TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 15, 2025

Board of Directors
Comal-Guadalupe Counties SWCD #306
3251 North Highway 123 Bypass
Seguin, Texas 78155

Members
York Creek Improvement District
3251 North Highway 123 Bypass
Seguin, Texas 78155

Honorable Kyle Kutscher, County Judge
Guadalupe County Commissioners Court
101 East Court Street
Seguin, Texas 78155

Subject: Dam Safety Inspection Reports
York Creek WS SCS Site 6 Dam – TX01605
York Creek WS SCS Site 11 Dam – TX01603

Dear Board, Members and The Honorable Judge Haden:

Members of the Texas Commission on Environmental Quality (TCEQ) Dam Safety program inspected the above-referenced dams on October 9, 2024. Please find enclosed the inspection reports.

York Creek WS SCS Site 6 Dam – TX01605:

York Creek Site 6 Dam was found in fair condition. The primary issues of concern included bare spots on the crest, saplings growing and benching on the upstream slope, spalling at the principal spillway outlet pipe, a hole in the fence, minor gully erosion at the emergency spillway outlet, and the dam is hydraulically inadequate.

York Creek WS SCS Site 11 Dam – TX01603:

York Creek Site 11 Dam was found in good condition. The primary issues of concern included bare spots on the crest, several large dead trees, animal

burrows on the upstream slope, spalling at the principal spillway outlet pipe, and the dam is hydraulically inadequate.

Please respond to TCEQ on or before **December 15, 2025** with a plan of action to address each area of concern for the dams.

If you have any questions please contact me via email at john.igoe@tceq.texas.gov or by phone at 512-239-1259.

Sincerely,

John T. Igoe, P.E.
Dam Safety Section
Critical Infrastructure Division MC-177

Enclosed: Inspection Report for TX01605 – York Creek WS SCS Site 6 Dam
Inspection Report for TX01603 – York Creek WS SCS Site 11 Dam

cc: Ms. Karen Green, P.E., NRCS-Texas Dam Safety
Mr. Steve Bednarz, P.E., Texas State Soil and Water Conservation Board

DAM SAFETY SECTION
CRITICAL INFRASTRUCTURE DIVISION

DAM SAFETY INSPECTION REPORT

GENERAL INFORMATION

INVENTORY NO.: TX01605

DAM: York Creek WS SCS Site 6 Dam

OWNERS: Comal-Guadalupe Soil & Water Conservation District #306 (Comal-Guadalupe SWCD #306) and York Creek Improvement District (York Creek ID)

STREAM: Tributary of York Creek

BASIN: Guadalupe River Basin

COUNTY: Guadalupe

GENERAL LOCATION: 1.61 miles southwest of Zorn, TX

LATITUDE / LONGITUDE: 29.739377 / -97.974636

DAM HEIGHT: 31 feet (ft)

SIZE CLASSIFICATION: Small

NORMAL CAPACITY: 163 acre-feet (ac-ft)

MAXIMUM CAPACITY: 877 ac-ft

NORMAL WATER LEVEL: 546.2 feet above mean sea level (ft-msl)

CURRENT WATER LEVEL: 542.2 ft-msl

PREVIOUS INSPECTION DATE: 3/15/2017

CURRENT INSPECTION DATE: 10/9/2024

INSPECTION BY TCEQ PERSONNEL: John Igoe, P.E., Jeff Thomas, P.E., P.G., and Juan Valera P.E.

PERSONNEL CONTACTED: Mr. Aaron Reynolds' office at the NRCS Seguin Service Center was contacted in September 2024.

SUMMARY

York Creek WS SCS Site 6 Dam, a small size earthen dam, was inspected by TCEQ staff on October 9, 2024, as part of the TCEQ regular inspection schedule. Mr. Aaron Reynolds, the Resource Team Leader for the NRCS Seguin field office, Mr. Paden Siedel, Civil Engineering Technician for the NRCS Seguin field office and Ms. Caroline Fleming, Civil Engineer for the NRCS Seguin field office met TCEQ personnel at the dam.

The dam was found in overall fair condition. The primary issues of concern included bare spots on the crest, saplings growing and benching on the upstream slope, spalling at the principal spillway outlet pipe, a hole in the fence north of the left end of the dam, and minor gully erosion at emergency spillway outlet, and the dam is hydraulically inadequate.

BACKGROUND

York Creek WS SCS Site 6 Dam was constructed in 1962 under the Watershed Protection and Flood Prevention Operations program to help control flooding. The Comal-Guadalupe Counties Soil and Water Conservation District and York Creek Improvement District are the sponsors responsible for the operation and maintenance of the dam.

The dam was designed and constructed as a low hazard dam, however, the TCEQ currently classifies the dam as a high hazard.

In March 2011 an inspection conducted under contract discovered the following major issues:

- Fencing was damaged allowing cattle to overgraze
- Erosion due to overgrazing and livestock traffic at embankment and emergency spillway
- The entire dam needs to be reseeded
- Trees at the upstream slope waterline
- Rutting on the crest from vehicle traffic during wet weather

Prior to this inspection, the dam was last inspected on March 15, 2017 by the TCEQ personnel. The major issues discovered then were:

- Slide / slough on the right downstream slope
- Benching along the shoreline on the upstream slope
- Minor rutting on the crest from vehicle traffic and animals
- Minor woody vegetation on the embankment

- Animal tracks and trails across the embankment along the shoreline and emergency spillway
- Inadequate design of the downstream channel restricts flow of water from the service spillway plunge pool.

PRE-INSPECTION MEETING

A pre-inspection meeting was not held.

POST-INSPECTION MEETING

A brief meeting was held with the NRCS personnel at the end of the day's inspections explaining the results and a follow-up email was sent to the NRCS personnel summarizing the results.

INSPECTION FINDINGS

Figure 1 is a location map for York Creek Site 6 Dam. Figure 2 is an aerial (2017) view of the dam with 10-foot contours. Figure 3 is an aerial (2017) showing the approximate photograph locations. Note that right and left indications are from the perspective of an observer looking downstream. Field measurements were taken during the inspection using a hand-level and survey rod. The water level was at approximately 542 ft-msl, or 4 feet below the lower inlet ports of the principal spillway.

Crest

- The 14-foot wide crest of the dam was mainly level with good grass coverage, however, minor rutting and bare spots were noted due to vehicle and animal traffic.
- The crest was found to be in good condition.
- See photographs 1 and 2.

Upstream Slope

- The 2.5 horizontal to 1 vertical [2.5H:1V] upstream slope of the earthen embankment contained several saplings and benching which measured up to 2 feet deep. The 2017 report notes benching was measured up to 6 inches deep in several areas along the shoreline. The benching is progressing. The grass coverage was good.
- The fence at the left end of the upstream slope has a hole.
- The upstream slope was found to be in fair condition.
- See photographs 3, 4, 5, and 6.

Downstream Slope

- The 2.5H:1V downstream slope of the earthen embankment was covered mostly with grass and contained several saplings.
- The downstream slope was found to be in fair condition.
- See photographs 7, 8 and 9.

