COLORADO
Division of Water Resources
Department of Natural Resources
Dam Safety Branch

May 26, 2025

Mr. Scott Southworth
Falls Creek Ranch Association
6530 Falls Creek Main
Durango, CO 81301
via email: scottrobin410@gmail.com

When replying, please refer to:
TURNER DAM, DAMID 300113
Water Division 7, Water District 30

SUBJECT: 2025 Engineers Inspection Report

Dear Scott,

On May 2, 2025, I performed a dam safety inspection for the above referenced structure in accordance with Section 37-87-107, C.R.S. (1991 Repl. Vol.), which assigns the responsibility for the determination of the safe storage level for the reservoirs within Colorado to the State Engineer. The enclosed inspection report summarizes my findings during the inspection.

The condition of the Dam is rated as Satisfactory, and the recommended safe storage level is Full Storage. Please read the report and implement the recommendations on page 3.

If you have any questions, please contact me at 970-317-4147.

Sincerely,

Matthew J Gavin

Digitally signed by Matthew J Gavin
Date: 2025.05.30 14:21:34 -06'00'

Matthew J Gavin, P.E.
Colorado Dam Safety Branch

ec: Rob Genualdi, Division Engineer, Water Division 7
John Batka, Chief, Dam Safety Branch
Jeff Titus, Water Commissioner, WD30

ENGINEER'S INSPECTION REPORT

INSPECTOR: MJG

OFFICE OF THE STATE ENGINEER - DIVISION OF WATER RESOURCES - DAM SAFETY BRANCH 1313 SHERMAN STREET, ROOM 818, DENVER, CO 80203, (303) 866-3581

DAM NAME:	TURNER			**T:** 360N	**R:** 0090W	**S:** 21	**COUNTY:** LA PLATA	**DATE OF INSPECTION:**	5/2/2025
DAM ID:	300113	**YRCompl:**	1969	**DAM HEIGHT(FT):**	35.0	**SPILLWAY WIDTH(FT):**	125.0	**PREVIOUS INSPECTION:**	7/26/2024
CLASS:	High hazard			**DAM LENGTH(FT):**	510.0	**SPILLWAY CAPACITY(CFS):**	5000.0	**NORMAL STORAGE (AF):**	472.0
DIV:	7	**WD:**	30	**CRESTWIDTH(FT):**	22.0	**FREEBOARD (FT):**	6.0	**SURFACE AREA(AC):**	42.0
EAP:	10/1/2022			**CRESTELEV(FT):**	7150.0	**DRAINAGE AREA (AC.):**	4057.0	**OUTLET INSPECTED:**	5/2/2025

CURRENT RESTRICTION: -- NONE --

OWNER:	FALLS CREEK RANCH ASSOCIATION, INC. (SOUTHW	**OWNER REP.:**	SCOTT SOUTHWORTH
ADDRESS:	6350 FALLS CREEK MAIN	**CONTACT NAME:**	SCOTT SOUTHWORTH
	DURANGO CO 81301-0000	**CONTACT PHONE:**	(970) 247-9506X

INSPECTION PARTY : Scott Southworth

REPRESENTING : FCRA

FIELD CONDITIONS OBSERVED

WATER LEVEL: BELOW DAM CREST ~7 **FT.** Below Spillway ~1 **FT.** **GAGE ROD READING** N/A

GROUND MOISTURE CONDITION: [x] **DRY** [ ] **WET** [ ] **SNOWCOVER** **OTHER**

DIRECTIONS: MARK AN X FOR CONDITIONS FOUND AND UNDERLINE WORDS THAT APPLY

UPSTREAM SLOPE

PROBLEMS NOTED [x] (0)NONE [ ] (1)RIPRAP - MISSING, SPARSE, DISPLACED, WEATHERED [ ] (2) WAVE EROSION - WITH SCARPS

[ ] (3) CRACKS WITH DISPLACEMENT [ ] (4) SINKHOLE [ ] (5) APPEARS TOO STEEP [ ] (6) DEPRESSION OR BULGES [ ] (7) SLIDES

[ ] (8) CONCRETE FACING - HOLES, CRACKS, DISPLACED, UNDERMINED [ ] (9) OTHER

No changes or concerns noted.

