

CRAWFORD POND DAM : D1824

Dams Preliminary Inspection Form



Inspector: Ryan Sullivan

Start Date: 09/28/2018 Completed Date: 09/28/2018

Inspection Information		
1. Date of Inspection	09/27/2018	
2. Inspectors Present	Ryan Sullivan	
3. Other Persons Attending Inspection		
Name	Phone	Owner/Engineer/Other
Jaime Welch		Owner Driver
4. Is this a follow-up inspection?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
Observation/Instrumentation		
1. Estimate the current level of the water in the reservoir:	Breached	
2. Describe the current weather & conditions:	Cloudy	
3. Recent rainfall quantity:	None	
4a. Are Piezometers or Observation Wells present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
4b. (If Present:) Condition of Piezometers/Observation Wells		
5a. Is a Staff Gauge or Recorder present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5b. (If Present:) Condition of Staff Gauge or Recorder		
6a. Are Measurement Weirs Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
6b. (If Present:) Condition of Weirs:		
7a. Number of Spillways Present	1	
7b. Type of Spillways Present	Other (Specify In Comments)	
<input type="text" value="Metal Pipe by Left Abutment."/>		
8. Other:		
9. Additional Comments (Refer to item number if applicable)		

CRAWFORD POND DAM : D1824

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Inspector: Ryan Sullivan

Start Date: 09/28/2018

Completed Date: 09/28/2018

Embankment: Crest

Is this section applicable for this dam?

Yes No



Photo Taken: 9/27/2018 12:47:49 PM
GPS Orientation: 270 degrees



Photo Taken: 9/27/2018 12:49:31 PM
GPS Orientation: 270 degrees



Photo Taken: 9/27/2018 12:57:54 PM
GPS Orientation: 270 degrees

CRAWFORD POND DAM : D1824

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Start Date: 09/28/2018

Completed Date: 09/28/2018

Embankment: Crest

1. Grass Cover	No Deficiency
2. Deleterious Vegetation	No Deficiency
3. Trees	No Deficiency
4. Animal Activity	No Deficiency
5. Surface Cracking	Action Required

Longitudinal cracking at left side of breach.



Photo Taken: 9/27/2018 12:59:03 PM
GPS Orientation: 270 degrees

6. Horizontal Alignment	No Deficiency
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7. Settlement	Investigate
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Depressed section of the crest on the right side of the breach. Picture is difficult to tell. About the area of an inflatable kiddie pool, about 4" deep. Area on downstream slope right there is very steep and heavily vegetated, but appeared less stable than other areas.



Photo Taken: 9/27/2018 12:48:24 PM


CRAWFORD POND DAM : D1824

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Start Date: 09/28/2018 Completed Date: 09/28/2018

Embankment: Crest	
8. Sinkhole	No Deficiency
9. Erosion	Action Required
<p>Large breach in center of the dam.</p> <div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>Photo Taken: 9/27/2018 12:53:21 PM</p> </div> </div>	
10a. Are Alterations/Repairs Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
10b. (If Present:) Alterations/Repairs Condition	
11. Other:	
12. Embankment: Crest Condition	Needs Permitted Repair(s)
<div style="border: 1px solid black; padding: 5px;"> <p>Violation Determined: 9/28/2018 DAMMAINTREP</p> </div>	
13. Additional Comments (Refer to item number if applicable)	
Concrete/Masonry Dams: Crest	
Is this section applicable for this dam?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. Surface Conditions	
2. Horizontal Alignment	
3. Vertical Alignment	
4. Condition of Joints	
5. Unusual Movement	
6a. Are Alterations/Repairs Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No
6b. (If Present:) Alterations/Repairs Condition	

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Inspector: Ryan Sullivan

Start Date: 09/28/2018 Completed Date: 09/28/2018

Concrete/Masonry Dams: Crest

7. Other:

8. Concrete/Masonry Dam Crest Condition

9. Additional Comments (Refer to item number if applicable)

Embankment: Upstream Slope

Is this section applicable for this dam?

Yes No



Photo Taken: 9/27/2018 12:47:28 PM
GPS Orientation: 270 degrees



Photo Taken: 9/27/2018 12:52:26 PM
GPS Orientation: 270 degrees

1. Grass Cover

Investigate

No grass cover observed on upstream slope.

2. Deleterious Vegetation

Investigate

Brush and woody vegetation observed on the upstream slope.