Principal Spillway

- The principal spillway, a drop inlet type with a 24-inch diameter outlet pipe, is located approximately 895 feet from the left end of the dam.
- The trash racks were clean, however, there was minor rust on metal surfaces.
- The outlet pipe had spalling and contained a small amount of water. The 2017 inspection report noted the outlet pipe spalling and a drainage issue with the plunge pool. The reservoir level during the current inspection was relatively low (542.2 ft-msl) when compared to the level during the 2017 inspection (546.2 ft-msl) so there was no evidence of a drainage issue, however, the pipe did contain a small amount of water which may be indicative of a drainage issue.
- The principal spillway was found to be in fair condition.
- See photographs 10, 11, 12 and 13.

Emergency Spillway

- The emergency spillway, located at the right (east) side of the dam, was covered with mostly grass and small weed. Per the NRCS as-built plans, the spillway is a 100 ft wide earthen channel.
- Trees and a fence were observed, upstream of the control section, at the entrance to the emergency spillway.
- Minor gully erosion was observed at the end of the emergency spillway.
- The emergency spillway was found to be in fair condition.
- See photographs 14, 15 and 16.

Low Flow Outlet

- The principal inlet is equipped with a low flow outlet valve that is inspected and maintained by Performance Plus Inc. per Beverly Hartwick, Administrative Secretary for the York Creek Board.
- The valve was last exercised in 2023.
- The low flow outlet was found to be in fair condition.
- See photograph 11.

Downstream Channel

- The principal spillway and emergency spillway discharges merge in the downstream channel and then enter a culvert under FM Road 1110.

- Vegetation was noted that has the potential to restrict the conveyance of water.
- The discharge channel was found to be in fair condition.
- See photographs 17 and 18.

CONFIDENTIAL: DOWNSTREAM HAZARDS, SECURITY

A downstream analysis was conducted by TCEQ Dam Safety Program personnel in 2017 which predicted an inundation length of 5.6 mi (29,568 ft).

This dam is classified as a high hazard dam due to State Highway 123, approximately 2.5 miles downstream, being located within the inundation length of 5.6 miles. State Highway 123 is categorized by the Texas Department of Transportation (TxDOT) as a Principal Arterial. Additionally, Farm to Market Road 1101, designated by TxDOT as a Major Collector and located between 300 and 450 feet downstream of the embankment crest would be impacted by a dam breach. Furthermore, a house is located approximately 500 feet downstream could also potentially be impacted by a dam breach.

It should be noted that the hazard classification is not a description of the condition of the structure, but rather, a description of the potential for loss of downstream life or property in the event of a failure of the dam. The high hazard classification indicates that some potential for loss of life exists.

The dam is located on private property and public access to the dam is not permitted. The site is fenced, however, some portions of the fence are in disrepair.

HYDROLOGIC / HYDRAULIC (H&H) ANALYSES

This dam is required to safely pass 75% of the Probable Maximum Flood (PMF), given that the following provisions are satisfied:

1. Emergency Action Plan (EAP) completed/finalized
2. Operation & Maintenance (O&M) Plan generated
3. Implementation of Owner's Routine Inspection Program
4. Submits an Annual Report to TCEQ documenting compliance with provisions 2 & 3 above.

This dam was designed and built by the NRCS to safely pass a class "a" design flood. This size flood is comparable to 25% of PMF.

Therefore, the dam is **hydraulically inadequate**.

OPERATION AND MAINTENANCE (O&M) PLAN

A general Operation and Maintenance plan covers all York Creek dams. A site specific plan for this dam includes the maintenance and exercising of the low flow valve. Per the owner, the low flow valve was exercised in 2023 by a vendor and aerial weed control spraying was conducted in June 2024.

EMERGENCY ACTION PLAN (EAP)

An updated draft Emergency Action Plan was submitted on February 22, 2021. TCEQ review comments were provided by letter on August 20, 2021. A final version has not been received.

A tabletop exercise has not been conducted.

REQUIREMENTS/RECOMMENDATIONS

The following requirements and/or recommendations are provided (not prioritized):

1. In 30 TAC Chapter 299, §299.61, an EAP is required. The *Guidelines for Developing Emergency Action Plans for Dams in Texas* (and associated electronic templates) can be downloaded at:

   https://www.tceq.texas.gov/compliance/investigation/damsafetyprog.html#guide_eaps

   Please also note the additional requirements below once your draft EAP is accepted by TCEQ (30 TAC §299.61 (g)-(h)).

   The owner shall:

   - Review the EAP annually,
   - Update the EAP as necessary,
   - Submit a copy of the updated portions of the EAP, or written notification that no updates were necessary, to TCEQ annually; also, establish a procedure to ensure that all the copies of the EAP (per

the Distribution List) get revised, and

- Perform a tabletop exercise at least every five years. Please notify our office of the planned date of this exercise and provide written documentation of lessons learned following the exercise.

TCEQ issued an EAP comment letter on August 20, 2021 and requested a response letter and an updated EAP by February 27, 2022, however, TCEQ has received neither. Find a copy attached to the cover letter for your reference.

2. In 30 TAC Chapter 299, §299.15, the hydraulic requirements for dams and spillways are indicated. As discussed in the above H&H Analyses section, the dam is **hydraulically inadequate.** The dam will not safely pass its required design storm therefore it is recommended that the owner retain a Texas Licensed Professional Engineer (PE) to evaluate and propose options/modifications to meet the criteria. **Please note that the new Probable Maximum Precipitation (PMP) tool is required for all H&H analyses.** Based on the results of the analysis, additional spillway capacity may need to be designed and installed, and any proposed modifications to the dam must to be reviewed and approved by TCEQ Dam Safety prior to construction.

3. The following deficiencies need to be added to your O&M plan:

    a. Monitor on a regular basis the bare spots and rutting on the crest until a grazing plan is implemented and repairs are made. Additionally, limit vehicle traffic on the crest during wet conditions.
    b. Monitor on a regular basis the benching on the upstream slope until repairs are made.
    c. Monitor on a regular basis the erosion at the emergency spillway exit until repairs are made
    d. Monitor on a regular basis the spalling on the principal spillway outlet pipe until repairs are made.

    If conditions worsen with any of the deficiencies, then a PE should be consulted to determine the level of damage and recommend repairs/improvements, if needed.