CONDITIONS OBSERVED: [X] Good [X] Acceptable [ ] Poor

CREST

PROBLEMS NOTED [ ] (10) NONE [ ] (11 RUTS OR PUDDLES [ ] (12) EROSION [ ] (13) CRACKS - WITH DISPLACEMENT [ ] (14) SINKHOLES

[ ] (15) NOT WIDE ENOUGH [ ] (16) LOW AREA [ ] (17) MISALIGNMENT [ ] (18) IMPROPER SURFACE DRAINAGE [ ] (19) OTHER

No changes or concerns noted.

CONDITIONS OBSERVED: [X] Good [X] Acceptable [ ] Poor

DOWNSTREAM SLOPE

PROBLEMS NOTED [x] (20) NONE [ ] (21) LIVESTOCK DAMAGE [ ] (22) EROSION OR GULLIES [ ] (23) CRACKS - WITH DISPLACEMENT [ ] (24) SINKHOLE

[ ] (25) APPEARS TOO STEEP [ ] (26) DEPRESSION OR BULGES [ ] (27) SLIDE [ ] (28) SOFT AREAS [ ] (29) OTHER

Vegetative cover has improved over the years; however, there are still some large areas of exposed soil primarily on the upper slope.

CONDITIONS OBSERVED: [ ] Good [X] Acceptable [ ] Poor

SEEPAGE

PROBLEMS NOTED [x] (30) NONE [ ] (31) SATURATED EMBANKMENT AREA [ ] (32) SEEPAGE EXITS ON EMBANKMENT

[ ] (33) SEEPAGE EXITS AT POINT SOURCE [ ] (34) SEEPAGE AREA AT TOE [ ] (35) FLOW ADJACENT TO OUTLET [ ] (36) SEEPAGE INCREASED / MUDDY

DRAIN OUTFALLS SEEN [ ] No [ ] Yes Show location of drains on sketch and indicate [ ] (37) FLOW INCREASED / MUDDY [ ] (38) DRAIN DRY / OBSTRUCTED

[ ] (39) OTHER

Dam exhibits very good seepage control. No indications of seepage.

CONDITIONS OBSERVED: [X] Good [ ] Acceptable [ ] Poor

OUTLET

PROBLEMS NOTED ☐ (40) NONE ☐ (41) NO OUTLET FOUND ☐ (42) POOR OPERATING ACCESS ☐ (43) INOPERABLE

☐ (44) UPSTREAM OR DOWNSTREAM STRUCTURE DETERIORATED (45) OUTLET OPERATED DURING INSPECTION ☐ YES ☐ NO

INTERIOR INSPECTED ☐ (120) NO ☑ (121)YES ☐ (46) CONDUIT DETERIORATED OR COLLAPSED ☐ (47) JOINTS DISPLACED ☑ (48) VALVE LEAKAGE

☐ (49) OTHER

(121) The outlet was internally inspected using the State's pipe crawler. Photos have been appended to this report. The CIPP liner (impregnated felt; steam-cured) appears intact where observable. Most of the conduit is inundated due to sagging/bellying under the load of the embankment. Water is ponded above the springline at about ten feet upstream of the outfall. At around 110 feet upstream, there is a free water surface above the springline, and around 120 feet, there is a considerable grade change. The liner exhibits some wrinkling, most prominently from 140 feet to the intake. (48) There is considerable leakage at the elbow/gate, but the exact source(s) could not be determined. During the 2013 rehab, a 20-10C slide gate was retrofitted to the intake. The vent penetration, the mechanical upstream liner restraint, and the epoxy-repaired folds in the liner are all in the vicinity of the leakage. During the inspection, we attempted to adjust the gate to limit leakage while viewing with the crawler, but were unsuccessful.

CONDITIONS OBSERVED: ☐ Good ☒ Acceptable ☐ Poor

SPILLWAY

PROBLEMS NOTED ☑ (50) NONE ☐ (51) NO EMERGENCY SPILLWAY FOUND ☐ (52) EROSION WITH BACKCUTTING ☐ (53) CRACK - WITH DISPLACEMENT

☐ (54) APPEARS TO BE STRUCTURALLY INADEQUATE ☐ (55) APPEARS TOO SMALL ☐ (56) INADEQUATE FREEBOARD ☐ (57) FLOW OBSTRUCTED

☐ (58) CONCRETE DETERIORATED / UNDERMINED ☐ (59) OTHER

The spillway is unobstructed and in good condition.

