest Length: ● Crest Width: | <p>RE - <i>Rolled Earth - Homogeneous Embankment</i></p> <p>35 (feet)</p> <p>510 (feet)</p> <p>22 (feet)</p> |
|--|--|

Spillway Characteristics

- | | |
|---|---|
| <ul style="list-style-type: none"> ● Drainage Basin Area: ● Reservoir Normal Capacity: ● Emergency Spillway Type: ● Emergency Spillway Width: ● Spillway Freeboard: ● Maximum Spillway Capacity: ● <i>Pass 100-year Flood?</i> | <p>4057 (acres)</p> <p>472 (acre-feet)</p> <p>Open Channel - 75% HMR</p> <p>125 (feet)</p> <p>6 (feet)</p> <p>5000 (cfs), Spillway Discharge Rating Table</p> <p>No</p> |
|---|---|

Outlet Characteristics

- | | |
|--|--|
| <ul style="list-style-type: none"> ● Size: ● Maximum Capacity: | <p>12" WSP - CIPP liner installed in 2013</p> <p>10 (cfs), Outlet Discharge Rating Table</p> |
|--|--|

EVENT LEVEL DETERMINATION & EXPECTED ACTIONS

Level Determination

An unusual event or potential emergency situation should be characterized as one of the following:

- High Flow Below Dam - Non-Failure
- Unusual Condition at Dam - Non-Failure
- Potential Dam Failure - Immediate Action Required
- Evacuation Required - Dam Failure in Progress or Unavoidable

This EAP will be activated upon detection of conditions events that are not within the realm of normal operations at the dam.

Expected Actions

The Expected Actions of each responsible party, for each event level are described below:

HIGH FLOW BELOW DAM - NON-FAILURE	
<i>Dam Owner</i>	Report conditions to Dam Owner’s Engineer and DSE, to include reservoir and spillway stage and outlet releases, describe the situation, and request technical assistance on the next steps that should be taken; Monitor situation; Notify the Communications Dispatch Center and Local Emergency Management in order to provide situational awareness and preparation for a possible event escalation; Plan for adjustments to maintain integrity of the dam.
<i>Dam Safety Engineer (DSE)</i>	Maintain communications with owner for current status and changes; interpret conditions above and below the dam that might impact future flows and dam safety; the value of a site visit to observe conditions first hand should be considered.
<i>Local Emergency Management (EM)</i>	Refer to EAP Inundation Maps to orient relative to downstream floodplain. Refer to outlet works and spillway discharge rating tables and curves to assess the flooding impacts based on the releases being made; Evaluate conditions relative to area of authority and or responsibility; assess impacts and resource needs as necessary.
<i>Regional Field Manager (RFM)</i>	Discuss conditions with EM to obtain situational awareness, assess life-safety issues, potential infrastructure impacts, and potential resource requests. Internal notifications within EM community and State agencies.
<i>National Weather Service (NWS)</i>	Provide forecasts for future impacts to conditions that aid the above entities in planning and preparedness, and public notifications as necessary. Issue a weather watch or warning depending on the level of discharge and flow downstream.
<i>Other</i>	(fill in as necessary)

UNUSUAL CONDITION AT DAM - NON-FAILURE	
<i>Non-emergency incident; Slowly developing situation</i>	
<i>Dam Owner</i>	Report conditions to Dam Owner’s Engineer and DSE, to include reservoir and spillway stage and outlet releases, describe the situation, and request technical assistance on the next steps that should be taken. Monitor situation. Assess need for resources to prevent escalation of incident, assess capabilities; Notify the Communications Dispatch Center and Local Emergency Management in order to provide situational awareness and preparation for a possible event escalation.
<i>Dam Safety Engineer (DSE)</i>	Assess reports of conditions; Assist Dam Owner with direction, actions, and assessments to prevent escalation of incident; Coordinate with Local EM and RFM; the value of a site visit to observe conditions first hand should be considered.
<i>Local Emergency Management (EM)</i>	Discuss conditions with DSE to obtain situational awareness; Assess life-safety issues and potential infrastructure impacts; Refer to EAP Inundation Maps and reference spillway and outlet works discharge rating information to assess the flooding impacts based on the releases being made; Evaluate conditions relative to area of authority and or responsibility; Assess impacts and resource needs as necessary. Coordinate with Public Information Officer (PIO) for the preparation and dissemination of public messaging as appropriate.
<i>Regional Field Manager (RFM)</i>	Discuss conditions with EM to obtain situational awareness to include life-safety issues, potential infrastructure impacts, and potential resource requests; Internal notifications within EM community and State agencies.
<i>National Weather Service (NWS)</i>	Provide forecasts for future impacts to conditions that aid the above entities in planning and preparedness, and public notifications as necessary. Issue a weather watch or a warning depending on the level of discharge and flow downstream.
<i>Other</i>	(fill in as necessary)

