


DAVIDS MILLPOND DAM : D3450

Dams Preliminary Inspection Form

Inspector: Hannah Vinson

Start Date: 09/27/2018 Completed Date: 10/01/2018



Inspection Information		
1. Date of Inspection	09/26/2018	
2. Inspectors Present	Hannah Vinson	
3. Other Persons Attending Inspection		
Name	Phone	Owner/Engineer/Other
Kelly Johnson		DHEC
Marvin Cooper	803-370-1135	Owner
4. Is this a follow-up inspection?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA	
Observation/Instrumentation		
1. Estimate the current level of the water in the reservoir:	Drained	
	Photo Taken: 9/26/2018 1:11:56 PM GPS Latitude: 34.6443861111111 GPS Longitude: -79.7495277777778 GPS Altitude: 41.292576419214 meters GPS Azimuth: 15.80303989867 degrees	
2. Describe the current weather & conditions:	Sunny and 90 degrees	
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	2	

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Observation/Instrumentation

7b. Type of Spillways Present

Stop-Log/Boards,
Concrete Chute

Primary spillway washed away during overtopping event. This was an old roadway bridge.



Photo Taken: 9/26/2018 1:01:52 PM
 GPS Latitude: 34.644
 GPS Longitude: -79.7481833333333
 GPS Altitude: 48.8732943469786 meters
 GPS Azimuth: 2.11309811503142 degrees

8. Other:

Action Required

Violation Determined: 9/27/2018

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

Embankment: Crest

Is this section applicable for this dam?

Yes No

1. Grass Cover

No Deficiency



Photo Taken: 9/26/2018 1:07:45 PM
 GPS Latitude: 34.6443638888889
 GPS Longitude: -79.7504888888889
 GPS Altitude: 39.2533936651584 meters
 GPS Azimuth: 66.0960960960961 degrees

2. Deleterious Vegetation

No Deficiency

3. Trees

No Deficiency

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Embankment: Crest	
4. <i>Animal Activity</i>	No Deficiency
5. <i>Surface Cracking</i>	No Deficiency
6. <i>Horizontal Alignment</i>	No Deficiency
7. <i>Settlement</i>	No Deficiency
8. <i>Sinkhole</i>	No Deficiency
9. <i>Erosion</i>	No Deficiency
10a. <i>Are Alterations/Repairs Present?</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
10b. <i>(If Present:.) Alterations/Repairs Condition</i>	
11. <i>Other:</i>	Action Required
<div style="border: 1px solid black; padding: 2px;"> Section in center of dam where primary spillway was, is breached. </div>	
12. <i>Embankment: Crest Condition</i>	Needs Permitted Repair(s)
<div style="border: 1px solid black; padding: 2px;"> Violation Determined: 9/27/2018 DAMMAINTREP </div>	
13. <i>Additional Comments (Refer to item number if applicable)</i>	
Concrete/Masonry Dams: Crest	
<i>Is this section applicable for this dam?</i>	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
1. <i>Surface Conditions</i>	
2. <i>Horizontal Alignment</i>	
3. <i>Vertical Alignment</i>	
4. <i>Condition of Joints</i>	
5. <i>Unusual Movement</i>	
6a. <i>Are Alterations/Repairs Present?</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No
6b. <i>(If Present:.) Alterations/Repairs Condition</i>	
7. <i>Other:</i>	
8. <i>Concrete/Masonry Dam Crest Condition</i>	
9. <i>Additional Comments (Refer to item number if applicable)</i>	
Embankment: Upstream Slope	
<i>Is this section applicable for this dam?</i>	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

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Embankment: Upstream Slope

1. Grass Cover

Monitor



Photo Taken: 9/26/2018 1:10:34 PM
GPS Latitude: 34.6444027777778
GPS Longitude: -79.7500694444444
GPS Altitude: 38.6264367816092 meters
GPS Azimuth: 79.20367278798 degrees

2. Deleterious Vegetation

Monitor

3. Trees

Monitor



Photo Taken: 9/26/2018 1:50:29 PM
GPS Latitude: 34.6443555555556
GPS Longitude: -79.7463527777778
GPS Altitude: 41.2517428350116 meters
GPS Azimuth: 77.2723112128146 degrees

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Embankment: Upstream Slope

4. Animal Activity

Action Required

Evidence of beaver activity



Photo Taken: 9/26/2018 1:08:19 PM
 GPS Latitude: 34.64438611111111
 GPS Longitude: -79.75033611111111
 GPS Altitude: 41.6364175563464 meters
 GPS Azimuth: 78.1836228287841 degrees



Photo Taken: 9/26/2018 1:08:27 PM
 GPS Latitude: 34.64440555555556
 GPS Longitude: -79.75030555555556
 GPS Altitude: 39.535953978907 meters
 GPS Azimuth: 33.991789819376 degrees

5. Surface Cracking

No Deficiency

6. Subsidence, Sinkhole

Monitor

Animal burrows were probably enlarged during overtopping event. These should be filled and compacted.

7. Slide, Slough, Scarp

No Deficiency

8. Groins

No Deficiency

9. Erosion

Monitor

10a. Slope Protection/Armoring Present?

Yes No

10b. (If Present:) Slope Protection/Armoring

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Embankment: Upstream Slope	
11a. Alterations/Repairs Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
11b. (If Present:) Alterations/Repairs Condition	
12. Other:	Action Required
Repair all holes caused by burrowing animals and overtopping	
13. Embankment: Upstream Slope Condition	Needs Maintenance, Condition Prevented Full Inspection
Violation Determined: 9/27/2018 DAMMAINTREP	
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)	
Embankment: Downstream Slope	
Is this section applicable for this dam?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. Grass Cover	Action Required



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Embankment: Downstream Slope	
<i>2. Deleterious Vegetation</i>	Action Required
Bamboo on right side.	
	Photo Taken: 9/26/2018 1:07:50 PM GPS Latitude: 34.6443722222222 GPS Longitude: -79.7504666666667 GPS Altitude: 40.5715372907154 meters GPS Azimuth: 97.6252723311547 degrees
<i>3. Trees</i>	Action Required
	Photo Taken: 9/26/2018 1:22:27 PM GPS Latitude: 34.6443722222222 GPS Longitude: -79.7486416666667 GPS Altitude: 39.2135964912281 meters GPS Azimuth: 254.000061035156 degrees
<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>	No Deficiency
<i>8. Groins</i>	No Deficiency, Action Required
<i>9. Erosion</i>	No Deficiency

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Embankment: Downstream Slope	
10a. Slope Protection/Armoring Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
10b. (If Present:) Slope Protection Condition	
11. Wet Areas	No Deficiency
12a. Seepage	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
12b. (If Present): Seepage Flow	
13a. Drainage System Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
13b. (If Present:) Drainage System Condition	
14a. Alterations/Repairs Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
14b. (If Present:) Alterations/Repairs Condition	
15. Other:	Action Required
16. Embankment: Downstream Slope Condition	Needs Permitted Repair(s), Condition Prevented Full Inspection
<div style="border: 1px solid black; padding: 5px;"> Violation Determined: 9/27/2018 DAMMAINTREP </div>	
17. Additional Comments (Refer to item number if applicable)	
Concrete/Masonry Dams: Downstream 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. 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	

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Concrete/Masonry Dams: Downstream Face

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

Downstream Area

Is this section applicable for this dam?

Yes No

Is Downstream Area clear?

Yes No

Paved road and associated ditch is located in downstream area.



Photo Taken: 9/26/2018 1:00:48 PM
 GPS Latitude: 34.64415
 GPS Longitude: -79.7481472222222
 GPS Altitude: 50.7057522123894 meters
 GPS Azimuth: 262.738461538462 degrees

1. Trees	Action Required
2. Deleterious Vegetation	Action Required
3. Wet Areas	No Deficiency
4a. Seepage	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
4b. (If Present): Seepage Flow	
5a. Boils	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
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:	No Deficiency
8. Downstream Area Condition	Needs Permitted Repair(s), Condition Prevented Full Inspection

Violation Determined: 9/27/2018
DAMMAINTREP

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Downstream Area

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

Spillways: Erodible Channel

Is this section applicable for this dam? Yes 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? Yes No NA

11a. Alterations/Repairs Present Yes No NA

11b. (If Present:) Alterations/Repairs Condition

12. Other:

13. Spillway: Erodible Channel Condition

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

Spillways: Non-Erodible Channel

Is this section applicable for this dam? Yes No

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Spillways: Non-Erodible Channel

Auxiliary spillway is a concrete chute with stop boards at approach to help control water level. Owner had removed most boards prior to the arrival of Hurricane Florence.



Photo Taken: 9/26/2018 12:54:05 PM
GPS Latitude: 34.64438333333333
GPS Longitude: -79.744675
GPS Altitude: 48.1198738170347 meters
GPS Azimuth: 63.0408017179671 degrees



Photo Taken: 9/26/2018 12:54:19 PM
GPS Latitude: 34.6443638888889
GPS Longitude: -79.744775
GPS Altitude: 42.7921146953405 meters
GPS Azimuth: 170.486935866983 degrees



Photo Taken: 9/26/2018 12:54:55 PM
GPS Latitude: 34.6443027777778
GPS Longitude: -79.74473611111111
GPS Altitude: 40.9489194499018 meters
GPS Azimuth: 168.917098445596 degrees