4. All excessive vegetation, brush, and trees with a trunk diameter less than 4 inches should be removed from the dam embankment's crest, slopes, principal spillway outlet pipe area, plunge pool perimeter, and the area located within 15-20 feet of the embankment's downstream toe. After removal, a short grass cover should be established over the affected area(s) or in the case of the upstream toe area armor with rock

riprap. A short grass cover provides an ideal surface to protect against erosion, prevents harborage for burrowing animals, and allows for easier detection of incipient problems. Mowing should be performed as needed (prior to any future inspections (including owner inspections), and/or typically not less than twice yearly).

a. All trees (regardless of size) should be removed from within the spillways, inlets/outlets, and discharge channels to ensure adequate flow conveyance. As discussed in the Findings Section of this report, there are trees located at the entrance to the Emergency Spillway that should be removed.

b. For any larger/mature trees immediately adjacent to conduits and/or concrete structures (headwall, training walls, etc.), it may be preferred to cut the tree and leave the stump in place, if removal of the rootball would cause damage/movement to the conduit, concrete, etc. Any remaining stump(s) should be treated with a sealant to inhibit/prolong decay.

c. Once the upstream and downstream slopes are clear of woody vegetation, the slope should be inspected by your PE to determine if slides and/or benching are occurring. Proper repairs to these problems should be developed and implemented under the supervision of a PE. After tree removal, a proper grass cover should be reestablished.

d. Appendix C of the *Guidelines for Operations and Maintenance of Dams in Texas* discusses possible pre-emergent herbicides (acceptable for use near reservoirs) for use on the riprap covered upstream slope.

5. It is recommended that some form of erosion protection be installed on the upstream slope to combat wave-action erosion, such as rock riprap or an equivalent. Due to the level of benching and steepness of the slope, it may be necessary to rebuild/regrade the slope prior to installing the protection. A PE should design the needed repairs/improvements and have related construction plans reviewed and approved by TCEQ Dam Safety.

6. Repair erosion channels or gullies (and determine cause if unknown or if new occurrence). Erosion was observed at the emergency spillway outlet.

a. Use good, compacted fill and protect from a reoccurrence, for example, cover with rock riprap or a high-performance turf reinforcement mat (TRM); proper grade/quality and installation is critical for successful TRM applications.

b. Establish a good grass cover in repaired areas.

c. Erosion around inlets and along conduits may require a PE to determine the problem and recommend a correction.

d. Until repairs are implemented, the eroded areas in the spillway and discharge channel should be routinely monitored for further erosion, especially after spillway engagements. If the erosion worsens significantly, the reservoir may need to be lowered or drained to prevent an emergency situation from developing.

e. Livestock access should be restricted, or at a minimum controlled, to prevent erosion, benching, overgrazing, etc. The livestock trails on the embankment can lead to erosion and loss of embankment materials. Consideration should be given to installing a fence to restrict access of livestock, the trailing should be repaired, and vegetation allowed to regrow.

7. Determine the cause of the poor drainage at the spillway outlet's stilling basin, and remedy so that the ponded water drains properly. Once positive drainage has been established, the area should be inspected for any additional deficiencies that may have been hidden by the submerged condition. Having the outlet pipes exposed and the stilling basin dewatered is important as it maximizes the spillway and discharge channel's conveyance, as well as allows a proper inspection of the outlet area, where many incipient problems can first be detected.

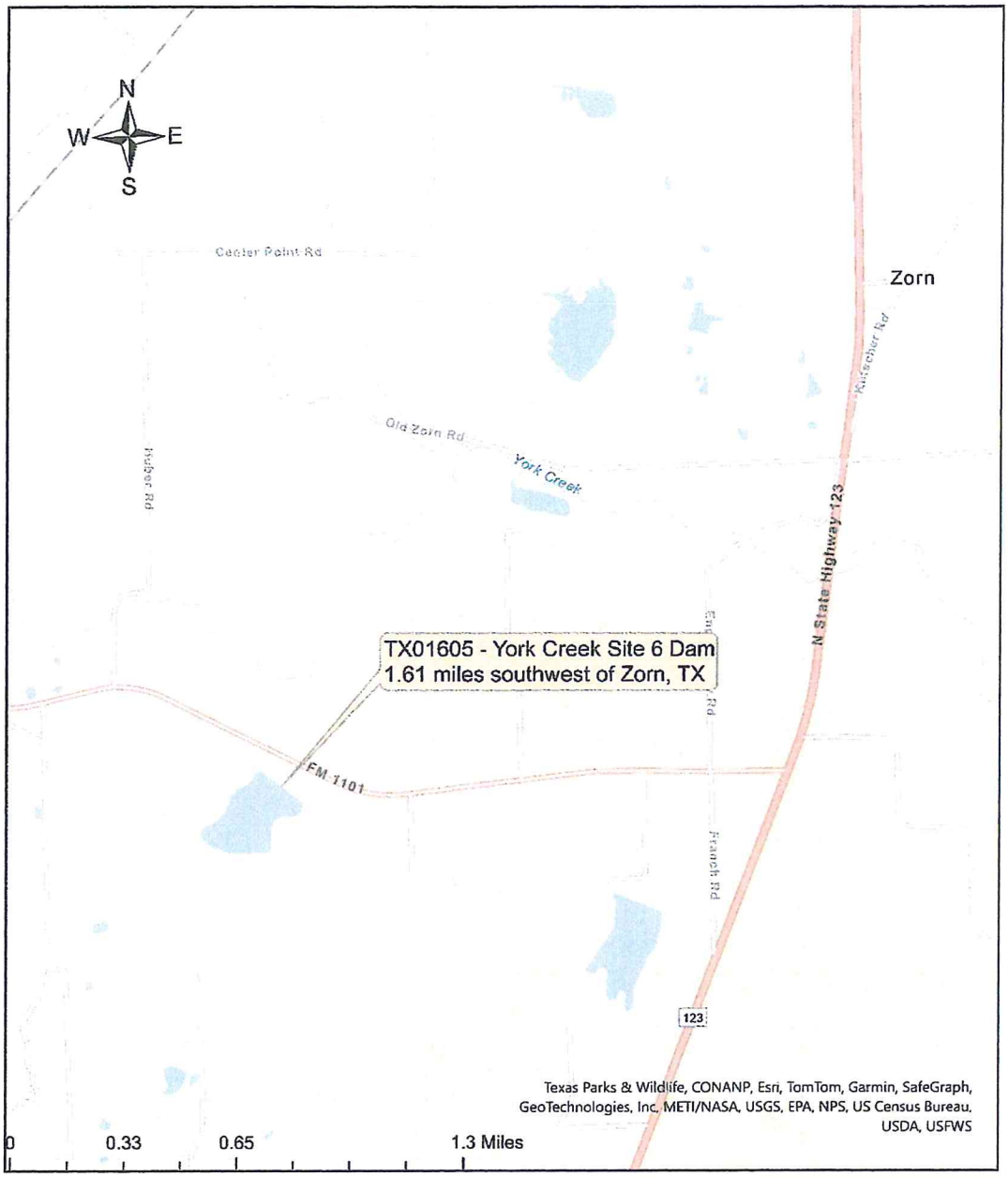
CONCLUSIONS

The owner of this dam may be liable for downstream damages in the event of a complete or partial failure of the dam or appurtenant structures. It is the owner's responsibility to maintain the dam in a safe condition in order to prevent loss of life and limit the potential for property loss. In addition, regular maintenance may reduce future rehabilitation and repair costs. This structure will be scheduled for reinspection in 5 years, or in conjunction with any modifications.