POTENTIAL DAM FAILURE - IMMEDIATE ACTION REQUIRED	
<i>Dam Owner</i>	Call 9-1-1 immediately to notify the Communications Dispatch Center of the situation. Report conditions to Dam Owner’s engineer, DSE and On-Scene Incident Command; Assess need for resources to prevent escalation of incident; Assess capabilities; Monitor situation; Plan for adjustments to maintain integrity of the dam.
<i>Communications Dispatch Center</i>	Notify Emergency Response resources to initiate pre-planning for evacuations and/or road closures based on assessment of EAP Inundation Maps. Contact Local Emergency Management for the provision of incident support if requested; Monitor radio traffic and provide for incident communications support.
<i>Dam Safety Engineer (DSE)</i>	Assess reports of conditions; site visit immediately if possible; assist Dam Owner with direction, actions, and assessments to prevent escalation of incident; Coordinate with EM and RFM; Mobilize to Incident Command Post; Coordinate with Dam Safety Chief for staff engineer to mobilize to the EOC if one is activated.
<i>Local Emergency Management (EM)</i>	Refer to EAP Inundation Maps and reference spillway and outlet works discharge rating information to assess the flooding impacts based on conditions. Activate EOC if requested and/or in support of the incident; Maintain situational awareness; Assess life-safety issues and potential infrastructure impacts; Evaluate conditions relative to area of authority and or responsibility; Assess impacts and resource needs as necessary; Coordinate with Emergency Response resources for consideration of and preparation for pre-evacuations; Assess need for and facilitate a local disaster declaration; Coordinate with Public Information Officer (PIO) for the preparation and dissemination of public messaging as appropriate.
<i>Regional Field Manager (RFM)</i>	Maintain contact with EM for situational awareness including life-safety issues, potential infrastructure impacts, and resource requests/ordering; Internal notifications within EM community and State agencies; Coordinate with EM to assess need for and assist with the facilitation of local disaster declarations.
<i>National Weather Service (NWS)</i>	Throughout the incident provide forecasts for impacts to conditions that aid the above entities in planning and preparedness, and public notifications as necessary. Issue a weather watch or a warnings as on a regular basis throughout the incident.
<i>Other</i>	(fill in as necessary)

EVACUATION REQUIRED - DAM FAILURE IN PROGRESS OR UNAVOIDABLE	
Extremely Urgent Situation	
<i>Dam Owner</i>	Contact 9-1-1 immediately to notify the Communications Dispatch Center of the situation; Report reservoir conditions as breach occurs to DSE and On-Scene Incident Command; Provide timing and situational awareness of on-site conditions to On-Scene Incident Command; Coordinate with On-Scene Incident Command to assess need for resources to prevent escalation of incident and assess capabilities; Monitor situation; Plan for adjustments to maintain integrity of the dam; Mobilize to the Incident Command Post; Respond to Emergency Operations Center when activated.
<i>Communications Dispatch Center</i>	Notify Emergency Response resources (including Local Emergency Management) for the provision of evacuations and/or road closures based on assessment of EAP Inundation Maps; Monitor radio traffic and provide for incident communications support.
<i>Dam Safety Engineer (DSE)</i>	Assess reports of conditions; site visit immediately if possible; Assist On-Scene Incident Command and Dam Owner with direction, actions, and assessments to prevent escalation of incident; Coordinate with EM and RFM; Coordinate with Dam Safety Chief for staff engineer to mobilize to the EOC.
<i>Local Emergency Management (EM)</i>	Refer to EAP Inundation Maps and coordinate with On-Scene Incident Command to support evacuations and road closures; Activate EOC if in support of the incident including resource needs and information dissemination; Evaluate conditions relative to area of authority and or responsibility; Maintain situational awareness of all aspects of the incident including life-safety issues and potential infrastructure impacts; Facilitate a local disaster declaration; Coordinate with Public Information Officer (PIO) for continued public messaging as appropriate.
<i>Regional Field Manager (RFM)</i>	Maintain contact with EM for situational awareness including life-safety issues, potential infrastructure impacts, and resource requests/ordering; Mobilize to the EOC as needed/requested; Internal notifications within EM community and State agencies; Coordinate with EM to assess need for and assist with the facilitation of local disaster declarations.
<i>National Weather Service (NWS)</i>	Provide public notifications for flash flooding along inundated zone and call for immediate evacuations per protocol; Issue flash flood warnings with appropriate other information. Throughout the incident provide forecasts for impacts to conditions that aid the above entities in planning and preparedness, and public notifications as necessary. Issue weather watches or warnings on a regular basis throughout the incident.
<i>Other</i>	(fill in as necessary)