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Spillways: Non-Erodible Channel	
1. Location	
2. Approach Area	No Deficiency
3. Weir/Control	No Deficiency
4. Sidewalls	Monitor
<p>Crack observed in wall on upstream side</p> <div style="display: flex; align-items: flex-start;">  <div> <p>Photo Taken: 9/26/2018 12:54:35 PM GPS Latitude: 34.6443777777778 GPS Longitude: -79.7447666666667 GPS Altitude: 40.2417640807651 meters GPS Azimuth: 62.2094861660079 degrees GPS Orientation: 90 degrees</p> </div> </div>	
5. Channel Floor	No Deficiency
6. Condition of Joints	No Deficiency
7. Surface Condition	No Deficiency
8. Unusual Movement	No Deficiency
9. Discharge Channel	No Deficiency
10. Debris	No Deficiency
11. Flowing?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
12a. Boils	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
12b. (If Present): Boils	
13a. Alterations/Repairs Present	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
13b. (If Present:) Alterations/Repairs Condition	
14. Other:	No Deficiency
15. Spillway: Non-Erodible Channel Condition	No Deficiencies Observed, Regular Monitoring Necessary

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Spillways: Non-Erodible Channel

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

Spillways: Inlet Structure

Is this section applicable for this dam?

Yes No

Prior to Hurricane Florence, the spillway was an old bridge. This bridge structure was washed away and has left an erodible channel as the primary spillway.



Photo Taken: 9/26/2018 1:14:13 PM
 GPS Latitude: 34.6443833055556
 GPS Longitude: -79.7482749722222
 GPS Altitude: 36.6617781851512 meters
 GPS Azimuth: 85.3715277777778 degrees



Photo Taken: 9/26/2018 1:40:00 PM
 GPS Latitude: 34.6444083055556
 GPS Longitude: -79.7477638888889
 GPS Altitude: 35.0582627118644 meters
 GPS Azimuth: 275.312925170068 degrees

1. Location

2a. Intake Structure

Action Required

2b. Intake Structure Types

Prior to Hurricane Florence, the spillway was an old bridge. This bridge structure was washed away and has left an erodible channel as the primary spillway.

3. Trashrack

Action Required

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Spillways: Inlet Structure	
4a. Low-Level Valve Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
4b. (If Present:) Low-Level Valve Condition	
5. Debris	No Deficiency
6a. Repairs/Alterations Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
<div style="border: 1px solid black; padding: 5px;"> Prior to Hurricane Florence, the spillway was an old bridge. This bridge structure was washed away and has left an erodible channel as the primary spillway. </div>	
6b. (If Present:) Alterations/Repairs Condition	
7. Other:	Action Required
8. Spillway: Inlet Structure Condition	Needs Permitted Repair(s), Condition Prevented Full Inspection
<div style="border: 1px solid black; padding: 5px;"> Violation Determined: 10/1/2018 DAMMAINTREP </div>	
9. Additional Comments (Refer to item number if applicable)	
Spillways: Outlet Works	
Is this section applicable for this dam?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. Location	
2a. Outlet Structure	
2b. Outlet Structure Type	
3. Outlet Pipe	
4. Primary Closure/Control	
5. Secondary Closure/Control (If Applicable)	
6. Unusual Movement	
7a. Seepage	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
7b. (If Present): Seepage	
8. Stilling Basin	
9. Normal Flow Quantity	
10. Low-Level Flow Quantity	
11a. Alterations/Repairs Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA

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Spillways: Outlet Works

11b. (If Present:) Alterations/Repairs

12. Other:

13. Outlet Works Condition

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: 10/1/2018 2:32:33 PM

2. Inundation Map Yes No NA

SIMS method

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Downstream Hazard Check

Photo Taken: 10/1/2018 2:38:33 PM



Photo Taken: 10/1/2018 2:39:01 PM



Photo Taken: 10/1/2018 2:39:27 PM



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Downstream Hazard Check

Photo Taken: 10/1/2018 2:39:54 PM



3. Structures/Developments	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> NA
4. Roads/Railways	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
5. Utilities	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> NA
6. Consider For Reclass?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> NA
7. Additional Comments (Refer to item number if applicable)			

Inspection Summary

1. Overall Condition (*Per National Inventory of Dams Definition)	Not Rated
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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

Dam breach occurred at the location of the primary spillway.

Engage an engineer to develop a repair plan or a plan to decommission the dam if repairs are not going to be conducted.

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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.

DAVIDS MILLPOND DAM (D3450)
Violation List



Form	Determined	Description	Sec. #
Dams Preliminary Inspection Form	9/27/2018	Other: Action Required	
Dams Preliminary Inspection Form	9/27/2018	Reference: DAMMAINTREP	
Dams Preliminary Inspection Form	9/27/2018	Reference: DAMMAINTREP	
Dams Preliminary Inspection Form	9/27/2018	Reference: DAMMAINTREP	
Dams Preliminary Inspection Form	9/27/2018	Reference: DAMMAINTREP	
Dams Preliminary Inspection Form	10/1/2018	Reference: DAMMAINTREP	