CONDITIONS OBSERVED: ☒ Good ☐ Acceptable ☐ Poor

MONITORING

EXISTING INSTRUMENTATION FOUND ☐ (110) NONE ☑ (111) GAGE ROD ☐ (112) PIEZOMETERS ☐ (113) SEEPAGE WEIRS / FLUMES

☑ (114) SURVEY MONUMENTS ☐ (115) OTHER

MONITORING OF INSTRUMENTATION ☐ (116) NO ☑ (117) YES PERIODIC INSPECTIONS BY: ☑ (118) OWNER ☐ (119) ENGINEER

Dam has appropriate instrumentation. (117), (118) Residents are engaged in the well-being of the dam and reservoir. (118) Condition of the dam is routinely observed.

CONDITIONS OBSERVED: ☐ Good ☒ Acceptable ☐ Poor

MAINTENANCE AND REPAIRS

PROBLEMS NOTED ☑ (60 NONE ☐ (61) ACCESS ROAD NEEDS MAINTENANCE ☐ (62) LIVESTOCK DAMAGE

☐ (63) BRUSH ON UPSTREAM SLOPE, CREST, DOWNSTREAM SLOPE, TOE ☐ (64) TREES ON UPSTREAM SLOPE, CREST, DOWNSTREAM SLOPE, TOE

☐ (65) RODENT ACTIVITY ON UPSTREAM SLOPE, CREST, DOWNSTREAM SLOPE, TOE ☐ (66) DETERIORATED CONCRETE - FACING, OUTLET SPILLWAY

☐ (67) GATE AND OPERATING MECHANISM NEED MAINTENANCE ☐ (68) OTHER

Dam is very well-maintained.

CONDITIONS OBSERVED: ☒ Good ☐ Acceptable ☐ Poor

Go to next page for Overall Conditions and Items Requiring Actions

ENGINEER'S INSPECTION REPORT

DATE. 5/2/2025

DAM NAME: TURNER

DAM I.D.: 300113

OVERALL CONDITIONS

Dam is performing as expected. Seepage control is very good. Outlet inspection revealed liner to be intact, as expected. There are no pressing concerns at this time.

Based on this Safety Inspection and recent file review, the overall condition is determined to be:

☑ (71) SATISFACTORY ☐ (72) CONDITIONALLY SATISFACTORY ☐ (73) UNSATISFACTORY

ITEMS REQUIRING ACTION BY OWNER TO IMPROVE THE SAFETY OF THE DAM

The State Engineer, by providing this dam safety inspection report, does not assume responsibility for any unsafe condition of the subject dam. The sole responsibility for the safety of this dam rests with the reservoir owner or operator, who should take every step necessary to prevent damages caused by leakage or overflow of waters from the reservoir or floods resulting from a failure of the dam.

SAFE STORAGE LEVEL: RECOMMENDED AS A RESULT OF THIS INSPECTION

☑ (101) FULL STORAGE

☐ (102) CONDITIONAL FULL STORAGE

☐ (103) RECOMMENDED RESTRICTION → { _____ FT. BELOW DAM CREST

_____ FT. BELOW SPILLWAY CREST

☐ (104) CONTINUE EXISTING RESTRICTION _____ FT. GAGE HEIGHT

☐ NO STORAGE-MAINTAIN OUTLET FULLY OPEN

REASON FOR RESTRICTION

ACTIONS REQUIRED FOR CONDITIONAL FULL STORAGE OR CONTINUED STORAGE AT THE RESTRICTED LEVEL:

Engineer's Signature: Matthew J Gavin — Digitally signed by Matthew J Gavin Date: 2025.05.30 14:21:52 -06'00'

INSPECTED BY

Owner's Signature _____ OWNER/OWNER'S REPRESENTATIVE

DATE: ___/___/___

GUIDELINES FOR DETERMINING CONDITIONS

CONDITIONS OBSERVED - APPLIES TO UPSTREAM SLOPE, CREST, DOWNSTREAM SLOPE, OUTLET, SPILLWAY

GOOD
In general, this part of the structure has a near new appearance, and conditions observed in this area do not appear to threaten the safety of the dam.

ACCEPTABLE
Although general cross-section is maintained, surfaces may be irregular, eroded, rutted, spalled, or otherwise not in new condition. Conditions in this area do not currently appear to threaten the safety of the dam.

POOR
Conditions observed in this area appear to threaten the safety of the dam.

CONDITIONS OBSERVED - APPLIES TO SEEPAGE

GOOD
No evidence of uncontrolled seepage. No unexplained increase in flows from designed drains. All seepage is clear. Seepage conditions do not appear to threaten the safety of the dam.

ACCEPTABLE
Some seepage exists at areas other than the drain outfalls, or other designed drains. No unexplained increase in seepage. All seepage is clear. Seepage conditions observed do not currently appear to threaten the safety of the dam.

POOR
Seepage conditions observed appear to threaten the safety of the dam. Examples:
1) Designed drain or seepage flows have increased without increase in reservoir level.
2) Drain or seepage flows contain sediment, i.e., muddy water or particles in jar samples.
3) Widespread seepage, concentrated seepage, or ponding appears to threaten the safety of the dam.

CONDITIONS OBSERVED - APPLIES TO MONITORING

GOOD
Monitoring includes movement surveys and leakage measurements for all dams, and piezometer readings for High hazard dams. Instrumentation is in reliable, working condition. A plan for monitoring the instrumentation and analyzing results by the owner's engineer is in effect. Periodic inspections by owner's engineer.

ACCEPTABLE
Monitoring includes movement surveys and leakage measurements for High and Significant hazard dams; leakage measurements for Low hazard dams. Instrumentation is in serviceable condition. A plan for monitoring instrumentation is in effect by owner. Periodic inspections by owner or representative. OR, NO MONITORING REQUIRED.

POOR
All instrumentation and monitoring described under "ACCEPTABLE" here for each class of dam, are not provided, or required periodic readings are not being made, or unexplained changes in readings are not reacted to by the owner.

CONDITIONS OBSERVED - APPLIES TO MAINTENANCE AND REPAIR

GOOD
Dam appears to receive effective on-going maintenance and repair, and only a few minor items may need to be addressed.

ACCEPTABLE
Dam appears to receive maintenance, but some maintenance items need to be addressed. No major repairs are requirecl

POOR
Dam does not appear to receive adequate maintenance. One or more items needing maintenance or repair has begun to threaten the safety of the dam.

OVERALL CONDITIONS

SATISFACTORY
The safety inspection indicates no conditions that appear to threaten the safety of the dam, and the dam is expected to perform satisfactorily under all design loading conditions. Most of the required monitoring is being performed.

CONDITIONALLY SATISFACTORY
The safety inspection indicates symptoms of structural distress (seepage, evidence of minor displacements, etc.), which, if conditions worsen, could lead to the failure of the dam. Essential monitoring, inspection, and maintenance must be performed as a requirement for continued full storage in the reservoir.

UNSATISFACTORY
The safety inspection indicates definite signs of structural distress (excessive seepage, cracks, slides, sinkholes, severe deterioration, etc.), which could lead to the failure of the dam if the reservoir is used to full capacity. The dam is judged unsafe for full storage of water.

SAFE STORAGE LEVEL

FULL STORAGE
Dam may be used to full capacity with no conditions attached.

CONDITIONAL FULL STORAGE
Dam may be used to full storage if certain monitoring, maintenance, or operational conditions are met.

RESTRICTION
Dam may not be used to full capacity, but must be operated at some reduced level in the interest of public safety.

HAZARD CLASSIFICATION OF DAMS

High hazard
Loss of human life is expected in the event of failure of the dam, while the reservoir is at the high water line.

Significant hazard
Significant damage to improved property is expected in the event of failure of the dam while the reservoir is at the high water line, but no loss of human life is expected.

Low hazard
Loss of human life is not expected, and damage to improved property is expected to be small, in the event of failure of the dam while the reservoir is at high water fine.

NPH hazard - No loss of life or damage to improved property, or loss of downstream resource is expected in the event of failure of the dam while the reservoir is at the high water line.