3. Trees

CRAWFORD POND DAM : D1824

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Inspector: Ryan Sullivan

Start Date: 09/28/2018 Completed Date: 09/28/2018

Embankment: Upstream Slope	
<i>4. Animal Activity</i>	No Deficiency
<i>5. Surface Cracking</i>	No Deficiency
<i>6. Subsidence, Sinkhole</i>	No Deficiency
<i>7. Slide, Slough, Scarp</i>	Action Required

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Start Date: 09/28/2018

Completed Date: 09/28/2018

Embankment: Upstream Slope

Large slide on left side, near breach. More cracking near slide may indicate another possible slide in the future.



Photo Taken: 9/27/2018 12:55:01 PM



Photo Taken: 9/27/2018 12:58:40 PM



Photo Taken: 9/27/2018 12:59:03 PM
GPS Orientation: 270 degrees

CRAWFORD POND DAM : D1824

Dams Preliminary Inspection Form



Inspector: Ryan Sullivan

Start Date: 09/28/2018 Completed Date: 09/28/2018

Embankment: Upstream Slope	
8. Groins	Monitor
Brush and woody vegetation observed in the upstream groins.	
9. Erosion	Action Required
Large Breach through center of the dam.	
10a. Slope Protection/Armoring Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
10b. (If Present:) Slope Protection/Armoring	
11a. Alterations/Repairs Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
11b. (If Present:) Alterations/Repairs Condition	
12. Other:	
13. Embankment: Upstream Slope Condition	Needs Permitted Repair(s)
Violation Determined: 9/28/2018 DAMMAINTREP Large breach and large slide.	
14. Additional Comments (Refer to item number if applicable)	
Concrete/Masonry Dams: Upstream Face	
Is this section applicable for this dam?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. Surface Conditions	
2. Condition of Joints	
3. Unusual Movement	
4. Abutments	
5a. Alterations/Repairs Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No
5b. (If Present:) Alterations/Repairs Condition	
6. Other:	
7. Concrete/Masonry Dams: Upstream Face Condition	
8. Additional Comments (Refer to item number if applicable)	

CRAWFORD POND DAM : D1824

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Inspector: Ryan Sullivan

Start Date: 09/28/2018 Completed Date: 09/28/2018

Embankment: Downstream Slope

Is this section applicable for this dam?

Yes No



Photo Taken: 9/27/2018 12:48:11 PM
GPS Orientation: 270 degrees



Photo Taken: 9/27/2018 12:48:54 PM
GPS Orientation: 270 degrees

1. *Grass Cover*

Investigate

Heavy vegetation prevented full inspection.

2. *Deleterious Vegetation*

Investigate

Brush and woody vegetation observed on downstream slope.

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Inspector: Ryan Sullivan

Start Date: 09/28/2018 Completed Date: 09/28/2018

Embankment: Downstream Slope	
<i>3. Trees</i>	Investigate
<p>Several trees greater than 4" in diameter present along the toe of the dam.</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 40%;">  </div> <div style="width: 55%;"> <p>Photo Taken: 9/27/2018 12:57:54 PM</p> </div> </div>	
<i>4. Animal Activity</i>	Monitor
<p>Heavy vegetation prevented full inspection.</p>	
<i>5. Surface Cracking</i>	Monitor
<p>Heavy vegetation prevented full inspection.</p>	
<i>6. Subsidence, Sinkhole</i>	Monitor
<p>Heavy vegetation prevented full inspection.</p>	
<i>7. Slide, Slough, Scarp</i>	Monitor
<p>Heavy vegetation prevented full inspection.</p>	
<i>8. Groins</i>	Monitor
<p>Heavy vegetation prevented full inspection.</p>	


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Start Date: 09/28/2018 Completed Date: 09/28/2018

Embankment: Downstream Slope	
<i>9. Erosion</i>	Action Required
<p>Large breach through center of the dam. Area at the spillway also eroded.</p> <p>Photo Taken: 9/27/2018 12:57:31 PM</p> 	
<i>10a. Slope Protection/Armoring Present?</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<i>10b. (If Present:) Slope Protection Condition</i>	
<i>11. Wet Areas</i>	Monitor
<p>Heavy vegetation prevented full inspection.</p>	
<i>12a. Seepage</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<i>12b. (If Present): Seepage Flow</i>	
<i>13a. Drainage System Present?</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<i>13b. (If Present:) Drainage System Condition</i>	
<i>14a. Alterations/Repairs Present?</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<i>14b. (If Present:) Alterations/Repairs Condition</i>	
<i>15. Other:</i>	Investigate
<p>Downstream slope was very steep throughout. Steeper than 1:1, approaching 1:2.</p>	
<i>16. Embankment: Downstream Slope Condition</i>	Needs Permitted Repair(s), Condition Prevented Full Inspection
<p>Violation Determined: 9/28/2018 DAMMAINTREP</p>	
<i>17. Additional Comments (Refer to item number if applicable)</i>	

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Inspector: Ryan Sullivan

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Concrete/Masonry Dams: Downstream Face	
<i>Is this section applicable for this dam?</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. Surface Conditions	
2. Condition of Joints	
3. Unusual Movement	
4. Drains	
5. Leakage	
6. Abutments	
7a. Alterations/Repairs Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No
7b. (If Present:) Alterations/Repairs Condition	
8. Other:	
9. Concrete/Masonry Dam: Downstream Face Condition	
10. Additional Comments (Refer to item number if applicable)	
Downstream Area	
<i>Is this section applicable for this dam?</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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Inspector: Ryan Sullivan

Start Date: 09/28/2018

Completed Date: 09/28/2018

Downstream Area

Is Downstream Area clear?

Yes No

Heavily vegetated with brush and trees greater than 4" in diameter.



Photo Taken: 9/27/2018 12:53:21 PM



Photo Taken: 9/27/2018 12:53:36 PM

1. Trees

Investigate

Trees greater than 4" in diameter observed in the downstream area.

2. Deleterious Vegetation

Investigate

Brush and woody vegetation observed in downstream area.

3. Wet Areas

Monitor

Heavy vegetation prevented full inspection.

4a. Seepage

Yes No NA

Heavy vegetation prevented full inspection.

4b. (If Present): Seepage Flow

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Start Date: 09/28/2018 Completed Date: 09/28/2018

Downstream Area	
5a. Boils	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
<div style="border: 1px solid black; padding: 2px;">Heavy vegetation prevented full inspection.</div>	
5b. (If Present): Boil Flow	
6a. Alterations/Repairs Present	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
6b. (If Present:) Alterations/Repairs Condition	
7. Other:	
8. Downstream Area Condition	Needs Maintenance, Condition Prevented Full Inspection
<div style="border: 1px solid black; padding: 2px;">Violation Determined: 9/28/2018 DAMMAINTREP</div>	
9. Additional Comments (Refer to item number if applicable)	
Spillways: Erodible Channel	
Is this section applicable for this dam?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. Location	
2. Grass Cover	
3. Deleterious Vegetation	
4. Trees	
5. Animal Activity	
6. Subsidence, Sinkhole	
7. Slide, Slough, Scarp	
8. Erosion	
9. Debris	
10. Flowing?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
11a. Alterations/Repairs Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
11b. (If Present:) Alterations/Repairs Condition	
12. Other:	
13. Spillway: Erodible Channel Condition	
14. Additional Comments (Refer to item number if applicable)	

CRAWFORD POND DAM : D1824

Dams Preliminary Inspection Form



Inspector: Ryan Sullivan

Start Date: 09/28/2018 Completed Date: 09/28/2018

Spillways: Non-Erodible Channel	
<i>Is this section applicable for this dam?</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<i>1. Location</i>	
<i>2. Approach Area</i>	
<i>3. Weir/Control</i>	
<i>4. Sidewalls</i>	
<i>5. Channel Floor</i>	
<i>6. Condition of Joints</i>	
<i>7. Surface Condition</i>	
<i>8. Unusual Movement</i>	
<i>9. Discharge Channel</i>	
<i>10. Debris</i>	
<i>11. Flowing?</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
<i>12a. Boils</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
<i>12b. (If Present): Boils</i>	
<i>13a. Alterations/Repairs Present</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
<i>13b. (If Present:) Alterations/Repairs Condition</i>	
<i>14. Other:</i>	
<i>15. Spillway: Non-Erodible Channel Condition</i>	
<i>16. Additional Comments (Refer to item number if applicable)</i>	

CRAWFORD POND DAM : D1824

Dams Preliminary Inspection Form



Inspector: Ryan Sullivan

Start Date: 09/28/2018

Completed Date: 09/28/2018

Spillways: Inlet Structure

Is this section applicable for this dam?

Yes No



Photo Taken: 9/27/2018 12:57:06 PM



Photo Taken: 9/27/2018 12:57:17 PM

1. Location

CRAWFORD POND DAM : D1824

Dams Preliminary Inspection Form



Inspector: Ryan Sullivan

Start Date: 09/28/2018 Completed Date: 09/28/2018

Spillways: Inlet Structure

2a. Intake Structure Action Required

Intake pipe bent and damaged.



Photo Taken: 9/27/2018 12:57:17 PM

2b. Intake Structure Types Other (Explain In Comments)

Metal Pipe at Left Abutment.

3. Trashrack Not Present

4a. Low-Level Valve Present? Yes No NA

4b. (If Present:) Low-Level Valve Condition

5. Debris No Deficiency

6a. Repairs/Alterations Present Yes No NA

6b. (If Present:) Alterations/Repairs Condition

7. Other:

8. Spillway: Inlet Structure Condition Needs Permitted Repair(s)

Violation Determined: 9/28/2018
DAMMAINTREP

9. Additional Comments (Refer to item number if applicable)

Spillways: Outlet Works

Is this section applicable for this dam? Yes No

1. Location


CRAWFORD POND DAM : D1824

Dams Preliminary Inspection Form



Inspector: Ryan Sullivan

Start Date: 09/28/2018 Completed Date: 09/28/2018

Spillways: Outlet Works	
<i>2a. Outlet Structure</i>	Action Required
<p>Section of dam above outlet has eroded and collapsed over it.</p> <div style="display: flex; justify-content: space-between;">  <p>Photo Taken: 9/27/2018 12:57:31 PM</p> </div>	
<i>2b. Outlet Structure Type</i>	Pipe
<i>3. Outlet Pipe</i>	Action Required
<i>4. Primary Closure/Control</i>	No Deficiency
<i>5. Secondary Closure/Control (If Applicable)</i>	
<i>6. Unusual Movement</i>	Action Required
<p>Covered by eroded and collapsed section of the dam.</p>	
<i>7a. Seepage</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
<i>7b. (If Present): Seepage</i>	
<i>8. Stilling Basin</i>	
<i>9. Normal Flow Quantity</i>	
<i>10. Low-Level Flow Quantity</i>	
<i>11a. Alterations/Repairs Present</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
<i>11b. (If Present:) Alterations/Repairs</i>	
<i>12. Other:</i>	
<i>13. Outlet Works Condition</i>	Needs Permitted Repair(s)
<p>Violation Determined: 9/28/2018 DAMMAINTREP</p>	

CRAWFORD POND DAM : D1824

Dams Preliminary Inspection Form



Inspector: Ryan Sullivan

Start Date: 09/28/2018 Completed Date: 09/28/2018

Spillways: Outlet Works

14. Additional Comments (Refer to item number if applicable)

Emergency Action Plan

Is this section applicable for this dam? Yes No

1. Date of last update of emergency plan:

2a. EAP provided by owner? Yes No NA

2b. (If EAP was not provided, was a copy of the EAP form left with the owner?) Yes No NA

3. Does EAP contain emergency alert plan? Yes No NA

4. Does EAP contain specific actions to take if the dam has failed or is failing? Yes No NA

5. Additional Comments (Refer to item number if applicable)

Downstream Hazard Check

1. Satellite Imagery Yes No NA



Photo Taken: 9/28/2018 9:52:35 AM

2. Inundation Map Yes No NA

3. Structures/Developments Yes No NA

4. Roads/Railways Yes No NA

CRAWFORD POND DAM : D1824

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Start Date: 09/28/2018 Completed Date: 09/28/2018

Downstream Hazard Check

5. *Utilities*

Yes No NA

Power line runs along the crest of the dam.



Photo Taken: 9/27/2018 12:48:11 PM

6. *Consider For Reclas?*

Yes No NA

7. *Additional Comments (Refer to item number if applicable)*

Inspection Summary

1. *Overall Condition (*Per National Inventory of Dams Definition)*

Not Rated

CRAWFORD POND DAM : D1824

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Inspection Summary

-----NID Definitions-----

(SATISFACTORY) No existing or potential dam safety deficiencies are recognized.

Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations for dams or tolerable risk guidelines.

(FAIR) No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.

(POOR) A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.

(UNSATISFACTORY) A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.

(NOT RATED) This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.

3. Final Comments

Fully Breached.

CRAWFORD POND DAM : D1824

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Start Date: 09/28/2018 Completed Date: 09/28/2018

Inspection Summary

Preliminary Dam Inspection Disclaimer:

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.

CRAWFORD POND DAM (D1824)
Violation List



Form	Determined	Description	Sec. #
Dams Preliminary Inspection Form	9/28/2018	Reference: DAMMAINTREP	
Dams Preliminary Inspection Form	9/28/2018	Reference: DAMMAINTREP Large breach and large slide.	
Dams Preliminary Inspection Form	9/28/2018	Reference: DAMMAINTREP	
Dams Preliminary Inspection Form	9/28/2018	Reference: DAMMAINTREP	
Dams Preliminary Inspection Form	9/28/2018	Reference: DAMMAINTREP	
Dams Preliminary Inspection Form	9/28/2018	Reference: DAMMAINTREP	