NOTIFICATIONS and COMMUNICATION

In order for all responsible parties to be able to prepare a response to a given emergency, notification to at least one individual from each of the agencies/entities shown in the table below should be made. Please keep the following in mind:

- These responsible parties should communicate within their appropriate chain of command.
- It is expected that Regional Field Managers (RFM) from Colorado Division of Homeland Security and Emergency Management (CDSHEM) will alert affected State agencies as necessary (i.e. Colorado Department of Transportation, Colorado State Patrol).
- It is expected that the Communications Dispatch Centers will alert all pertinent emergency service contacts within their jurisdictions (i.e. Sheriff's Office, Fire Departments, Emergency Management, etc.)

Emergency Notifications List

<i>Emergency Notifications List - Contact to be made with an individual with each organization</i>				
Agency/Organization	Contact Name	Email Address	Primary #	Alternate #
Dam Owner				
<i>Primary</i>	Scott Southworth	scottrobin410@gmail.com	970-799-4409	
<i>Secondary</i>	Ray Smith	ray@frontier.net	970-946-3398	
Local Communications Dispatch Center				
<i>County Sheriff's Office</i>	Dispatch		911 (if emergency)	(970) 385-2900
Local Emergency Managers				
<i>County EM Director</i>	Shawna Legarza	sahawna.legarza@co.laplata.co.us	(970) 385-2900	(970) 375-6274
<i>County EM Deputy</i>				
Colorado Department of Homeland Security and Emergency Management (CDHSEM)				
<i>Primary - RFM</i>	Tom McNamara	thomas.mcnamara@state.co.us	(720) 749-7057	
<i>Secondary - Duty Officer</i>	(Rotating duty)			(303) 279-8855
<i>Planning Supervisor</i>	Ethan Williams	ethan.williams@state.co.us	(720) 237-8484	
<i>Alternate - Plan Coordinator</i>	Don Moore	donald.moore@state.co.us	(720) 913-2427	
<i>CDOT - Region 5</i>	Kerrie Neet	kerrie.neet@state.co.us	(970) 385-3624	
<i>CO State Patrol - District 5</i>		Major position moved from Alamosa to Durango	(970) 249-4392	
Colorado Division of Water Resources				

<i>Primary - DSE</i>	Matt Gavin	Matthew.Gavin@state.co.us	(970) 317-4147	
<i>Secondary - Chief</i>	Bill McCormick	bill.mccormick@state.co.us	(719) 338-6124	
<i>Alternate - Water Commissioner</i>	Jeff Titus	Jeff.Titus@state.co.us	(970) 739-6520	(970) 247-1845
National Weather Service (NWS) Local Weather Forecast Office 24-hr Phone: (800) 868-7964				
Warning Meteorologist	Jeff Colton	jeff.colton@noaa.gov	(970) 243-7007	(800) 868-7964
Warning Hydrologist	Aldis Strautins	aldis.strautins@noaa.gov	(970) 243-7007	(800) 868-7964
Other				

Event Communication

The Regional Field Manager (RFM) from CDHSEM will coordinate text message groups and conference calls to facilitate situational awareness, as appropriate throughout the event.

LOCALLY AVAILABLE RESOURCES

The table below should be pre-populated by the dam owner, with consideration to how an emergency situation at the dam may be averted, mitigated, etc. (i.e. what resources would be needed to arrest a given situation and prevent failure of the dam)

- Location/availability of resources should be pre-planned.
- It is recommended that Dam Owner call resources before including on this list before an incident occurs to ensure contact names/resource availability.
- Consideration for an on-call type contract between owner/provider to expedite services should be given.