Jeff Thomas, P.E., P.G.
Dam Safety Section
Critical Infrastructure Division

John Igoe, P.E.
Dam Safety Section
Critical Infrastructure Division

Figure 1: Location Map



TX01605 - YORK CREEK SITE 6 DAM GUADALUPE COUNTY, TEXAS

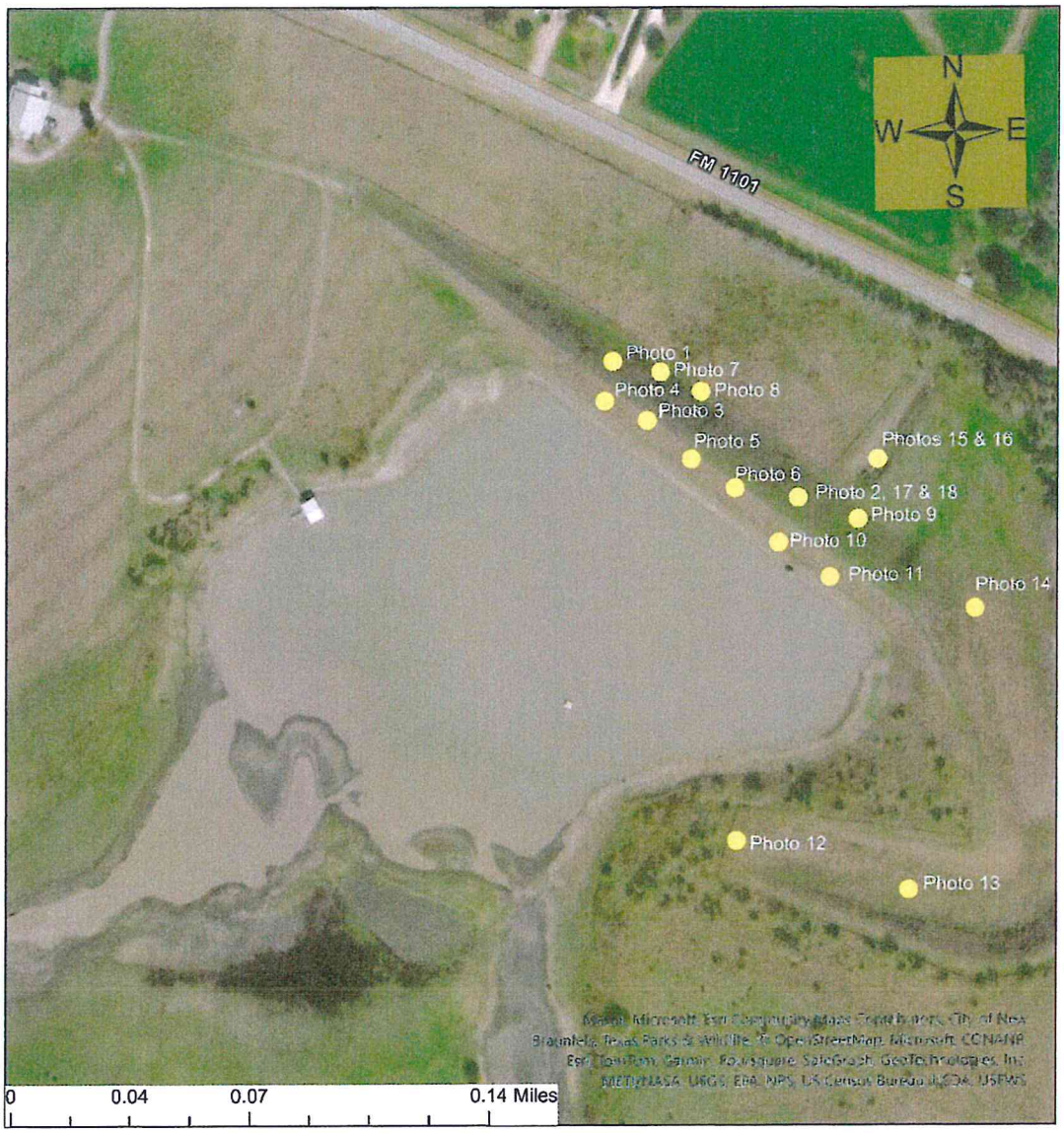
This map was generated by the Critical Infrastructure Division of the Texas Commission on Environmental Quality. This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. For more information concerning this map, contact the Critical Infrastructure Division at 512-239-1510.

Figure 2: Aerial View

TX01605 - YORK CREEK SITE 6 DAM GUADALUPE COUNTY, TEXAS

This map was generated by the Critical Infrastructure Division of the Texas Commission on Environmental Quality. This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. For more information concerning this map, contact the Critical Infrastructure Division at 512-239-1510.

Figure 3: Photograph Locations



TX01605 - YORK CREEK SITE 6 DAM GUADALUPE COUNTY, TEXAS

This map was generated by the Critical Infrastructure Division of the Texas Commission on Environmental Quality. This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. For more information concerning this map, contact the Critical Infrastructure Division at 512-239-1510.

Photograph 1. Crest looking right. Note rutting and bare spots.

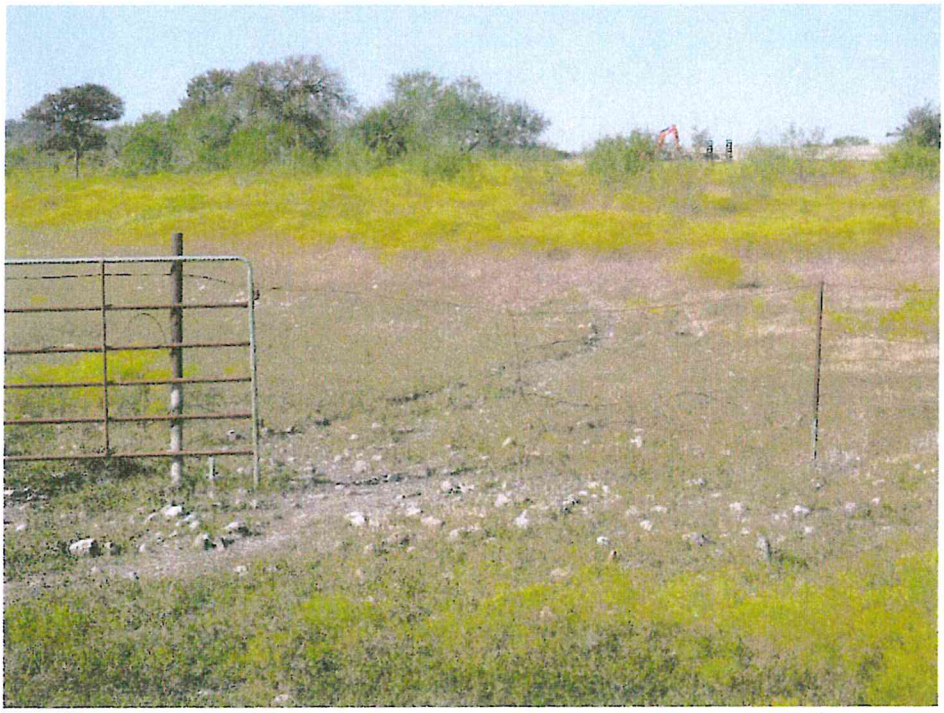
Photograph 2. Crest looking left. Note rutting and bare spots.

