

# COVINGTON MILLPOND DAM : D3453

Dams Preliminary Inspection Form



Inspector: Charles Owens

Start Date: 09/28/2018      Completed Date: 10/01/2018

Inspection Information		
1. Date of Inspection	09/27/2018	
2. Inspectors Present	Chuck Owens	
3. Other Persons Attending Inspection		
<b>Name</b>	<b>Phone</b>	<b>Owner/Engineer/Other</b>
Dr. John Nobles	843-454-7177	Owner
Phillip Nobles		Owner's son
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:	Breached	
Dam was breached approximately 150 to the right of the primary spillways. Note: All Directions given are looking downstream.		
2. Describe the current weather & conditions:	Partly Cloudy, High of 87 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	4	
7b. Type of Spillways Present	Stop-Log/Boards, Drop-Inlet, Earthen Overflow/Runaround	
8. Other:		
	Monitor	
9. Additional Comments (Refer to item number if applicable)		
Dam was breached approximately 150 to the right of the primary spillways.		
Note: All Directions given are looking downstream.		
Embankment: Crest		
Is this section applicable for this dam?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	


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<b>Embankment: Crest</b>	
1. Grass Cover	Monitor
2. Deleterious Vegetation	No Deficiency
3. Trees	No Deficiency
4. Animal Activity	No Deficiency, