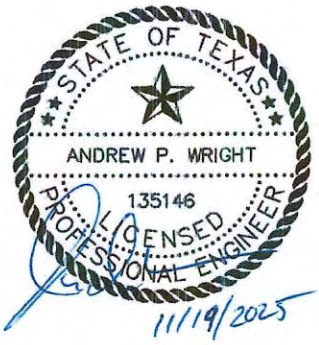
SCHAUMBURG & POLK, INC.

Lake Gladewater Dam

TX03725

Dam Inspection Report



November 2025

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GENERAL INFORMATION

Inventory No.: TX03725

Water Rights Authorization: Adj. 04762

Dam: Lake Gladewater Dam

Owner: City of Gladewater

Stream: Glade Creek

Basin: Sabine River

County: Upsher

General Location: Northwest Gladewater, Texas

Dam Height: 33 feet

Downstream Hazard: High

Normal Capacity: 6950 ac-ft (estimated)

Maximum Capacity: 12,095 ac-ft

Normal Water Level: 300 ft msl

Current Water Level: 299.5 msl

Previous Inspection Date: March 9, 2024

Current Inspection Date: November 10, 2025

Inspection By: Andrew Wright, P.E., Mike Simmons, Fire Chief

Personnel Contacted:

- Mike Simmons, Fire Chief

SUMMARY

Lake Gladewater Dam is an intermediate-size, high-hazard earthen embankment in Upsher County. This embankment was inspected at the request of Mike Simmons, Fire Chief, as a part of the annual maintenance and operations of this Dam. The last known inspection was conducted by Schaumburg & Polk, Inc. on March 29, 2024. The overall condition of the dam is **poor condition** with significant voids behind several of the spillway's concrete panels, settling of concrete panels, and water seeping through the panel gaps in some places. Some of the deficiencies noted in this report are maintenance related. Other deficiencies, such as the hydraulic inadequacy will require more detailed analysis and design conducted by a Texas Licensed Professional Engineer. The City of Gladewater has taken noticeable steps to correct most of the operational and maintenance issues that have been identified in previous inspections, but the condition of the spillway, downstream slope and inoperable low flow discharge structures continue to maintain an overall poor rating for this structure.

BACKGROUND

Lake Gladewater Dam was constructed in 1951-1952 for the purpose of stormwater management, flood control, water supply, and recreation. This Dam is owned by the City of Gladewater, Texas, and is located in Upsher County on Glade Creek approximately 1.25 miles upstream of US Highway 80. The outlet works of this Dam consist of a low flow underdrain outlet located on the eastern side of the embankment, a concrete-lined trapezoidal-shaped principal spillway located on the west end of the embankment, and a grass-lined trapezoidal-shaped emergency spillway located in the west abutment of the dam. According to information located in the 2011 Emergency Action Plan, the Principal spillway is capable of handling flows up to the 5-year storm event. Flows in excess of the 5-year storm, pass through the emergency spillway.

PRE-INSPECTION MEETING

A pre-inspection meeting was held with the Fire Chief and other City staff prior to the Dam Inspection. Most of the discussion was focused on the holes that were noticed in the spillway drop section near the downstream water level and the fact that they appear to be getting larger with each major storm that flows through the spillway. Discussions were also had about the seepage coming from the slab joints where a steady flow of water is coming from behind the concrete slabs. Chief Mike Simmons & Andrew Wright, P.E. created a plan to access these holes via the water utilizing Gladewater Fire Department's swift water rescue gear (wetsuits and inflatable boat). We also discussed what to look for in a visual inspection, what warrants immediate attention, and what falls under the regular O&M scope of work.

POST-INSPECTION MEETING

A post-inspection meeting will be held with City Staff and elected officials to discuss the results of this inspection.

INSPECTION FINDINGS

Figure 1 is a location map of Lake Gladewater Dam in relation to the City of Gladewater, Figure 2 is an aerial view of Lake Gladewater Dam with 10-ft contours and stream flow lines and Figure 3 is an aerial view of Lake Gladewater Dam with markers indicating the location and direction of photos taken during the inspection.

Crest (Photo No. 1-15)

The crest of the dam is in fair condition with a traditional uniform crest elevation. Areas of rutting are present near the raw water intake structure for the Gladewater Water Treatment Plant. These ruts were approximately 8"-12" deep and held water on the crest of the dam. The grass vegetation on the crest of the dam was in poor condition with poor vegetative cover in the wheel paths and large sections of the crest of the dam. The soil on the crest of the dam consists of iron ore rock and a mixture of clay and sandy material that is densely compacted and hard. The overall width of the crest varies from 14-ft to 20-ft wide with an average width of 16-ft.

Upstream Slope (Photo No. 16-26)

The upstream slope is in fair condition with sparse grass coverage near the top of slope above the riprap armor. Rock riprap covers the slope to within 5-ft of the crest of the dam. Small trees less than 8' tall are growing near the waterline and in the voids of the riprap. The overall slope is estimated to be 3:1 (H:V). Aquatic weeds and vegetation are present at the waterline of the upstream slope. No animal burrows were identified at the time of inspection on the upstream slope. Significant erosion was noted on the slope underneath the walkway leading out to the raw water intake structure for the water treatment plant.

Downstream Slope (Photo No. 27-70)

The downstream slope is in poor condition with slopes steeper than (3:1 H:V) and sparse tall grass coverage with much of the ground between the tall bunches of grass bare and uncovered. The steep slopes are difficult to maintain with small trees starting to grow as a result. The overall slope varies from as steep as 1.5:1 to as flat as 3:1. Erosion is noted in several areas along the top of the downstream slope. The toe of the slope is dry with no evidence of seepage on the downstream side of the embankment.

Service Spillway (Photo No. 71-143)

The service spillway is in poor condition. A close inspection was conducted from the plunge pool by the inspector assisted by Gladewater Fire Swift Water Rescue team. The principal (service) spillway is located on the western abutment and is a reinforced concrete trapezoidal weir with a 200-ft bottom width, 1:1 side slopes, and an overall depth of approximately 12-ft. This spillway sits at a normal pool elevation of 300-ft msl. Concrete damage can be seen on both the eastern and western side of the spillway on the lower section near the stilling pools normal water level. Concrete pitting was observed across the downstream side of the structure. Holes and settling were also seen in the slabs of the structure with water jetting out perpendicular to the concrete slabs and vertical separation between adjacent slabs. Water was also observed to be flowing from behind the concrete slabs through the concrete joints. This suggests that there may be voids present under the concrete slabs. A plan is being created to access the face of the spillway chute section to determine the extent of the voids behind the spillway slabs. Vegetation is growing in cracks and joints in the concrete slabs and continues to worsen with each annual inspection. This vegetation is difficult to access for removal, and plans should be made to remove it during the spillway slab assessment.

Outlet Works (Photo No. 144-152)

The manually controlled outlet works for the Lake Gladewater Dam consist of a concrete raw water intake structure located near the eastern abutment of the lake with 3 slide gates at varying elevations. The intake structure and walkway are in good condition. An 18-inch diameter reinforced concrete pipe extends under the embankment from the intake structure to the raw water intake pumps for the water treatment plant. A gate valve is located in the general area where the low flow underdrain outlet was expected. Recent efforts by City Staff

to locate the downstream end of the underdrain were successful, however operation of the low flow gate valve has not been tested. The function of the low flow outlet could not be verified. The condition of this outlet is classified as poor as it was not operable at the time of the inspection.

Emergency Spillway (Photo No. 153-157)

The emergency spillway is in good condition. This structure consists of a 300-ft wide grass-lined trapezoidal shaped open channel spillway. This spillway has a crest elevation at approximately 304-ft msl. Good grass coverage was present throughout the emergency spillway and channel. Park facilities and fencing were present in the emergency spillway at the time of inspection.

Downstream Channel

The downstream channel consists of a natural channel with heavy vegetation and tree cover. The plunge pool/stilling basin is in good condition as well as the area that transitions to the downstream channel. No significant erosion was noted in this transition zone beyond the concrete training walls for the spillway structure.

CONFIDENTIAL

Downstream Hazards

US Highway 80 and a residential area are located approximately 1.25 miles downstream of the Lake Gladewater Dam. US Highway 80 is an arterial highway which falls under the classification of a main highway. Both US Highway 80 and the residential area would be impacted by a breach of Lake Gladewater Dam. High-hazard classification is appropriate for this structure.

Hydraulic & Hydrologic (H&H) Analysis

According to 30 TAC 299.15(a)(1)(A), a high hazard classification, intermediately sized dam should be able to pass 75% of the Probable Maximum Flood (PMF). An H&H analysis performed by Adams engineering in 2008 was submitted and approved by TCEQ which stated that Lake Gladewater Dam and its spillways could safely pass 25% of the PMF and therefore considered hydraulically inadequate.

Operation and Maintenance (O&M) Plan

No O&M plan was available at the time of inspection; however, the Fire Chief Simmons did state that a plan is being created and will be available soon.

Emergency Action Plan (EAP)

An EAP was created in 2011 and submitted to TCEQ for filing. Updates were made and submitted to TCEQ for review in 2024 and are pending approval. 30TAC299.61(g) states that the EAP should be reviewed and updated, if necessary, annually. Updated copies of the EAP should be submitted to the executive director. City staff is currently working with TCEQ to update these records.

REQUIREMENTS / RECOMMENDATIONS

The following requirements & recommendations are provided as a result of this inspection:

1. The owner should consider upgrading the capacity of the spillways or making modifications to the dam to ensure that this structure is capable of passing 75% of the PMF. Plans should be created, signed and sealed by a Texas Licensed Professional Engineer. Plans are also required to be submitted to

TCEQ for approval prior to any construction taking place.

2. Review and update the EAP and send an updated copy to TCEQ for review.
3. Damage to the concrete spillway structure should repaired as needed. Construction plans to repair the structure, should be sent to TCEQ for review and approval.
4. Test the low flow outlet. This structure should be inspected by a PE when uncovered to verify appropriate operation and recommend repairs if needed.
5. Create and implement an O&M plan to ensure this structure is maintained in an appropriate manner. Some items to consider in the O&M plan include:
    a. Repair rutting on the crest of the dam
    b. Repair erosion on the intersection of slopes and crest
    c. Ensure there are no animal burrows present on this structure. If animal burrows or holes are detected, repair should occur immediately.
    d. Maintain dense grass coverage on slopes and crest of the dam.
    e. Remove undesirable vegetation from embankments such as trees, thick brush, and weeds. Tall grass should be mowed to facilitate frequent visual inspection of the dam.

CONCLUSIONS

The owner of this dam may be liable for downstream damage in the event of a breach. 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 damage. In addition, regular maintenance may reduce future rehabilitation and repair costs. This structure should be visually inspected every quarter by the owner or their representative and yearly by a Texas Licensed Professional Engineer. TCEQ should conduct an inspection every 5 years or as needed with any modifications or upgrades.

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 Schaumburg & Polk, Inc. at (903) 595-3913.

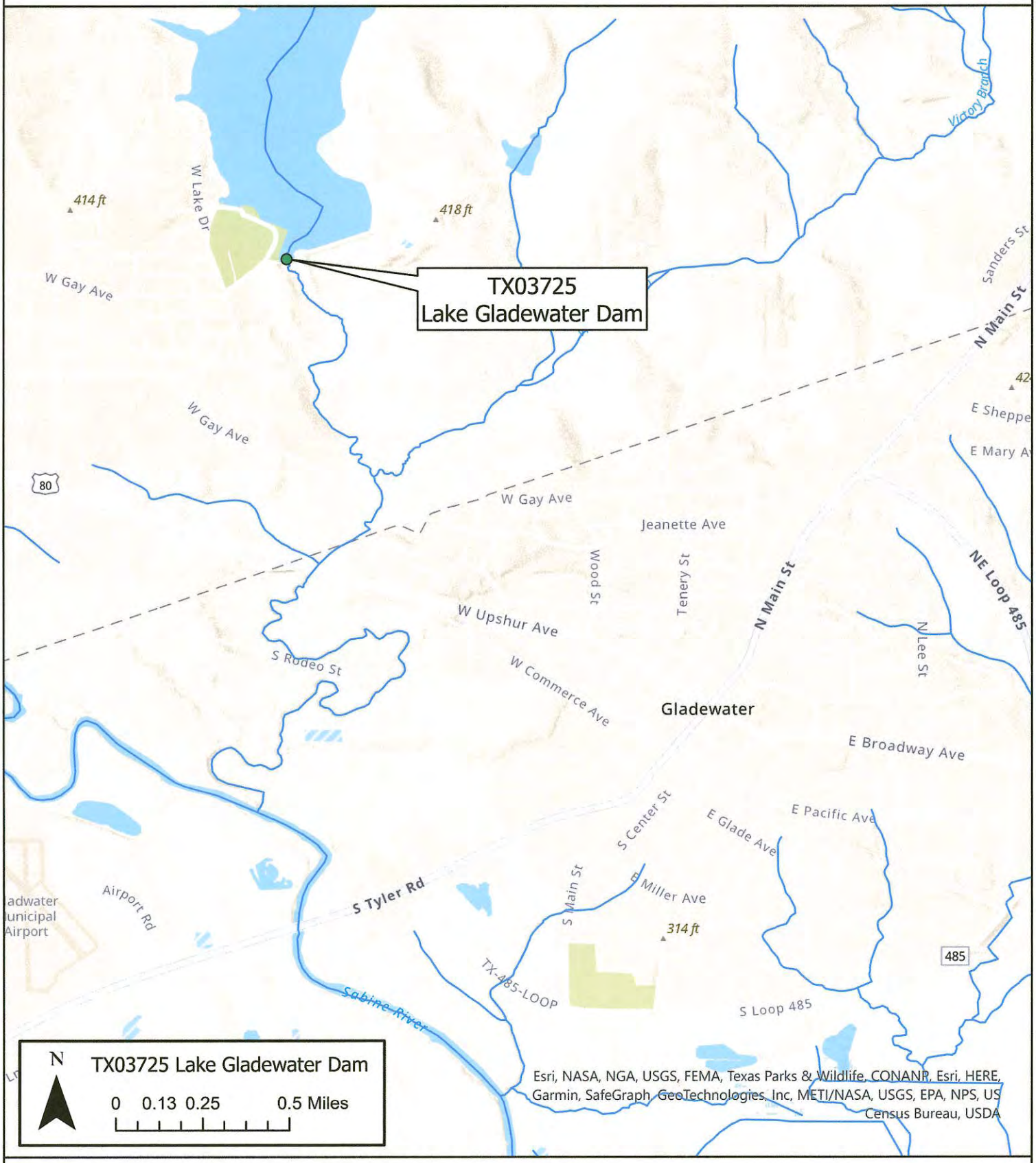

Figure 1. General location map of Lake Gladewater Dam

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Figure 2. Area downstream of Lake Gladewater Dam with elevation contours and the National Hydraulic Dataset layer displayed.

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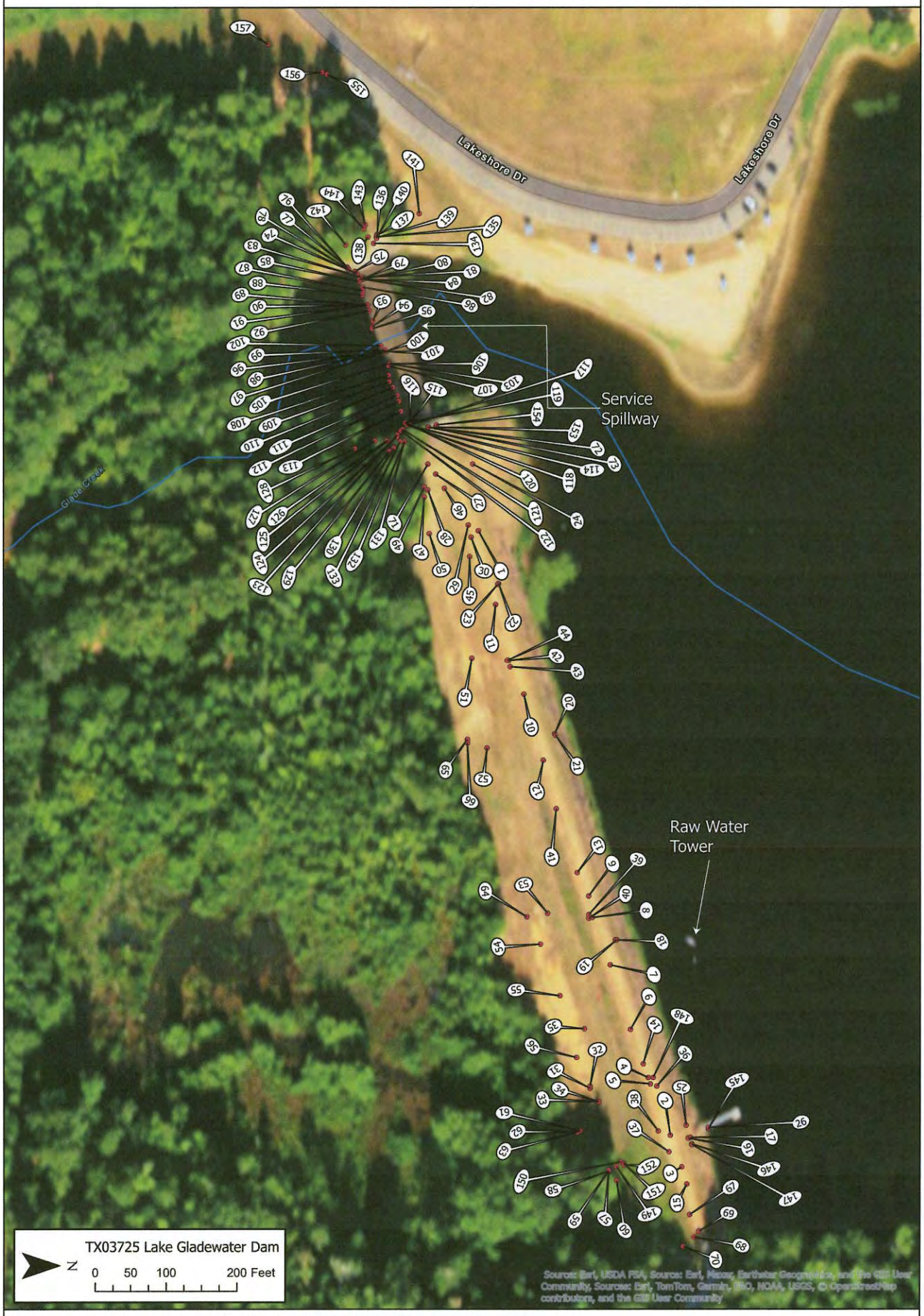

Figure 3. Aerial photo of Lake Gladewater Dam with photo locations.

Photo No. 1: Crest of Dam . Sparse vegetation along crest.

Photo No. 2: Crest of Dam . Sparse vegetation along crest.

Photo No. 3: Crest of Dam. Ruts in wheel paths, sparse vegetation along crest.

Photo No. 4: Crest of Dam facing southwest. Ruts and holes in wheel path along crest of dam. Sparse vegetation present.

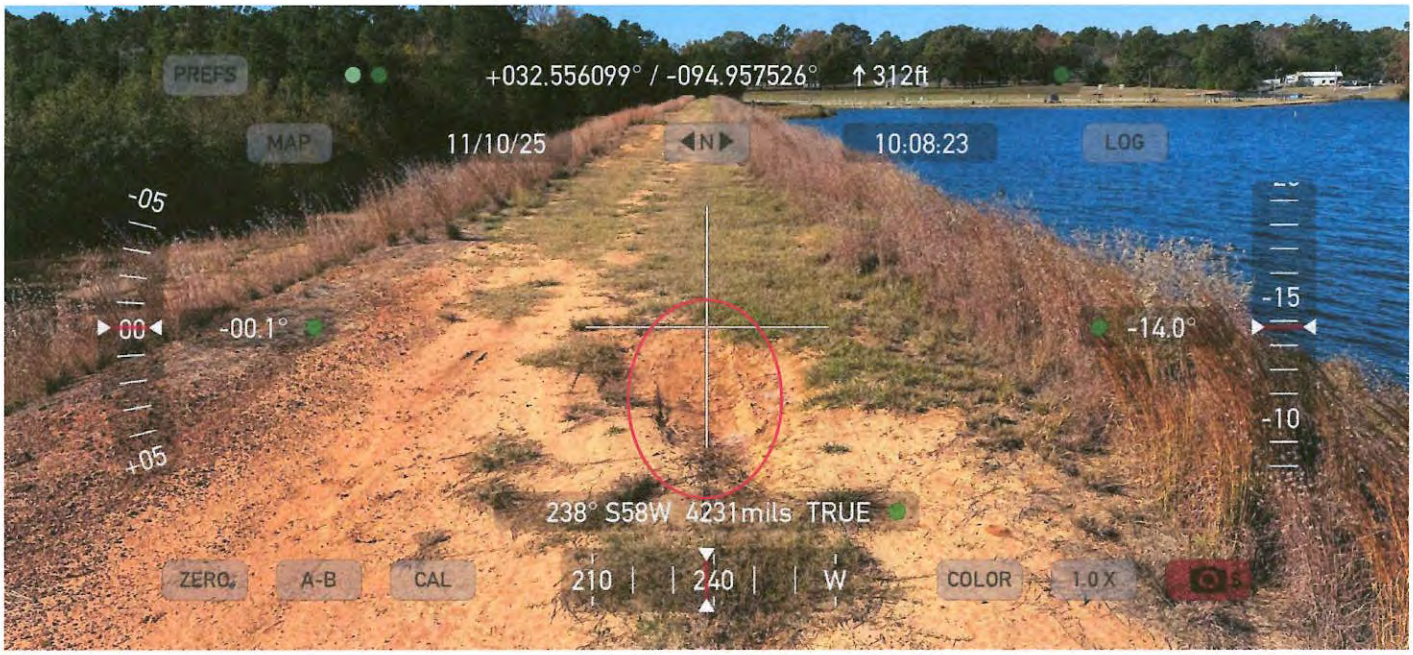

Photo No. 5: Crest of Dam . Ruts and Holes in wheel path along crest of dam. Sparse vegetation.

Photo No. 6: Crest of Dam . Ruts and Holes in wheel path along crest of dam. Sparse vegetation.

Photo No. 7: Crest of Dam . Ruts and Holes in wheel path along crest of dam. Sparse vegetation.

Photo No. 8: Crest of Dam . Ruts and Holes in wheel path along crest of dam. Sparse vegetation.

Photo No. 9: Crest of Dam . Ruts and Holes in wheel path along crest of dam. Sparse vegetation.

Photo No. 10: Crest of Dam . Sparse vegetation.

Photo No. 11: Crest of Dam . Sparse vegetation.

Photo No. 12: Crest of Dam . Sparse vegetation.

Photo No. 13: Crest of Dam . Ruts and Holes in wheel path along crest of dam. Sparse vegetation.

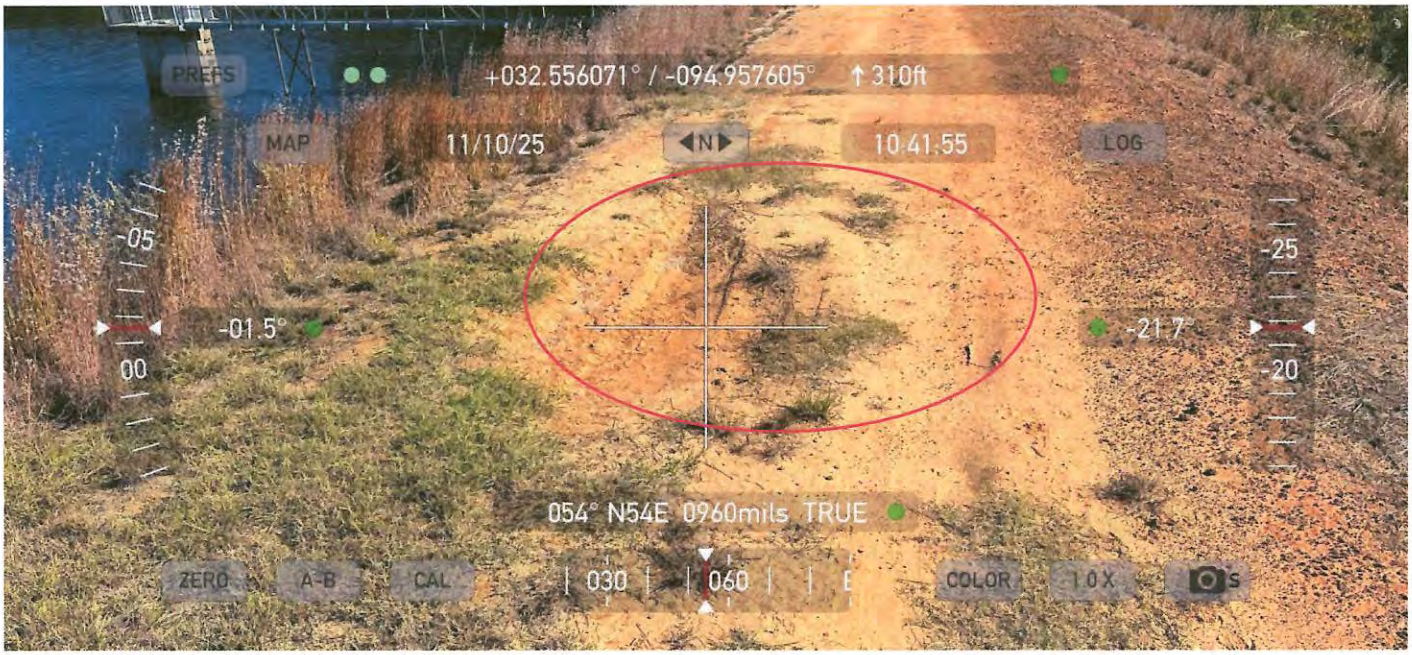

Photo No. 14: Crest of Dam. Ruts and Holes in wheel path along crest of dam. Sparse vegetation.

Photo No. 15: Crest of Dam. Sparse vegetation.

Photo No. 16: Upstream slope armoring. Aquatic Vegetation at waterline. Tall vegetation above riprap armor.

Photo No. 17: Upstream slope armoring. Aquatic Vegetation at waterline. Tall vegetation above riprap armor.

Photo No. 18: Upstream slope armoring. Aquatic Vegetation at waterline. Tall vegetation above riprap armor. Debris along waterline.

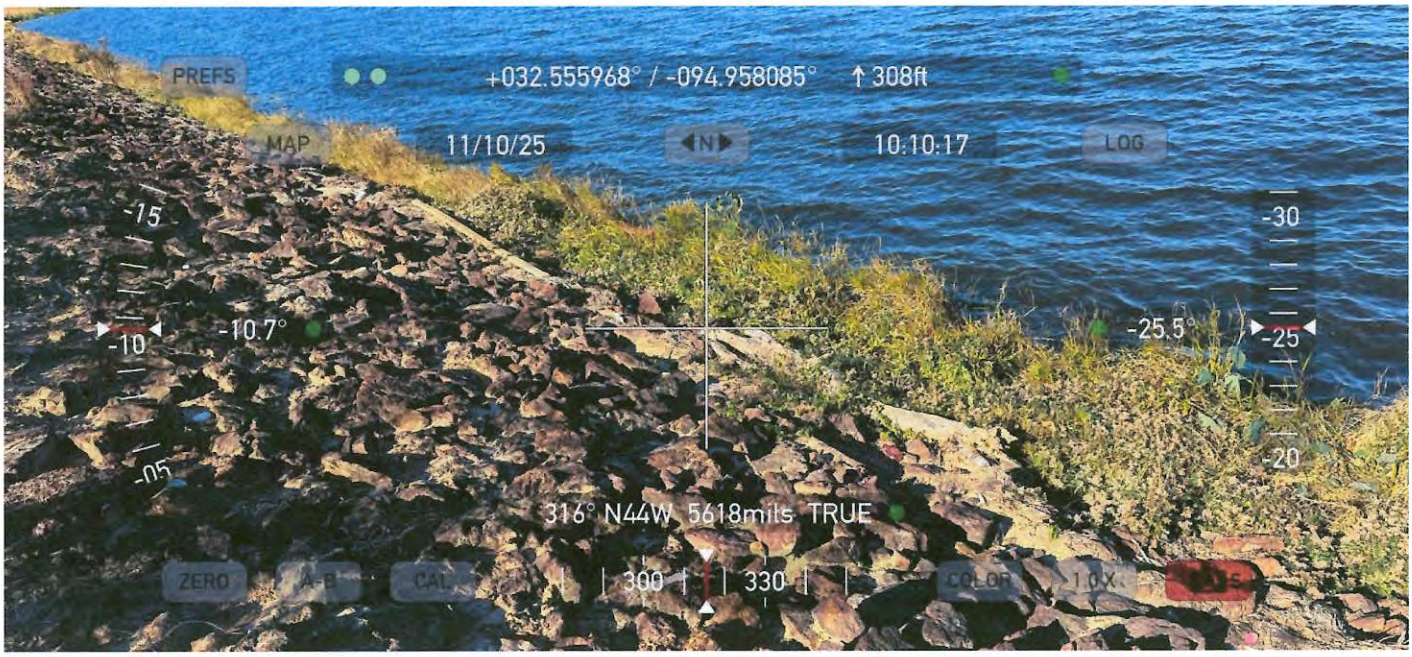

Photo No. 19: Upstream slope armoring. Aquatic Vegetation at waterline. Debris along waterline.

Photo No. 20: Upstream slope armoring. Aquatic Vegetation at waterline. Tall vegetation above riprap armor. Debris scattered along slope.

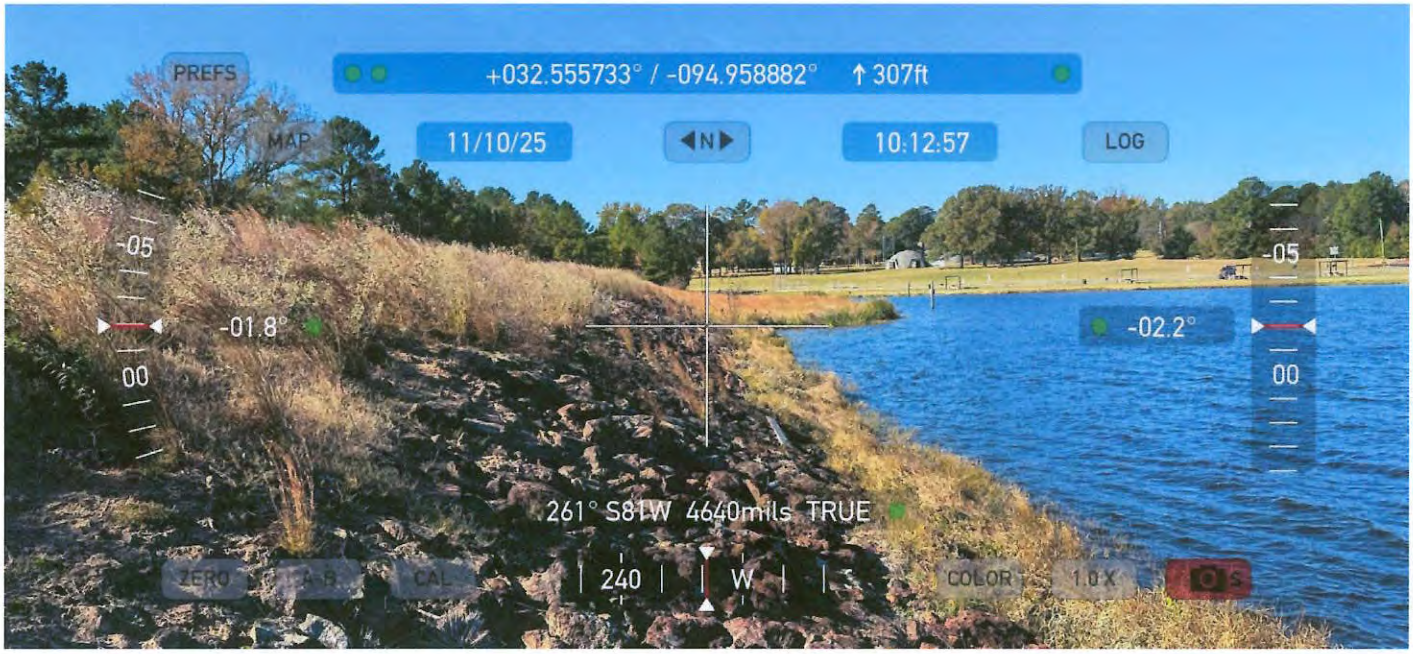

Photo No. 21: Upstream slope armoring. Aquatic Vegetation at waterline. Tall vegetation above riprap armor. Debris along waterline.

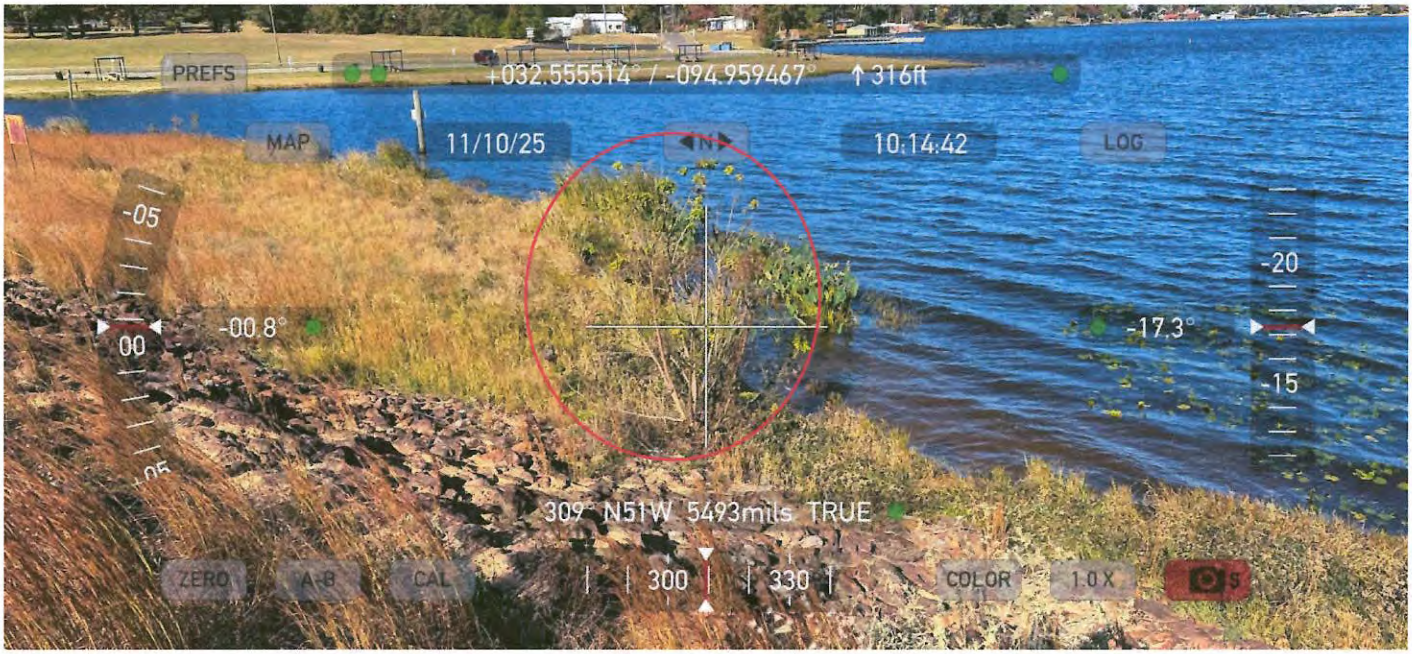

Photo No. 22: Upstream slope armoring. Aquatic Vegetation at waterline. Small tree starting to grow at waterline.

Photo No. 23: Bench approximately 0.5 ft to 1 ft above waterline. Good grass cover. Debris scattered along bench..

Photo No. 24: Upstream slope armoring. Aquatic Vegetation at waterline. Tall vegetation above riprap armor.

Photo No. 25: Raw water intake structure walkway on upstream slope of dam. Erosion rills under walkway.

Photo No. 26: Underside of raw water intake walkway. Significant erosion and evidence of flow concentration under walkway.

Photo No. 27: Downstream slope facing east. Trees actively growing on slope.

Photo No. 28: Downstream slope facing northeast. Trees actively growing on slope. Sparse vegetation on upper half of slope.

Photo No. 29: Downstream slope facing southeast. Trees are actively growing on slope. Sparse vegetation on slope.

Photo No. 30: Downstream slope facing south. Trees are actively growing on slope. Sparse vegetation and evidence of erosion present along the slope face.

Photo No. 31: Downstream slope facing east. Trees are actively growing on slope. Sparse vegetation along top of slope.

Photo No. 32: Downstream toe of dam. Bare spots on ground with no vegetation. Soil is mostly sand with small rocks. No evidence of seepage is present at the time of inspection.

Photo No. 33: Downstream slope facing north. Trees are actively growing on slope. Sparse vegetation and evidence of erosion present along the slope face.

Photo No. 34: Downstream slope facing northwest. Trees are actively growing on slope. Sparse vegetation and evidence of erosion present along the slope face.

Photo No. 35: Downstream slope facing north. Trees are actively growing on slope. Sparse vegetation and evidence of erosion present along the slope face.

Photo No. 36: Downstream slope facing west. Trees are actively growing on slope. Sparse vegetation and evidence of erosion present along the slope face.

Photo No. 37: Downstream slope. Evidence of erosion and sparse vegetation present along slope face.

Photo No. 38: Fill material being placed along the groin of the east abutment.

Photo No. 39: Downstream slope. Sparse vegetation present along slope face. Trees are actively growing on slope.

Photo No. 40: Downstream slope. Evidence of erosion and sparse vegetation is present along slope face. Tall vegetation makes inspection for animal burrows or other potential issues difficult.

Photo No. 41: Downstream slope. Evidence of erosion and sparse vegetation is present along slope face. Tall vegetation makes inspection for animal burrows or other potential issues difficult.

Photo No. 42: Downstream slope. Evidence of erosion and sparse vegetation is present along slope face.

Photo No. 43: Downstream slope. Evidence of erosion and sparse vegetation is present along slope face.

Photo No. 44: Downstream slope. Evidence of erosion and sparse vegetation is present along slope face. Tall vegetation makes inspection for animal burrows or other potential issues difficult. Trees are dying/dead on the slope and should be removed.

Photo No. 45: Downstream slope. Evidence of erosion and sparse vegetation is present along slope face. Tall vegetation makes inspection for animal burrows or other potential issues difficult. Trees are dying/dead on the slope and should be removed.

Photo No. 46: Downstream slope. Evidence of erosion and sparse vegetation is present along slope face. Tall vegetation makes inspection for animal burrows or other potential issues difficult. Trees are dying/dead on the slope and should be removed.

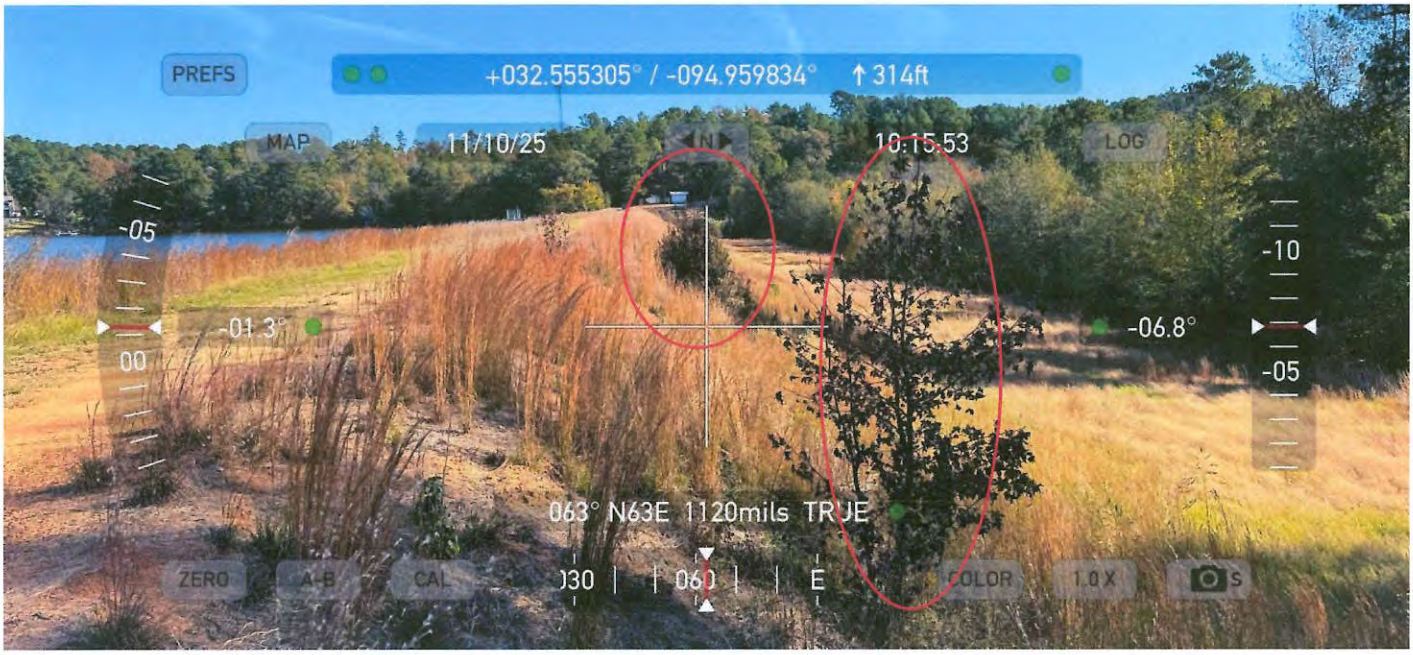

Photo No. 47: Downstream slope. Evidence of erosion and sparse vegetation is present along slope face. Tall vegetation makes inspection for animal burrows or other potential issues difficult. Trees are dying/dead on the slope and should be removed.

Photo No. 48: Downstream slope of dam. Slope appears to be straight with no evidence of sliding failure present at the time of this inspection.

Photo No. 49: Downstream slope of embankment and groin of western abutment.

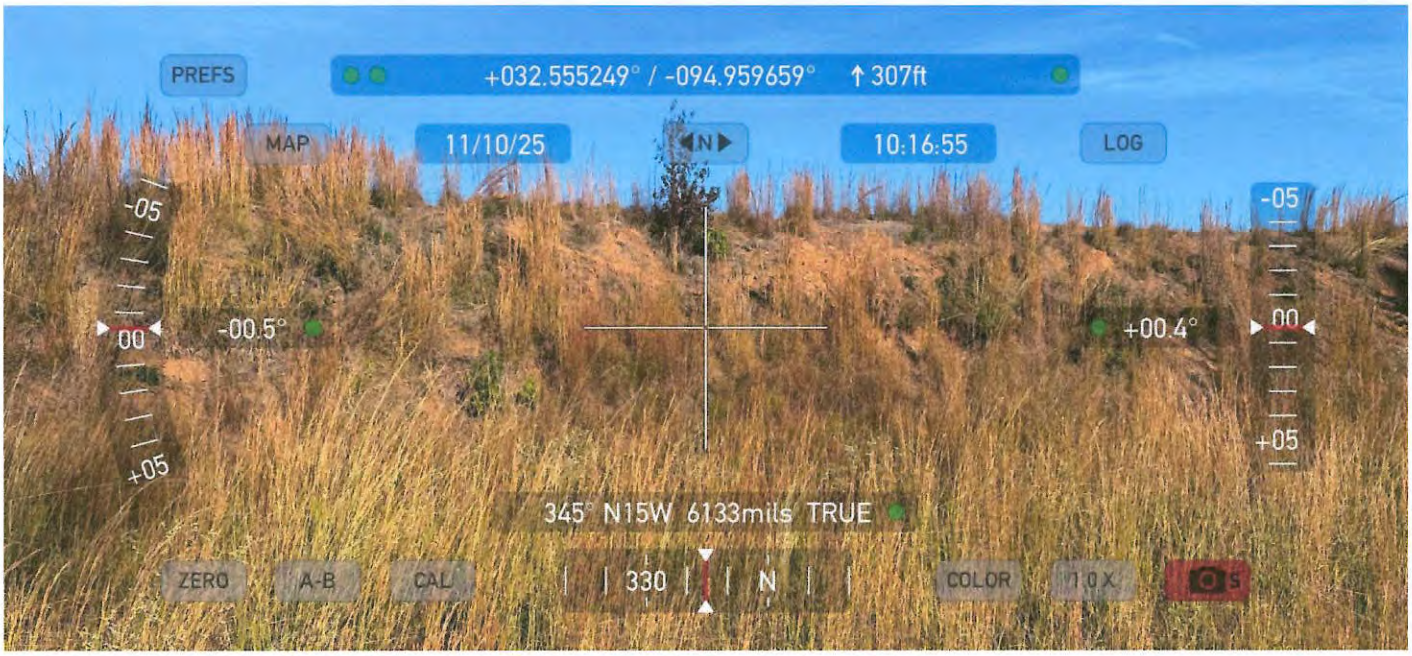

Photo No. 50: Downstream slope. Evidence of erosion and sparse vegetation is present along slope face. Tall vegetation makes inspection for animal burrows or other potential issues difficult. Trees are dying/dead on the slope and should be removed.

Photo No. 51: Downstream slope. Evidence of erosion and sparse vegetation is present along slope face. Tall vegetation makes inspection for animal burrows or other potential issues difficult. Trees are dying/dead on the slope and should be removed.

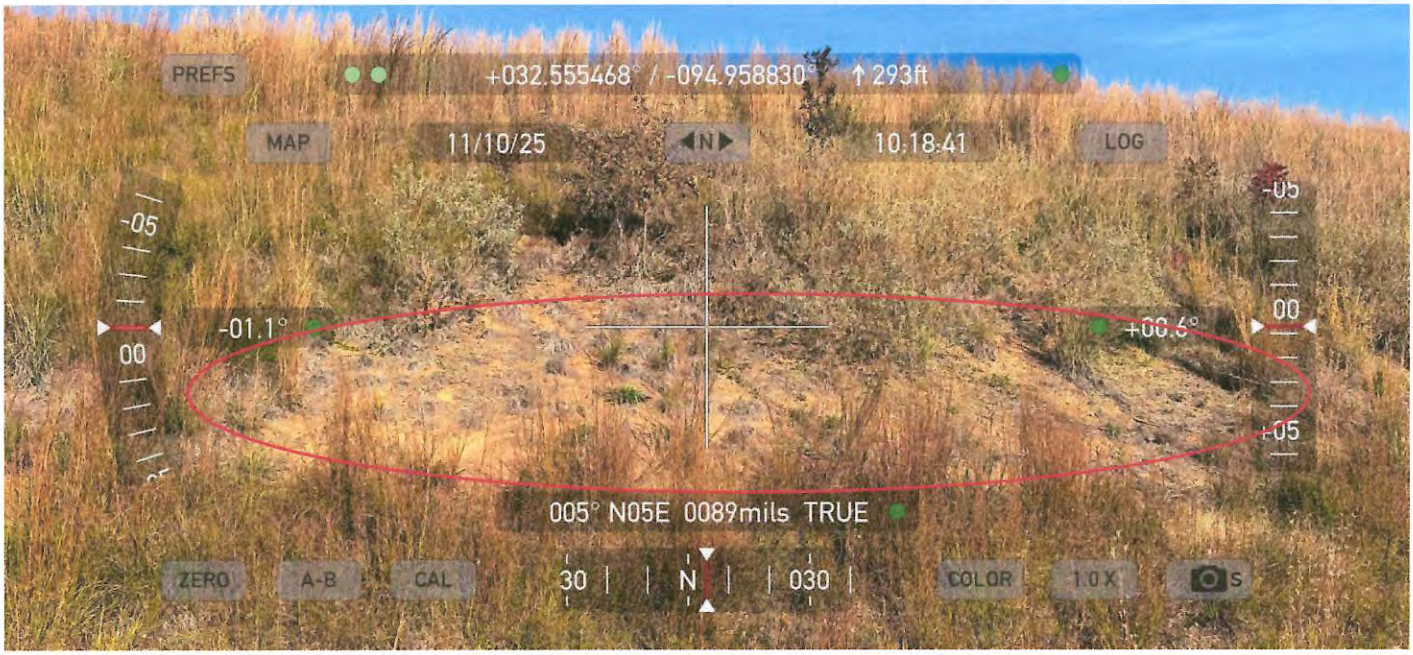

Photo No. 52: Downstream slope. Evidence of erosion and sparse vegetation is present along slope face. Tall vegetation makes inspection for animal burrows or other potential issues difficult.

Photo No. 53: Downstream slope. Evidence of erosion and sparse vegetation is present along slope face. Tall vegetation makes inspection for animal burrows or other potential issues difficult. Trees are dying/dead on the slope and should be removed.

Photo No. 54: Downstream toe of dam. Bare ground along downstream area.

Photo No. 55: Downstream slope. Evidence of erosion and sparse vegetation is present along slope face. Tall vegetation makes inspection for animal burrows or other potential issues difficult. Trees are dying/dead on the slope and should be removed.

Photo No. 56: Downstream slope. Evidence of erosion and sparse vegetation is present along slope face. Tall vegetation makes inspection for animal burrows or other potential issues difficult. Trees are dying/dead on the slope and should be removed.

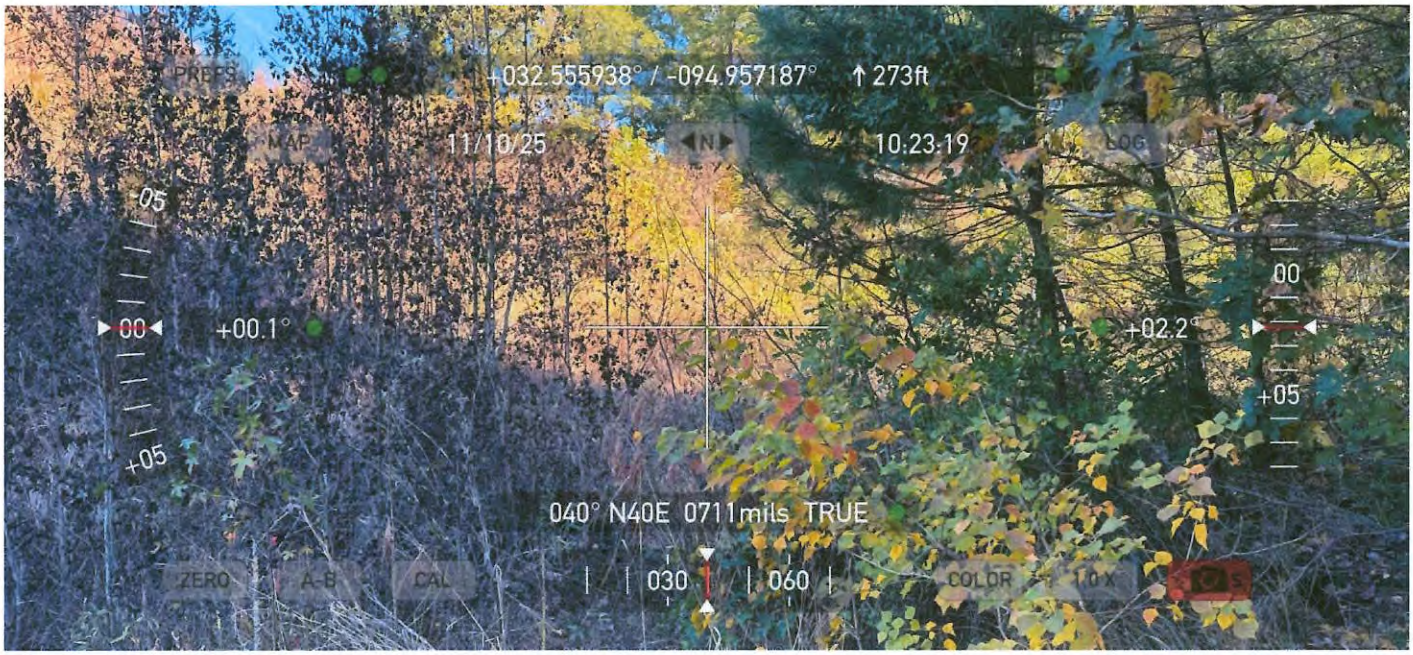

Photo No. 57: Downstream slope. Tall vegetation makes inspection for animal burrows or other potential issues difficult. Trees are dying/dead on the slope and should be removed.

Photo No. 58: Downstream slope. Tall vegetation makes inspection for animal burrows or other potential issues difficult. Trees are dying/dead on the slope and should be removed.

Photo No. 59: Downstream slope. Tall vegetation makes inspection for animal burrows or other potential issues difficult. Trees are dying/dead on the slope and should be removed.

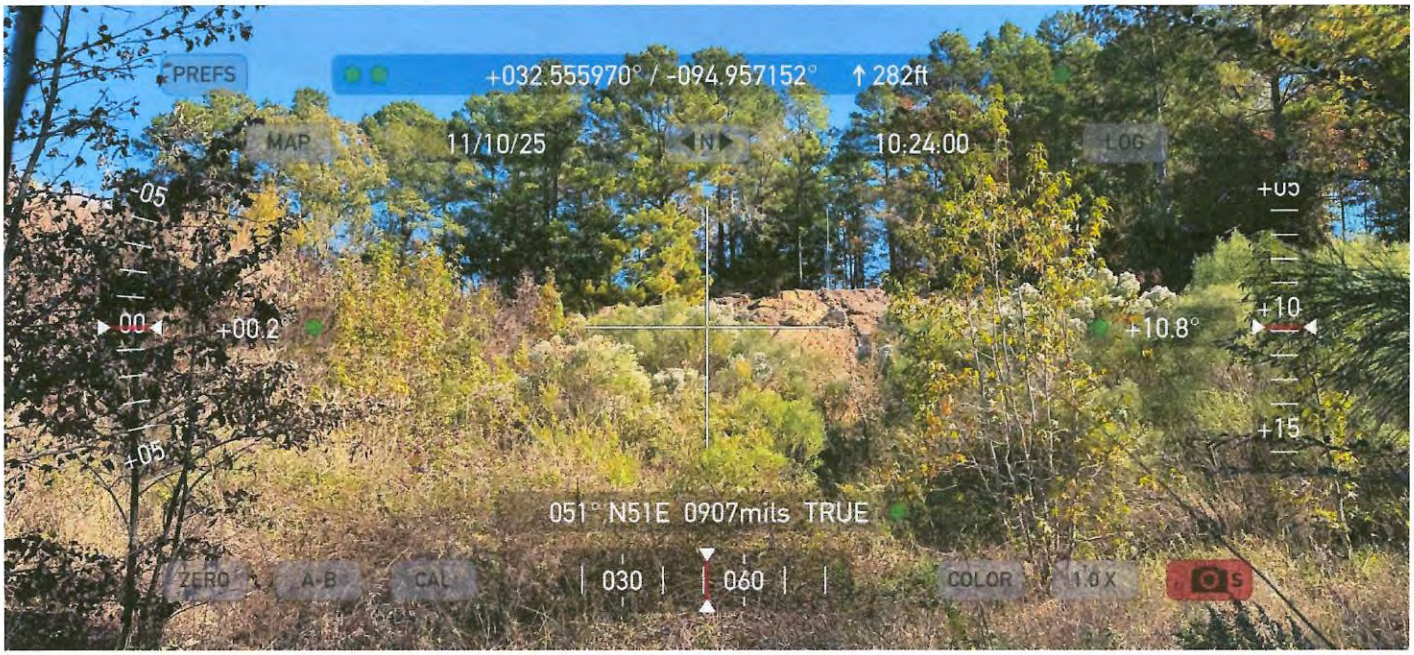

Photo No. 60: Fill being placed along the groin area on the east abutment.

Photo No. 61: Downstream slope, crest of dam appears to be level from this perspective.

Photo No. 62: Downstream slope, crest of dam appears to be level from this perspective.

Photo No. 63: Downstream slope, crest of dam appears to be level from this perspective.

Photo No. 64: Downstream toe of slope.

Photo No. 65: Downstream slope. Trees are dying/dead on slope and should be removed.

Photo No. 66: Downstream slope of dam.

Photo No. 67: Fill material being placed on groin area at east abutment.

Photo No. 68: Fill material being placed on groin area at east abutment. Care should be taken in this area to not concentrate flow between the fill material and the downstream slope of the dam.

Photo No. 69: Fill material being placed on groin area at east abutment. Care should be taken in this area to not concentrate flow between the fill material and the downstream slope of the dam.

Photo No. 70: Downstream slope of dam appears to be straight and uniform.

Photo No. 71: Principal Spillway. Vegetation growing through spillway slab joints. Aquatic vegetation growing in spillway approach section.

Photo No. 72: Service Spillway. Cracks and deep pitting in concrete slabs.

Photo No. 73: Service Spillway. Cracks and deep pitting in concrete slabs. Vegetation growing between slabs in joints.

Photo No. 74: West Spillway abutment. Vegetation growing in concrete slab joints. Deep pitting in concrete slabs. Large hole in concrete at bottom of image. Slab settling in spillway drop section.

Photo No. 75: Service Spillway west abutment. Large hole in concrete wingwall slab ~5 ft long. Vegetation growing in slab joints.

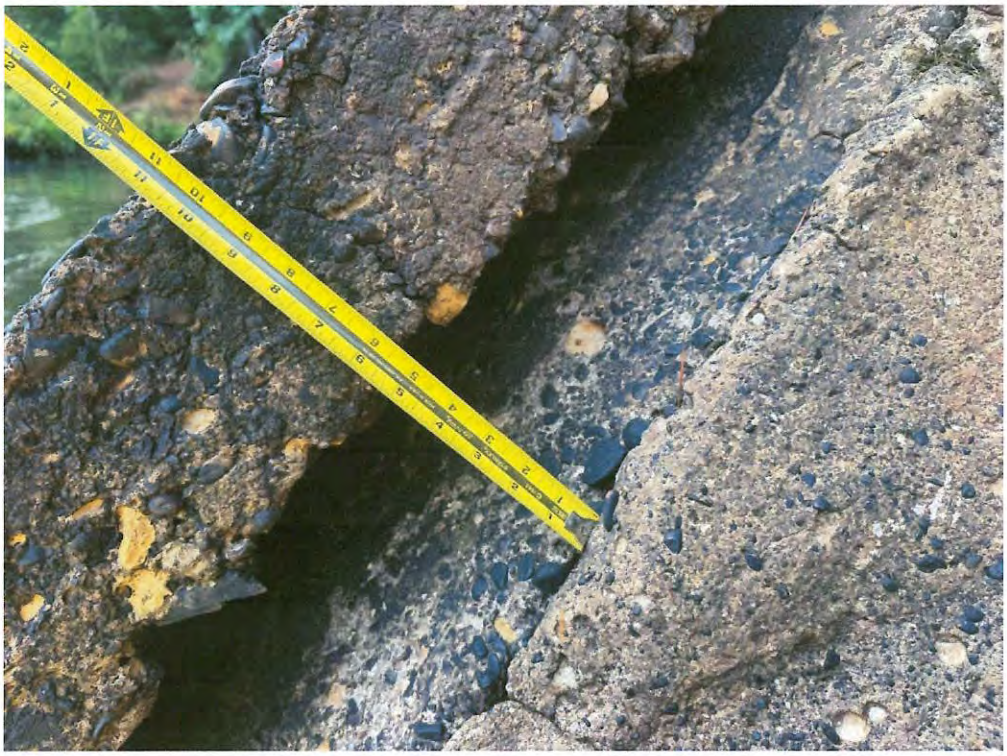

Photo No. 76: Service Spillway downstream training wall. Slab separation leading to voids behind slab.

Photo No. 77: Service Spillway downstream training wall. Slab separation leading to voids behind slab.

Photo No. 78: Service spillway western training wall. Cracks through slab, suspected voids behind concrete slabs.

Photo No. 79: Service Spillway drop section. Concrete slab joints do not have waterstops or joint sealant. Vegetation growing through slab joints.

Photo No. 80: Service Spillway drop section. Void in concrete joint extends ~18 in. behind slabs. ~3-4 in wide at surface.

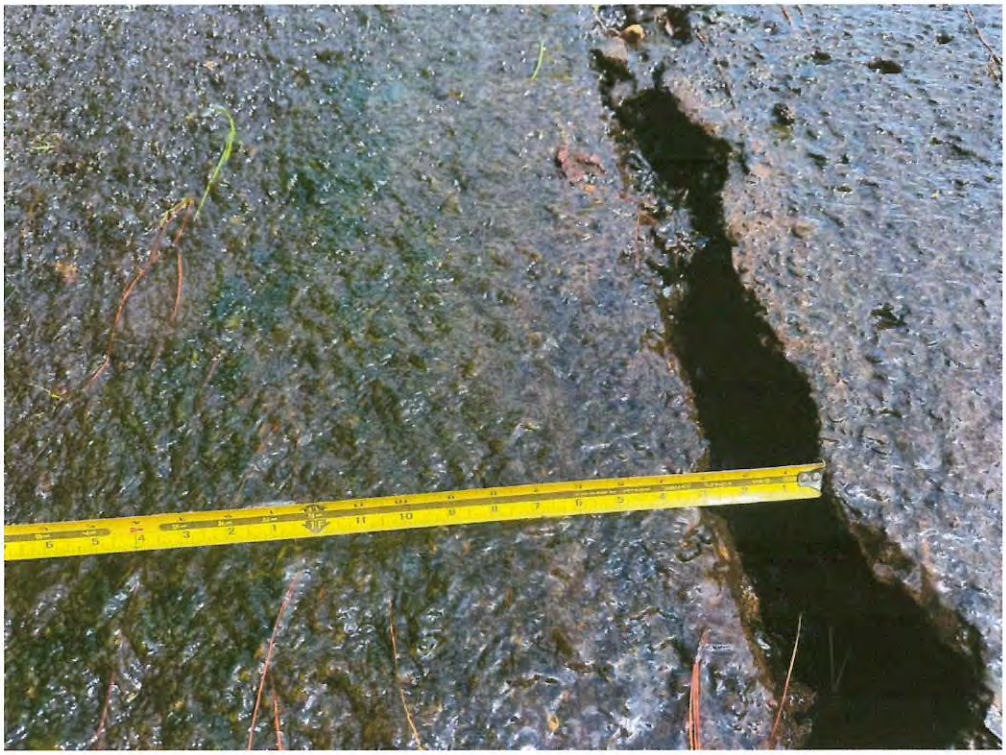

Photo No. 81: Service Spillway drop section. Void in concrete joint extends ~18 in. behind slabs. ~3-4 in wide at surface.

Photo No. 82: Service Spillway drop section. Void in concrete joint extends ~18 in. behind slabs. ~3-4 in wide at surface.

Photo No. 83: Service Spillway drop section. Void in concrete joint extends ~18 in. behind slabs. ~3-4 in wide at surface. ~5 ft long.

Photo No. 84: Service Spillway drop section. Water flowing from concrete joint. Vegetation growing in slab joint. Cracking and deep pitting in concrete. Settlement in lower slab.

Photo No. 85: Service Spillway drop section. Water flowing from concrete joint. Vegetation growing in slab joint. Cracking and deep pitting in concrete. Settlement in lower slab.

Photo No. 86: Service Spillway drop section. Water flowing from concrete joint. Vegetation growing in slab joint. Cracking and deep pitting in concrete. Settlement in lower slab.

Photo No. 87: Service Spillway drop section. Water flowing from concrete joint. Vegetation growing in slab joint. Cracking and deep pitting in concrete. Settlement in lower slab. Water flowing from weep hole in slab. Aquatic vegetation can be seen at top of spillway.

Photo No. 88: Joint sealant failure. Vegetation growing in joint. Deep pitting in concrete.

Photo No. 89: Service spillway drop section at plunge pool water level. Concrete failure resulting in spalling from concrete slab. Deep pitting and cracks in slab.

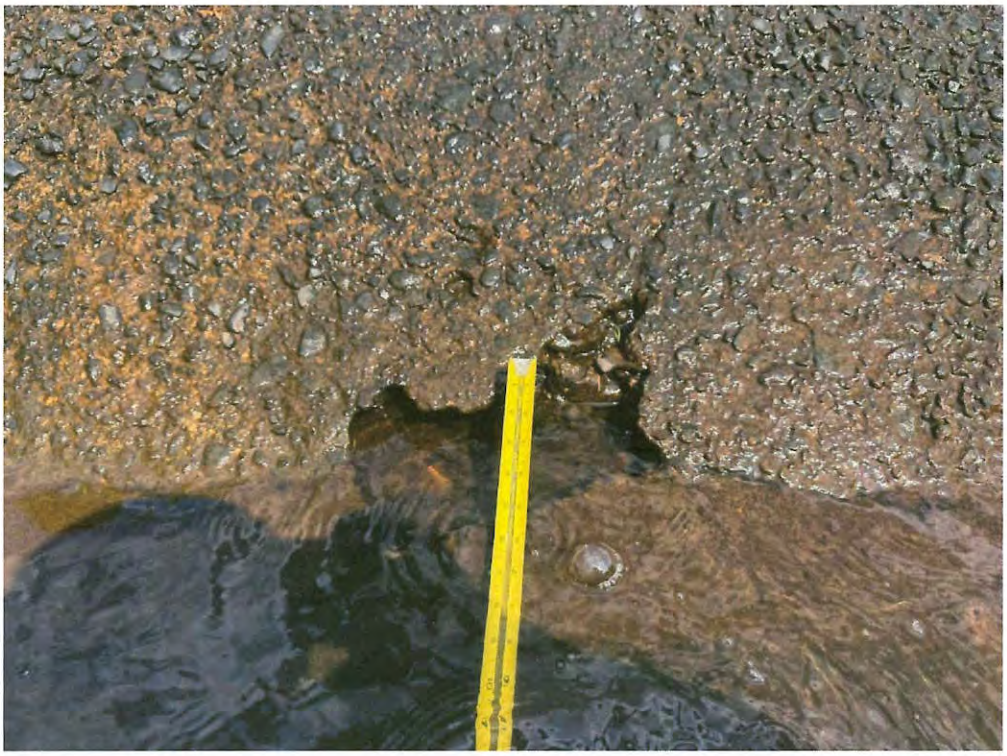

Photo No. 90: Service spillway drop section at plunge pool water level. Concrete failure resulting in spalling from concrete slab. Deep pitting and cracks in slab.

Photo No. 91: Service spillway drop section at plunge pool water level. Concrete failure resulting in spalling from concrete slab. Deep pitting and cracks in slab.

Photo No. 92: Joint sealant failure. Vegetation growing in joint. Deep pitting in concrete.

Photo No. 93: Joint sealant failure. Vegetation growing in joint. Deep pitting in concrete.

Photo No. 94: Joint sealant failure. Vegetation growing in joint. Deep pitting in concrete.

Photo No. 95: Joint sealant failure. Vegetation growing in joint. Deep pitting in concrete.

Photo No. 96: Service spillway drop seciton. Slab settling in lower slab. Deep pitting and cracks in concrete slab. Water flowing from joint.

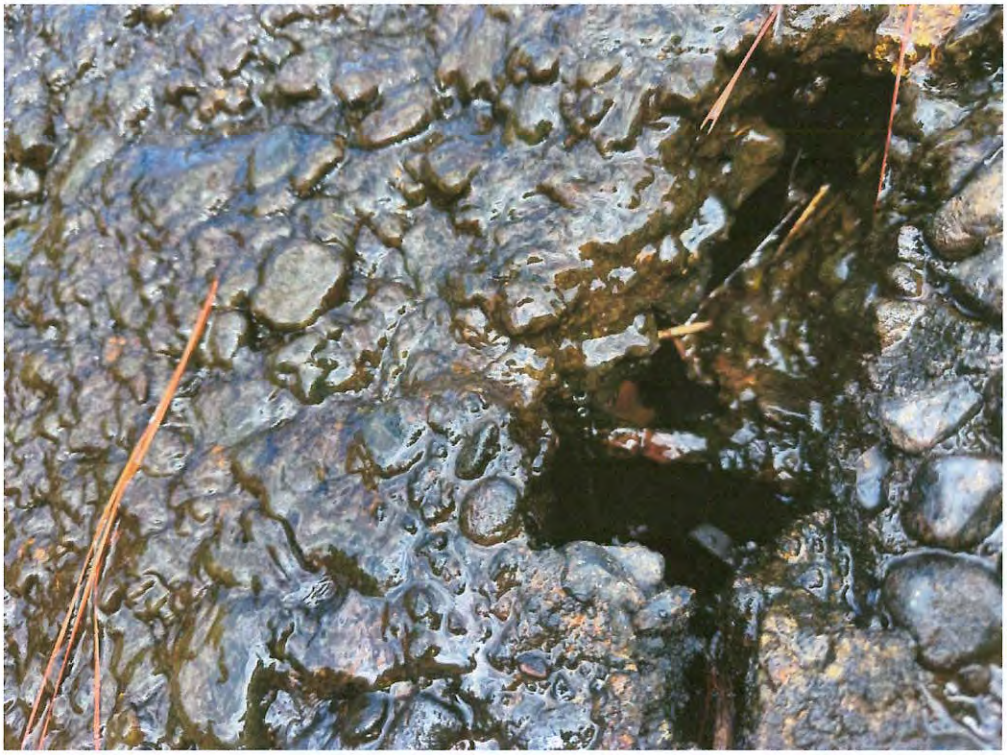

Photo No. 97: Service spillway drop section. Sever rebar deterioration in slab. Hole in concrete near plunge pool water level.

Photo No. 98: Service spillway drop section. Sever rebar deterioration in slab. Hole in concrete near plunge pool water level.

Photo No. 99: Service spillway drop section. Sever rebar deterioration in slab. Hole in concrete near plunge pool water level.

Photo No. 100: Service spillway drop section. Sever rebar deterioration in slab. Hole in concrete near plunge pool water level.

Photo No. 101: Service spillway drop section. Sever rebar deterioration in slab. Hole in concrete near plunge pool water level.

Photo No. 102: Joint sealant failure. Vegetation growing in joint. Deep pitting in concrete.

Photo No. 103: Joint sealant failure. Vegetation growing in joint. Deep pitting in concrete.

Photo No. 104: Joint sealant failure. Vegetation growing in joint. Deep pitting in concrete.

Photo No. 105: Joint sealant failure. Vegetation growing in joint. Deep pitting in concrete.

Photo No. 106: Joint sealant failure. Vegetation growing in joint. Deep pitting in concrete.

Photo No. 107: Joint sealant failure. Vegetation growing in joint. Deep pitting in concrete.

Photo No. 108: Joint sealant failure. Vegetation growing in joint. Deep pitting in concrete.

Photo No. 109: Joint sealant failure. Vegetation growing in joint. Deep pitting in concrete. Cracks in concrete slabs.

Photo No. 110: Joint sealant failure. Vegetation growing in joint. Deep pitting in concrete.

Photo No. 111: Joint sealant failure. Vegetation growing in joint. Deep pitting in concrete.

Photo No. 112: Joint sealant failure. Vegetation growing in joint. Deep pitting in concrete.

Photo No. 113: Joint sealant failure. Vegetation growing in joint. Deep pitting in concrete. Slab settling in lower slab, holes and cracks in slab near joint. Water flowing from horizontal joint.

Photo No. 114: Service spillway east abutment. Large hole in wingwall near plunge pool normal pool elevation.

Photo No. 115: Service spillway east abutment. Large hole in wingwall near plunge pool normal pool elevation. Exposed rebar through hole.

Photo No. 116: Service spillway east abutment. Large hole in wingwall near plunge pool normal pool elevation.

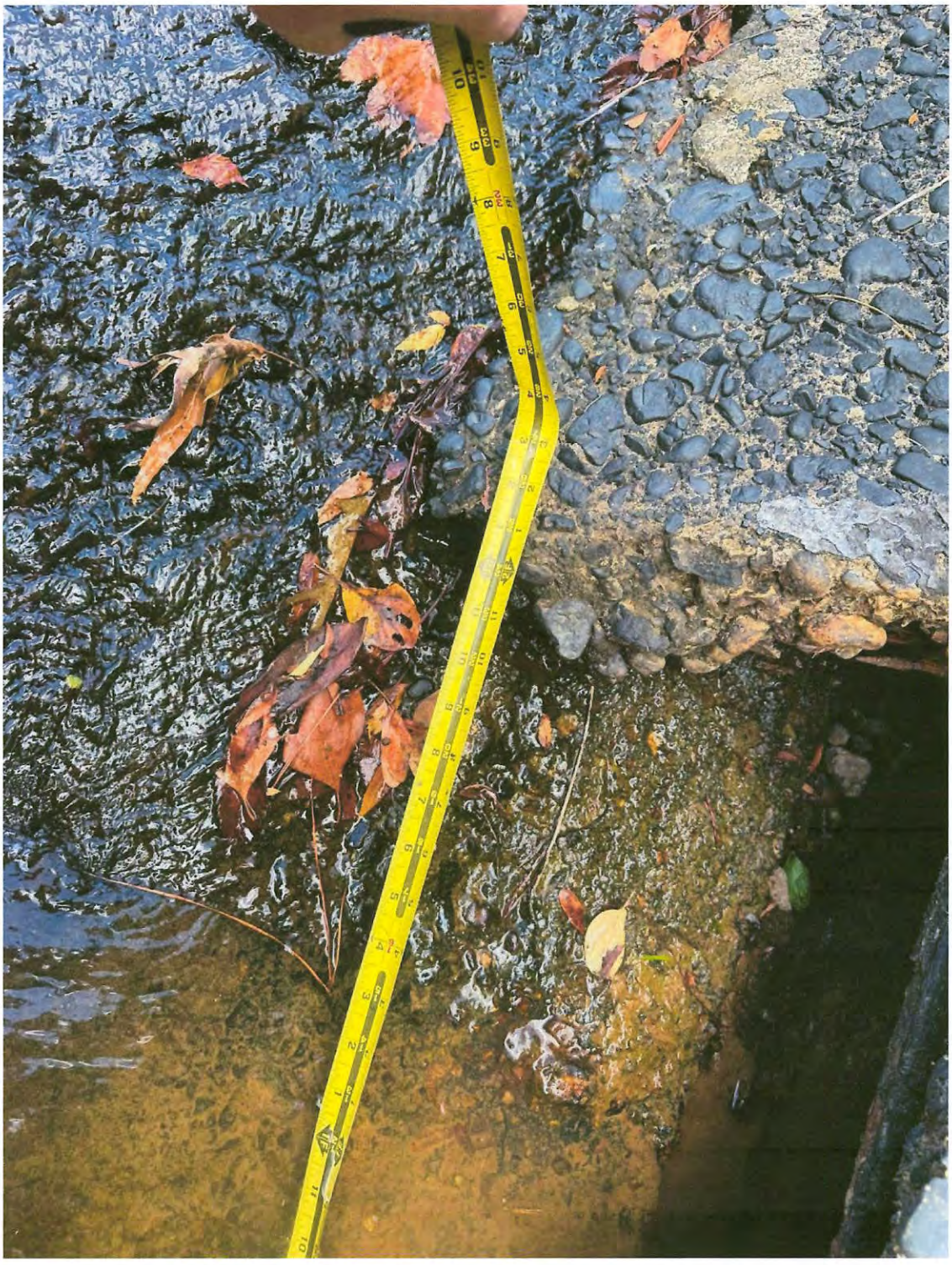

Photo No. 117: Service spillway east abutment. Large hole in wingwall near plunge pool normal pool elevation.

Photo No. 118: Service spillway east training wall. Deep pitting in concrete, cracks and holes in concrete.

Photo No. 119: Service Spillway drop section facing West.

Photo No. 120: Service spillway west training wall.

Photo No. 121: Service spillway east training wall.

Photo No. 122: Service spillway east training wall concrete slab joint failure. Vegetation growing in joints and slab separation. Holes in slabs adjacent to joints.

Photo No. 123: Service spillway east training wall concrete slab joint failure. Vegetation growing in joints and slab separation. Holes in slabs adjacent to joints.

Photo No. 124: Service spillway east training wall. Large hole in training wall concrete slab. Pitting and cracking in concrete.

Photo No. 125: Service spillway east training wall. Large hole in training wall concrete slab. Pitting and cracking in concrete.

Photo No. 126: Service spillway east training wall.

Photo No. 127: Service spillway drop section.

Photo No. 128:Service spillway. Erosion is present at downstream end of east training wall.

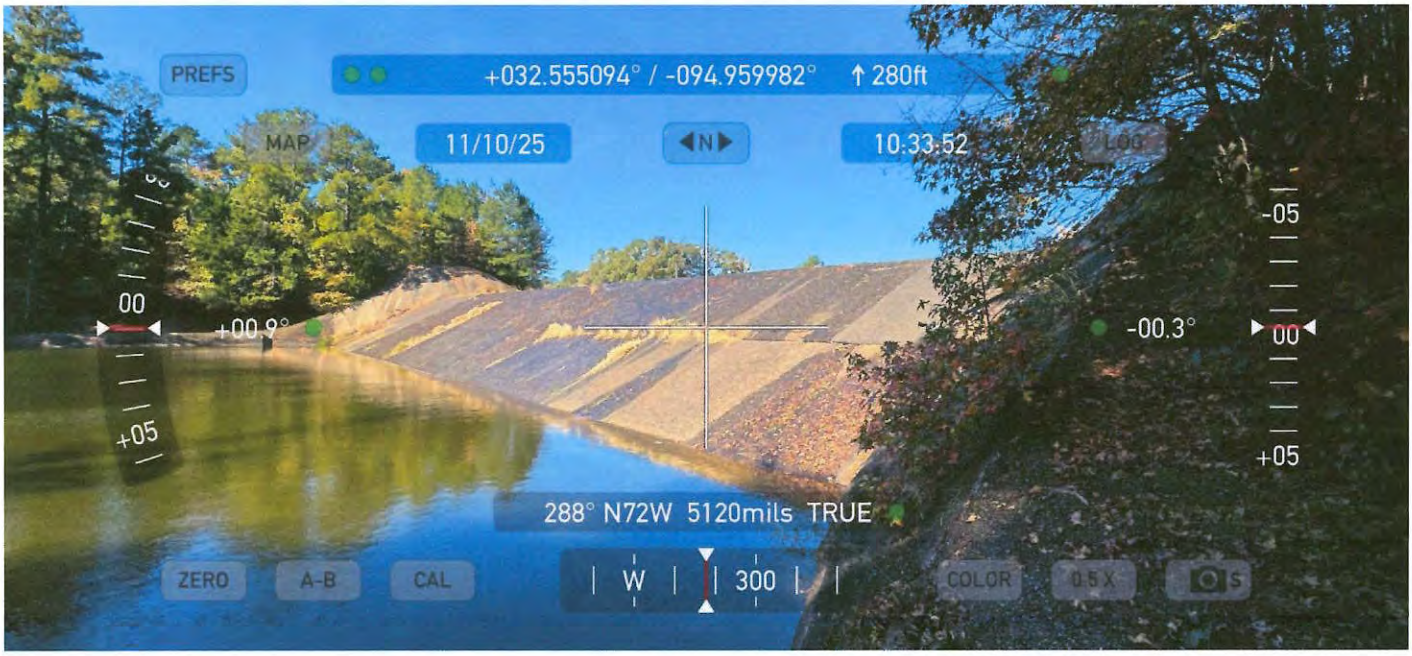

Photo No. 129: Service spillway. Water seeping through concrete slab joints.

Photo No. 130: Service spillway. Water seeping through concrete slab joints.

Photo No. 131: Service spillway. Water seeping through concrete slab joints.

Photo No. 132: Service spillway. Water seeping through concrete slab joints.

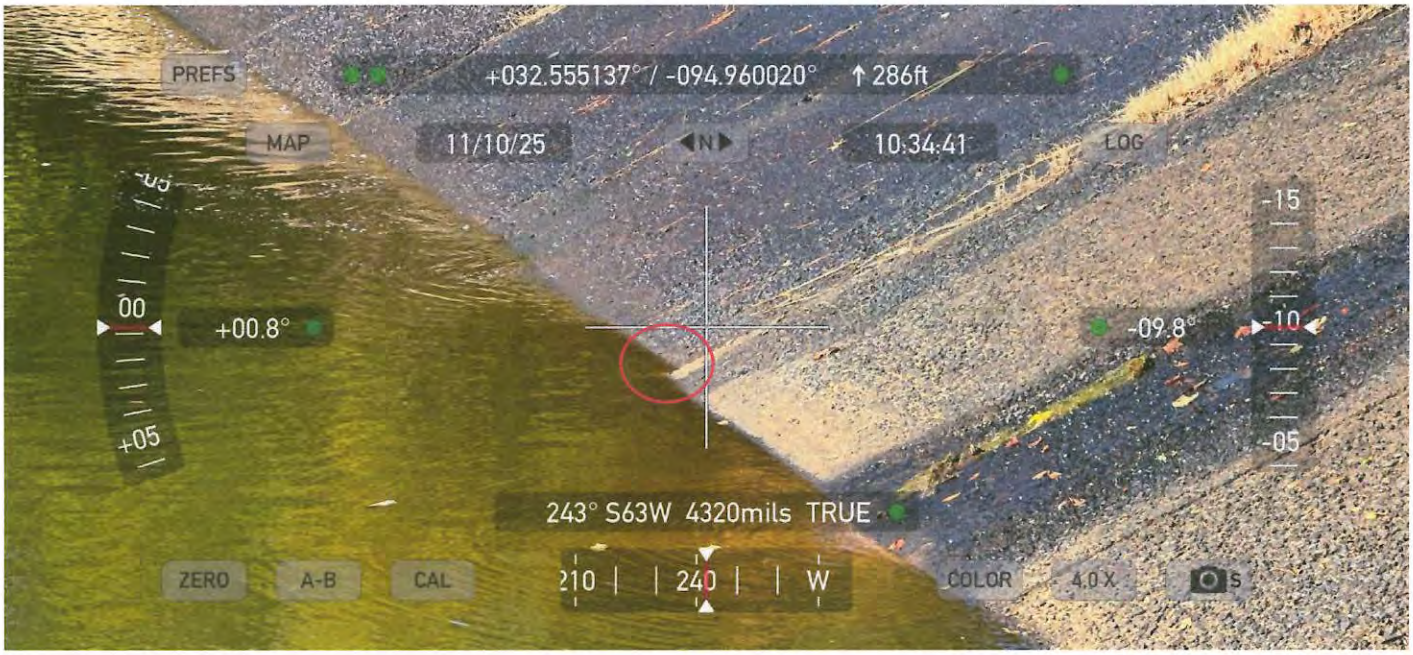

Photo No. 133: Service spillway. Misalignment in drop section slabs.

Photo No. 134: Service spillway east abutment. Hole in slab at plunge pool normal water level.

Photo No. 135: Service spillway west abutment. Cracks in concrete slabs, pitting in slab.

Photo No. 136: Service spillway plunge pool.

Photo No. 137: Service spillway plunge pool.

Photo No. 138: Service spillway concrete slab joint failure. Hole in concrete.

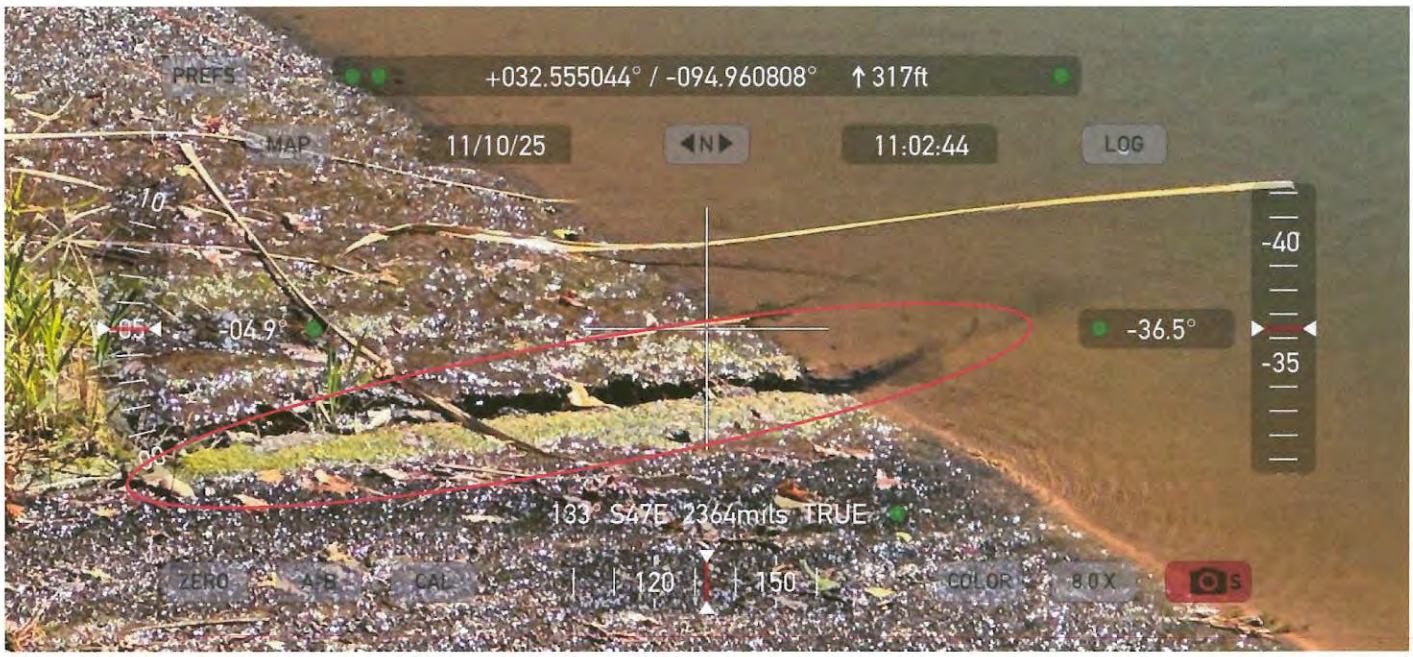

Photo No. 139: Service spillway concrete slab joint failure. Hole in concrete.

Photo No. 140: Service spillway concrete slab joint failure.

Photo No. 141: Service spillway west abutment security fence. West abutment in not able to be secured from trespass by intruders due to erosion.

Photo No. 142: Service spillway west abutment. Trees growing near concrete structure.

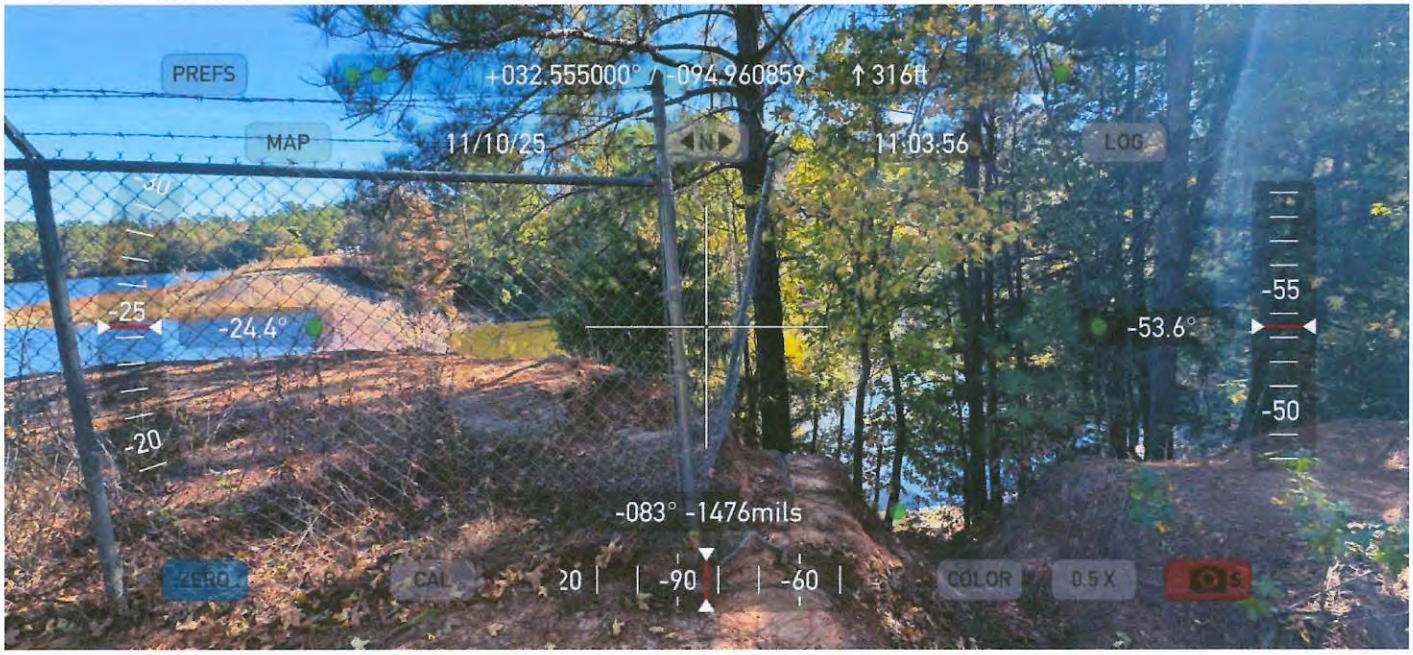

Photo No. 143: Service spillway west abutment security fence. West abutment in not able to be secured from trespass by intruders due to erosion.

Photo No. 144: Service spillway west abutment. Trees growing near concrete structure.

Photo No. 145: Raw water intake structure.

Photo No. 146: Raw water intake structure.

Photo No. 147: Raw water intake structure.

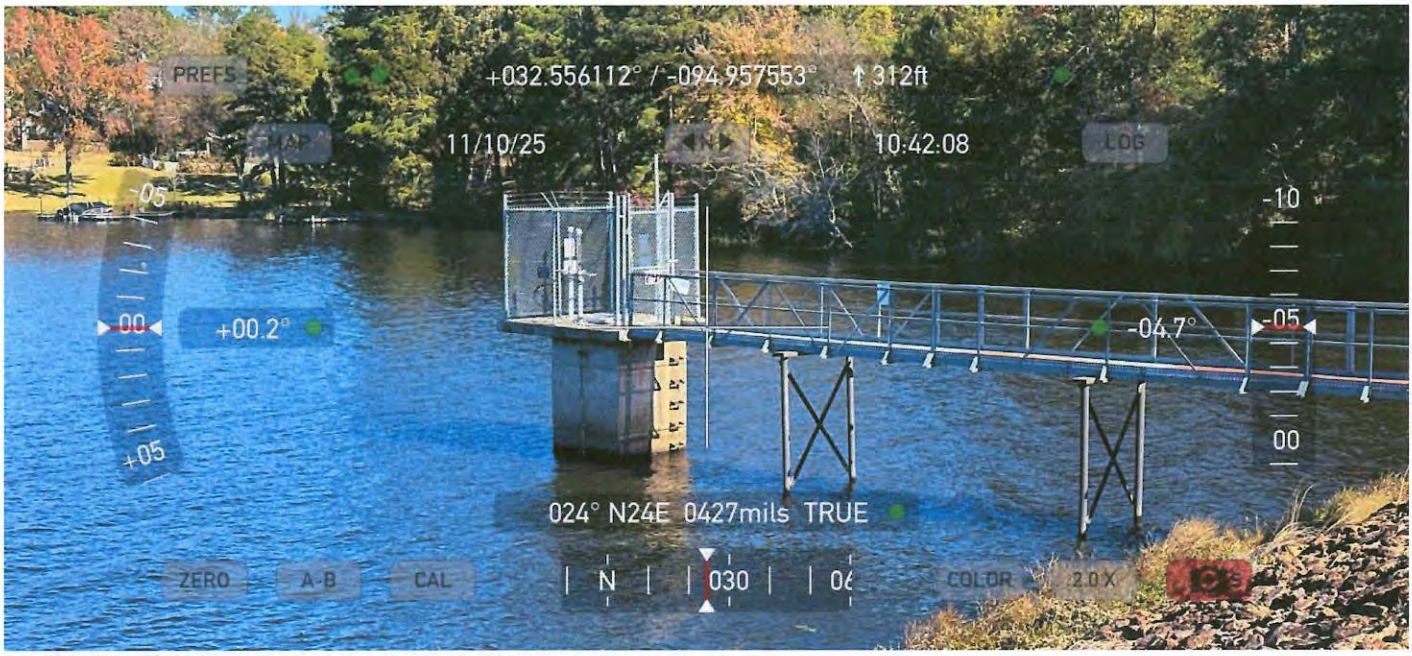

Photo No. 148: Raw water intake structure.

Photo No. 149: Low flow valve. Inoperable condition.

Photo No. 150: Low flow valve. Inoperable condition.

Photo No. 151: Low flow valve. Inoperable condition.

Photo No. 152: Low flow outlet pipe structure.

Photo No. 153: Emergency Spillway approach section. Good, well maintained grass cover.

Photo No. 154: Emergency Spillway approach section. Good, well maintained grass cover.

Photo No. 155: Emergency spillway channel. Good well maintained grass cover.

Photo No. 156: Emergency spillway channel. Good well maintained grass cover.

Photo No. 157: Emergency spillway channel. Good well maintained grass cover.