Photograph 3. Upstream slope with saplings.

Photograph 4. Upstream slope looking right.

Photograph 5. Upstream slope with minor benching.

Photograph 6. Upstream slope looking left.



Photograph 7. Hole in fence north of left end of dam.

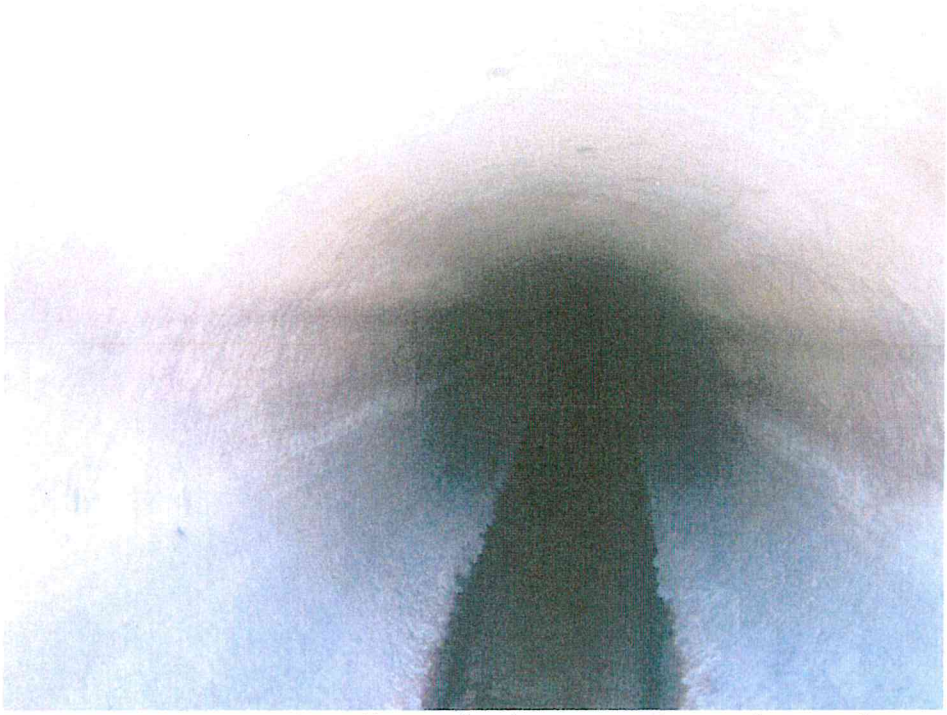
Photograph 8. Downstream slope looking right.

Photograph 9. Downstream slope looking left.

Photograph 10. Principal Spillway inlet.

Photograph 11. Principal Spillway inlet and Low Flow valve.

Photograph 12. Principal Spillway discharge outlet with spalling.



Photograph 13. Principal Spillway discharge outlet with standing water.

Photograph 14. Emergency spillway inlet. Note trees and fence at inlet.

Photograph 15. Emergency spillway.

Photograph 16. Emergency spillway outlet. Note erosion.

Photograph 17. Plunge pool and discharge channel.

Photograph 18. Discharge channel.

DAM SAFETY SECTION
CRITICAL INFRASTRUCTURE DIVISION

DAM SAFETY INSPECTION REPORT

GENERAL INFORMATION

INVENTORY NO.: TX01603

DAM: York Creek WS SCS Site 11 Dam

OWNERS: Comal-Guadalupe Soil & Water Conservation District #306 (Comal-Guadalupe SWCD #306) and York Creek Improvement District (York Creek ID)

STREAM: Tributary of York Creek

BASIN: Guadalupe River Basin

COUNTY: Guadalupe

GENERAL LOCATION: 9.5 miles northeast of Seguin, TX

LATITUDE / LONGITUDE: 29.709332 / -97.918454

DAM HEIGHT: 35 feet (ft)

SIZE CLASSIFICATION: Intermediate

NORMAL CAPACITY: 198 acre-feet (ac-ft)

MAXIMUM CAPACITY: 2491 ac-ft

NORMAL WATER LEVEL: 520.4 feet above mean sea level (ft-msl)

CURRENT WATER LEVEL: 515.9 ft-msl

PREVIOUS INSPECTION DATE: 12/12/2016

CURRENT INSPECTION DATE: 10/9/2024

INSPECTION BY TCEQ PERSONNEL: John Igoe, P.E., Jeff Thomas, P.E., P.G., and Juan Valera P.E.

PERSONNEL CONTACTED: Mr. Aaron Reynolds' office at the NRCS Seguin Service Center was contacted in September 2024.

SUMMARY

York Creek WS SCS Site 11 Dam, an intermediate size earthen dam, was inspected by TCEQ staff on October 9, 2024, as part of the TCEQ regular inspection schedule. Mr. Aaron Reynolds, the Resource Team Leader for the NRCS Seguin field office, Mr. Paden Siedel, Civil Engineering Technician for the NRCS Seguin field office and Ms. Caroline Fleming, Civil Engineer for the NRCS Seguin field office were present during the inspection.

The dam was found in overall good condition. The primary issues of concern included bare spots on the crest, several large dead trees, animal burrows on the upstream slope, spalling at the principal spillway outlet pipe, and the dam is hydraulically inadequate.

BACKGROUND

York Creek WS SCS Site 11 Dam was constructed in 1962 under the Watershed Protection and Flood Prevention Operations program to help control flooding. The Comal-Guadalupe Counties Soil and Water Conservation District and York Creek Improvement District are the sponsor responsible for the operation and maintenance of the dam.

The dam was designed and constructed as a low hazard dam, however, the TCEQ currently classifies the dam as a high hazard. Prior to this inspection, the dam was last inspected on December 12, 2016 by the TCEQ. The major issues discovered then were:

- Brush, trees, animal activity and woody debris on the upstream slope
- Weeds on the downstream slope
- Erosion in the plunge pool
- Hydraulically inadequate
- Missing Emergency Action Plan signatures.

PRE-INSPECTION MEETING

A pre-inspection meeting was not held.

POST-INSPECTION MEETING

A verbal exit interview, explaining the results of the inspection, was conducted. Additionally, the results of the inspection were conveyed via email.

INSPECTION FINDINGS

Figure 1 is a location map for York Creek Site 11 Dam. Figure 2 is an aerial (2017) view of the dam with 10-foot contours. Figure 3 is an aerial (2017) showing the approximate photograph locations. Note that right and left indications are from the perspective of an observer looking downstream. Field measurements were taken during the inspection using a hand-level and survey rod. The water level was at approximately 512 ft-msl, or 8.4 feet below the inlet ports of the principal spillway.

Crest

- The 14-foot wide crest of the dam was mainly level with good grass coverage, however, bare spots were noted due vehicle and animal traffic at the left end of the dam.
- The crest was found to be in good condition.
- See photographs 1 and 2.