Locally Available Resources List - Contacts made by Dam Owner

<i>Locally Available Resources Table</i>				
Resource Type	Contact Name	Address	Primary #	Alternate #
Heavy Equipment Contractor/Rental				
1. <i>Bonds Construction</i>		1065 CR 3, Durango, CO 81301	970-259-3600	
2. <i>Four Corners Materials, A CRH Company</i>		9755 CR 213, Durango, CO 81301	970-247-0653	970-247-2172
Sand & Gravel Supply				
1. <i>Four Corners Materials, A CRH Company</i>		9755 CR 213, Durango, CO 81301	970-247-0653	970-247-2172
2. <i>Sandco</i>		691 CR 252, Durango, CO 81301	970-247-1303	
Ready Mix Concrete Supply				
1. <i>Four Corners Materials, A CRH Company</i>		9755 CR 213, Durango, CO 81301	970-247-0653	970-247-2172
2. <i>Sandco</i>		691 CR 252, Durango, CO 81301	970-247-1303	
Pumps				
1. <i>Odessa Pumps</i>		940 NM 516, Aztec, NM 87401	505-334-1330	
2. <i>N/A</i>				
Diving Contractor				
1. <i>CW Divers</i>		903 N Watson Ave., Farmington, NM 85702	505-327-2830	505-330-2531

2. N/A				
Sand Bags/Plastic Sheeting				
1. Home Depot		1301 Camino del Rio, Durango, CO 81301	970-259-7954	
2. N/A				

EVACUATION INFORMATION

Critical Infrastructure List

From examination and study of the inundation maps and consultation with local entities, a listing of critical infrastructure should be developed to aide an efficient emergency response. Structures described in the critical infrastructure list may include; population centers, roadways, schools, hospitals, police and fire stations, and utilities (water, sewer, gas, electric providers). Special attention should be paid to documenting means of contact/notification with inhabited structures with the shortest warning time.

This list should be developed in conjunction with the Dam Owner’s Engineer, Regional Field Manager and Local Emergency Managers.

<i>Critical Infrastructure List - Contacts to be made by Local EM’s (Sheriff’s office)</i>		
Critical Inhabited Structures/Infrastructure	Distance From Dam (miles)	Flood Arrival Time (hrs)
Patti Zink (970-759-5585)	0.25	< 1 hour
Kristi Zink (970-769-0398)	0.25	< 1 hour

Inundation Maps

Inundation maps are provided to show the limits of the dam failure flooding. All inhabited structures within the identified flood limits must be evacuated to a safe zone well outside those limits. See Appendix A for the inundation maps defining those inundation limits.

Spillway Discharge Rating Tables/Curves

Spillway discharge rating curves should be provided for the high-flow conditions event level case. All cases should be checked by initiating communication with the local floodplain manager to determine the severity of impacts for the full range of spillway discharges. It should be noted that dangerous spillway flows can be occurring while the dam is operating safely. See Appendix B for the spillway discharge curves and tables.

Outlet Works Discharge Rating Tables/Curves

In some cases the dam owner may desire to make outlet works releases. In some of those cases the outlet release capacity may exceed the safe channel capacity below the dam. All cases should be checked by initiating communication with the local floodplain manager to determine the severity of impacts for the full range of outlet release capabilities at the given dam. It should be noted that dangerous outlet works release flows can be occurring downstream while the dam is operating safely. **Appendix C contains the outlet works rating tables and curves.**

APPENDIX B (SPILLWAY CAPACITY RATING CURVE/TABLE)

Capacity of reservoir at crest of emerg. spwy. 472.37 ac.ft.

EMERGENCY SPILLWAY CAPACITY

Water surface El. in reservoir	Hp	Capacity, C.F.S.
87.0	0.0	0
87.5	0.5	17
88.0	1.0	72
88.5	1.5	165
89.0	2.0	300
89.5	2.5	470
90.0	3.0	680
90.5	3.5	940
91.0	4.0	1,250
91.5	4.5	1,580
92.0	5.0	2,000

Spillway capacity computed on the basis of critical flow at the downstream end of the level section. Backwater curves were computed to give the depth of water in the reservoir above the spillway crest. (Hp)

APPENDIX C (OUTLET CAPACITY RATING CURVE/TABLE)