TURNER DAM

by Gavin, Matthew

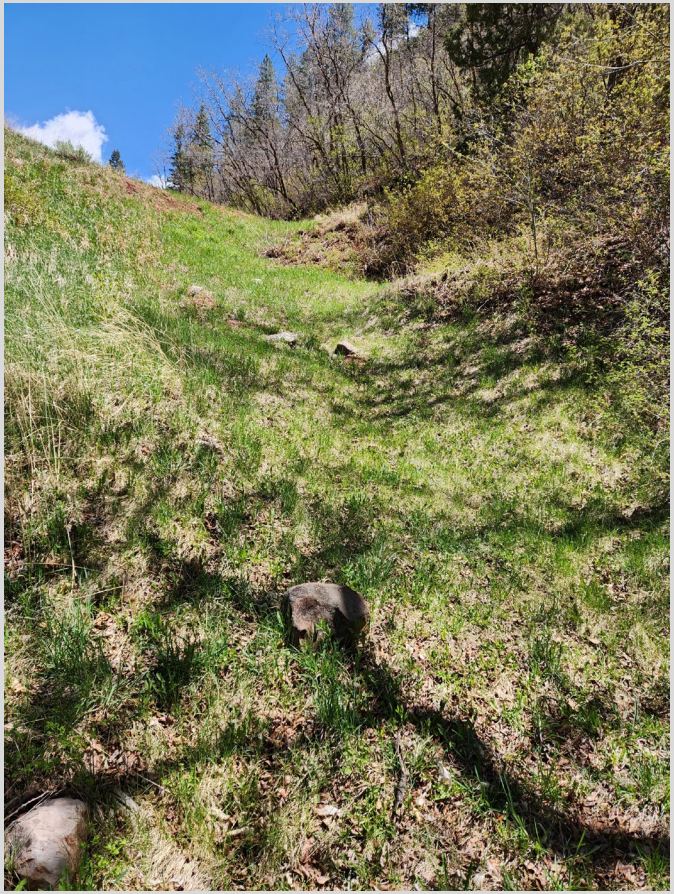
May 2, 2025

Exercising Outlet

Diversion Outfall

Exercising Outlet

Preparing to Inspect Conduit Internally



Left Groin

Downstream Slope from Left End

Crest

Upstream Slope

Outlet Operator Vault

Spillway

Crest from Right End

Diversion Vault

Spillway Approach Area

Reservoir

Spillway

Outlet Following Inspection

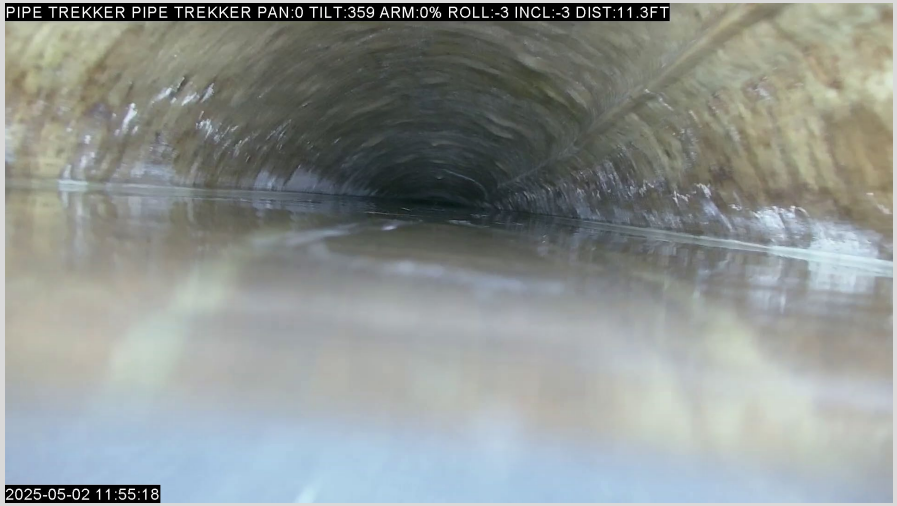
Turner Dam Outlet

by Gavin, Matthew

May 2, 2025

CIPP Line WSP from Near Outfall

6 Ft. – Note Wrinkle at 2 o’clock



11.3 Ft. – Incline -3 deg., Ponded Water to Spring Line

107.6 Ft. – Free Water Surface Apparent in Top of Photo

111.5 Ft. – Incline 2 Degrees Camera Out of Water

113.4 Ft. – Protrusion in Liner at 1 o’clock

116.2 Ft. – Grade Change

117.0 Ft. – Hydraulic at Grade Change

121.0 Ft.

125.7 Ft.

131.0 Ft.

139.2 Ft. – Note Winkles at 2 o’clock

Elbow – Note Leakage

Leakage at Elbow – Epoxy Repairs to Liner During 2013 Install