Upstream Slope

- The 2.5 horizontal to 1 vertical [2.5H:1V] upstream slope of the earthen embankment contained several large dead trees, small animal burrows, and is experiencing minor benching.
- Riprap with weeds were observed at the bottom of the upstream slope. Some riprap was displaced by wave action.
- The fence at the left end of the upstream slope is falling down.
- The upstream slope was found to be in fair condition.
- See photographs 3, 4, 5, and 6.

Downstream Slope

- The 2.5H:1V downstream slope of the earthen embankment was covered mostly with grass and some Greenbriar at right end of dam.
- The downstream slope was found to be in good condition.
- See photographs 7 and 8.

Principal Spillway

- The principal spillway, a drop inlet type with an orifice plate, is located approximately 800 feet from the left abutment.
- The 24-inch diameter outlet pipe had minor spalling.
- The trash racks were clean, however, there was minor rust on metal surfaces.
- The principal spillway was found to be in good condition.
- See photographs 9, 13 and 14.

Emergency Spillway

- The emergency spillway, located at the left side of the dam, was covered with mostly grass and small weed cover. Per the NRCS as-built plans, the spillway is a 300 ft wide earthen channel. The control elevation was measured to be 5.8 feet below the emergency spillway crest, or 529.5 ft-msl.
- Erosion was observed at the northwest crest of the spillway.
- The emergency spillway was found to be in fair condition.
- See photographs 10, 11 and 12.

Low Flow Outlet

- The principal inlet is equipped with a low flow outlet valve that is inspected and maintained by Performance Plus Inc. per Beverly Hartwick, Administrative Secretary for the York Creek Board.
- The low flow outlet was found to be in fair condition.
- See photograph 9.

Downstream Channel

- Vegetation and trees were observed within 50 feet of the outlet that has the potential to restrict the conveyance of water.
- The discharge channel was found to be in fair condition.
- See photograph 15.

CONFIDENTIAL: DOWNSTREAM HAZARDS, SECURITY

This dam is classified as a significant hazard dam due to Farm to Market Road 3353 (FM 3353), approximately 2.1 miles downstream, being located within the estimated inundation length of 9.9 miles. FM 3353 is a rural minor collector which is a secondary highway per TCEQ rules.

It should be noted that the hazard classification is not a description of the condition of the structure, but rather, a description of the potential for loss of downstream life or property in the event of a failure of the dam. The high hazard classification indicates that some potential for loss of life exists.

The dam is located on private property and public access to the dam is not permitted. The site is fenced, however, some portions of the fence are in disrepair.

HYDROLOGIC / HYDRAULIC (H&H) ANALYSES

This dam is required to safely pass 54% of the Probable Maximum Flood (PMF), given that the following provisions are satisfied:

1. Emergency Action Plan (EAP) completed/finalized
2. Operation & Maintenance (O&M) Plan generated
3. Implementation of Owner's Routine Inspection Program
4. Submits an Annual Report to TCEQ documenting compliance with provisions 2 & 3 above.

This dam was designed and built by the NRCS to safely pass a class "a" design flood. This size flood is comparable to 25% of PMF.

Therefore, the dam is **hydraulically inadequate**.

OPERATION AND MAINTENANCE (O&M) PLAN

The dam follows a general Operation and Maintenance plan which covers all York Creek dams. The dam has a specific plan for the low flow valve.

EMERGENCY ACTION PLAN (EAP)

An updated draft Emergency Action Plan was submitted on February 22, 2021. TCEQ review comments were provided by letter on August 20, 2021. A final version has not been submitted.

A tabletop exercise has not been conducted.

REQUIREMENTS/RECOMMENDATIONS

The following requirements and/or recommendations are provided (not prioritized):

1. In 30 TAC Chapter 299, §299.61, an EAP is required. The *Guidelines for Developing Emergency Action Plans for Dams in Texas* (and associated electronic templates) can be downloaded at:

   https://www.tceq.texas.gov/compliance/investigation/damsafetyprog.html#guide_eaps

Please also note the additional requirements below once your draft EAP is accepted by TCEQ (30 TAC §299.61 (g)-(h)).

The owner shall:

- Review the EAP annually,
- Update the EAP as necessary,
- Submit a copy of the updated portions of the EAP, or written notification that no updates were necessary, to TCEQ annually; also, establish a procedure to ensure that all the copies of the EAP (per the Distribution List) get revised, and
- Perform a tabletop exercise at least every five years. Please notify our office of the planned date of this exercise and provide written documentation of lessons learned following the exercise.

2. In 30 TAC Chapter 299, §299.15, the hydraulic requirements for dams and spillways are indicated. As discussed in the above H&H Analyses section, the dam is **hydraulically inadequate.** The dam will not safely pass its required design storm therefore it is recommended that the owner retain a Texas Licensed Professional Engineer (PE) to evaluate and propose options/modifications to meet the criteria. **Please note that the new Probable Maximum Precipitation (PMP) tool is required for all H&H analyses.** Based on the results of the analysis, additional spillway capacity may need to be designed and installed, and any proposed modifications to the dam must to be reviewed and approved by TCEQ Dam Safety prior to construction.

3. This O&M plan should be designed to provide the owner or owner's representatives clear instructions for everyday operation of the dam, as well as maintenance guidance. The plan is for the owner's records and should be accessible if requested by TCEQ; however, the plan is not required to be submitted to, nor is the plan approved by TCEQ. Your O&M plan shall include items addressed in the requirements/recommendations portion of this report. The method and the timeframe for addressing these items are left up to the owner, and it is recognized that finances may govern when the work can be undertaken. The following deficiencies need to be included in conjunction with your O&M plan:

    a. Monitor on a regular basis the bare spots and rutting on the crest until a grazing plan is implemented and repairs are made.
    b. Monitor on a regular basis the benching on the upstream slope until repairs are made.

c. Monitor on a regular basis the erosion at the emergency spillway exit until repairs are made.
d. Monitor on a regular basis the spalling on the principal spillway outlet pipe until repairs are made.

If conditions worsen with any of the deficiencies, then a PE should be consulted to determine the level of damage and recommend repairs/improvements, if needed.

4. All excessive vegetation, brush, and trees with a trunk diameter less than 4 inches should be removed from the dam embankment's crest, slopes, principal spillway outlet pipe area, plunge pool perimeter, and the area located within 15-20 feet of the embankment's downstream toe. After removal, a short grass cover should be established over the affected area(s) or in the case of the upstream toe area armor with rock riprap. A short grass cover provides an ideal surface to protect against erosion, prevents harborage for burrowing animals, and allows for easier detection of incipient problems. Mowing should be performed as needed (prior to any future inspections (including owner inspections), and/or typically not less than twice yearly).

    a. All trees (regardless of size) should be removed from within the spillways, inlets/outlets, and discharge channels to ensure adequate flow conveyance.

    b. For any larger/mature trees immediately adjacent to conduits and/or concrete structures (headwall, training walls, etc.), it may be preferred to cut the tree and leave the stump in place, if removal of the rootball would cause damage/movement to the conduit, concrete, etc. Any remaining stump(s) should be treated with a sealant to inhibit/prolong decay.

    c. Once the upstream and downstream slopes are clear of woody vegetation, the slope should be inspected by your PE to determine if slides and/or benching are occurring. Proper repairs to these problems should be developed and implemented under the supervision of a PE. After tree removal, a proper grass cover should be reestablished.

    d. Appendix C of the *Guidelines for Operations and Maintenance of Dams in Texas* discusses possible pre-emergent herbicides (acceptable for use near reservoirs) for use on the riprap covered upstream slope.

5. The noted animal burrows should be backfilled with properly compacted non-dispersive clay, and a vegetative cover should be established. Burrowing activity can create flow paths and can otherwise weaken the integrity of the embankment. Assistance in removing nuisance animals can be obtained from the Texas Wildlife Services Program. Burrowing animals should be discouraged from inhabiting the dam.

6. Repair erosion channels or gullies (and determine cause if unknown or if new occurrence). Erosion was observed at the northwest crest of the emergency spillway.

    a. Use good, compacted fill and protect from a reoccurrence, for example, cover with rock riprap or a high-performance turf reinforcement mat (TRM); proper grade/quality and installation is critical for successful TRM applications.

    b. Establish a good grass cover in repaired areas.

    c. Erosion around inlets and along conduits may require a PE to determine the problem and recommend a correction.

    d. Livestock access should be restricted, or at a minimum controlled, to prevent erosion, benching, overgrazing, etc. The livestock trails on the embankment can lead to erosion and loss of embankment materials. Consideration should be given to installing a fence to restrict access of livestock, the trailing should be repaired, and vegetation allowed to regrow.

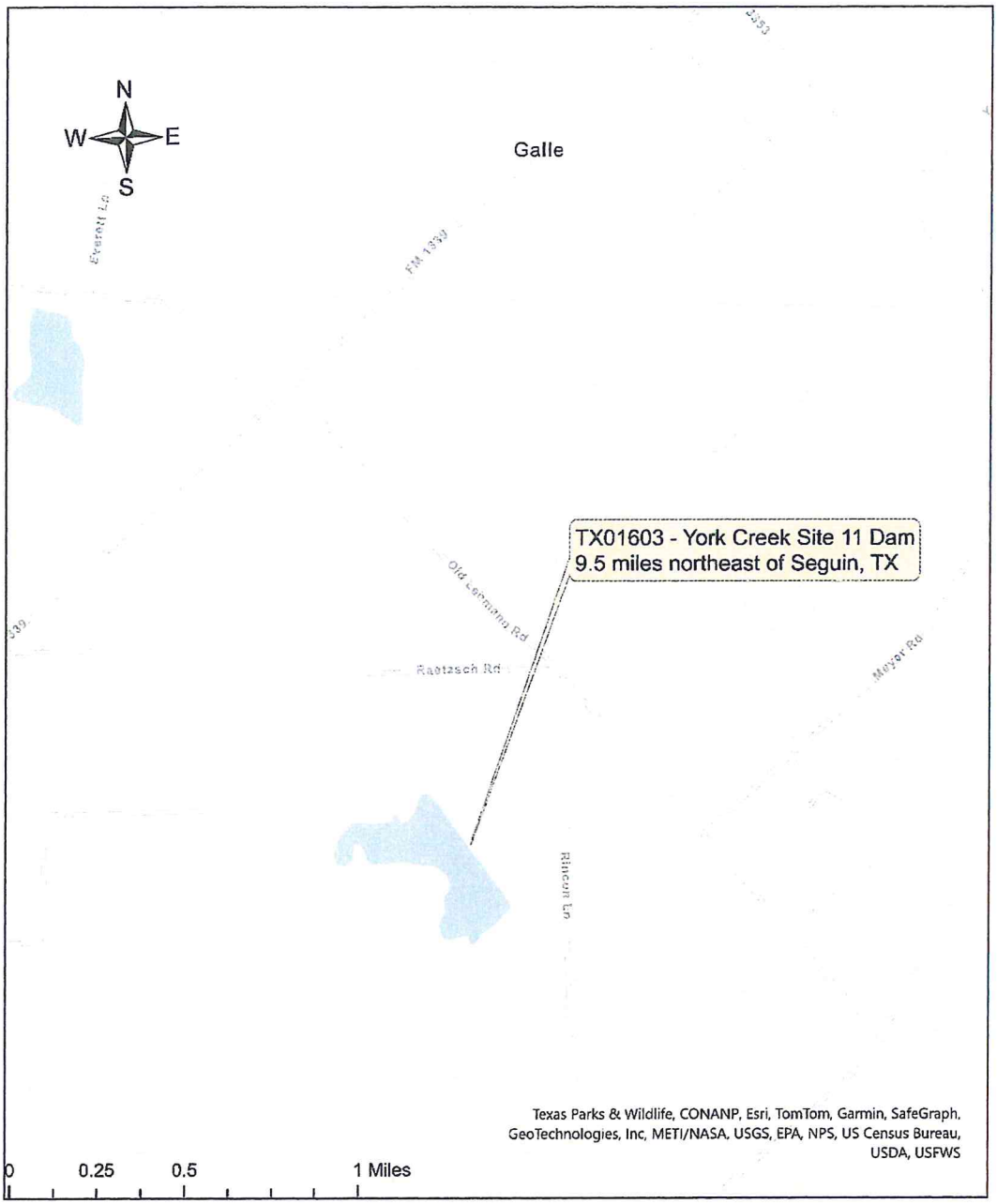
CONCLUSIONS

The owner of this dam may be liable for downstream damages in the event of a complete or partial failure of the dam or appurtenant structures. It is the owner's responsibility to maintain the dam in a safe condition in order to prevent loss of life and limit the potential for property loss. In addition, regular maintenance may reduce future rehabilitation and repair costs. This structure will be scheduled for reinspection in 5 years, or in conjunction with any modifications.

Jeff Thomas, P.E., P.G.
Dam Safety Section
Critical Infrastructure Division

John Igoe, P.E.
Dam Safety Section
Critical Infrastructure Division

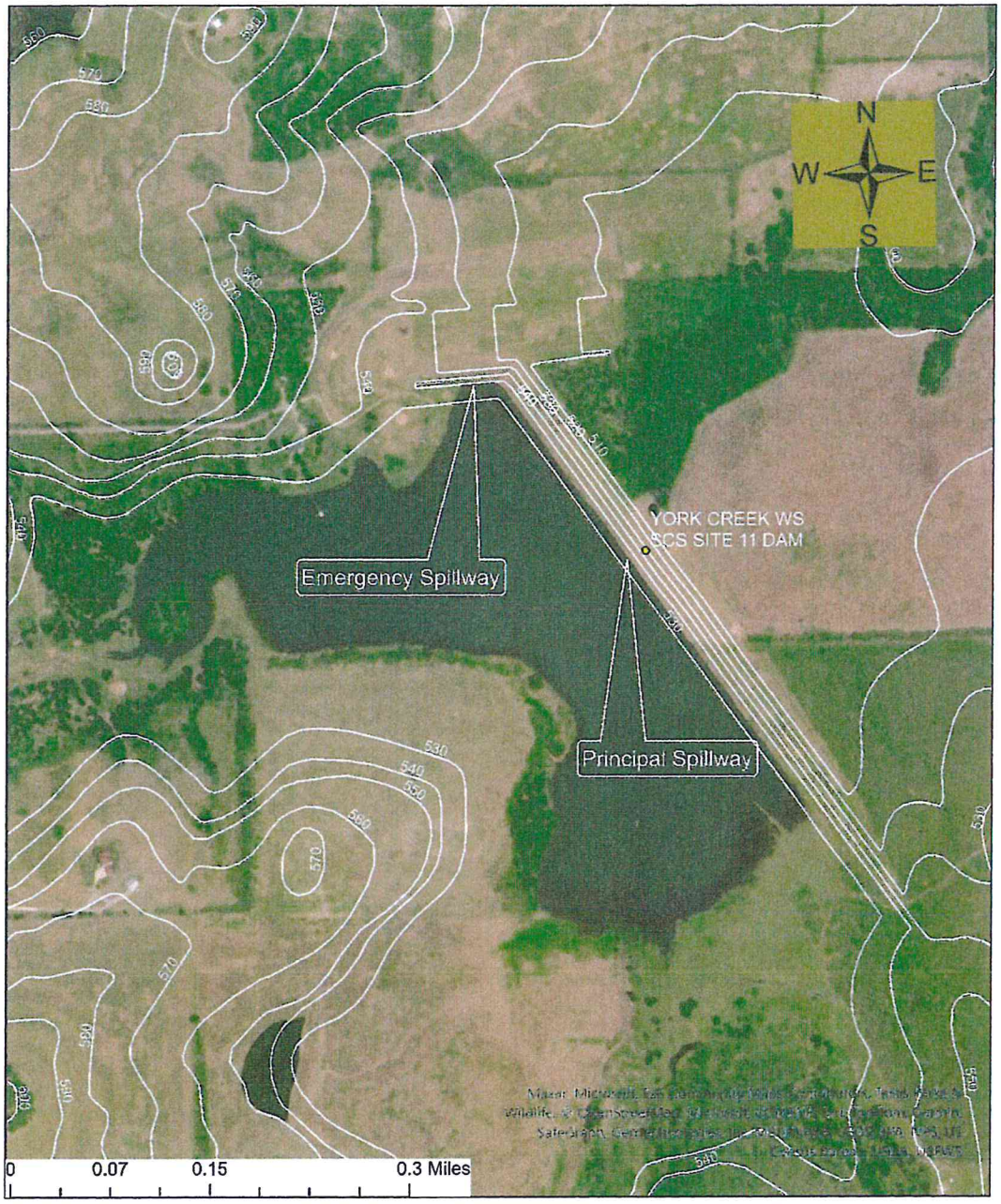
Figure 1: Location Map



TX01603 - YORK CREEK SITE 11 DAM GUADALUPE COUNTY, TEXAS

This map was generated by the Critical Infrastructure Division of the Texas Commission on Environmental Quality. This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. For more information concerning this map, contact the Critical Infrastructure Division at 512-239-1510.

Figure 2: Aerial View



TX01603 - YORK CREEK SITE 11 DAM GUADALUPE COUNTY, TEXAS

This map was generated by the Critical Infrastructure Division of the Texas Commission on Environmental Quality. This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. For more information concerning this map, contact the Critical Infrastructure Division at 512-239-1510.

Figure 3: Photograph Locations

TX01603 - YORK CREEK SITE 11 DAM GUADALUPE COUNTY, TEXAS

This map was generated by the Critical Infrastructure Division of the Texas Commission on Environmental Quality. This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. For more information concerning this map, contact the Critical Infrastructure Division at 512-239-1510.

Photograph 1. Crest looking right. Note rutting and bare spots.

Photograph 2. Crest looking left.

Photograph 3. Upstream slope looking right with saplings.

Photograph 4. Upstream slope looking right. Note woody debris.

Photograph 5. Upstream slope looking left with dead trees and displaced riprap.

Photograph 6. Upstream slope with burrow.

Photograph 7. Downstream slope looking right.

Photograph 8. Downstream slope looking left.

Photograph 9. Principal Spillway inlet and Low Flow valve.

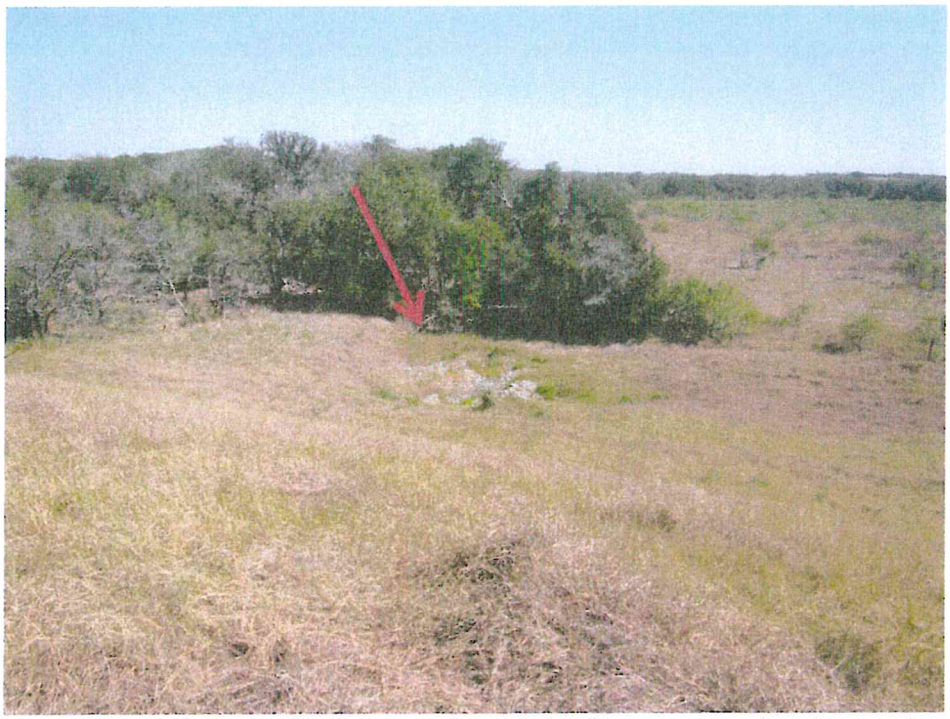
Photograph 10. Emergency spillway.

Photograph 11. Emergency spillway northwest crest. Note erosion.

Photograph 12. Emergency spillway northwest crest. Note erosion and damaged fence.

Photograph 13. Principal Spillway discharge outlet and plunge pool.

Photograph 14. Principal Spillway discharge outlet with spalling.



Photograph 15. Discharge channel. Note trees in channel.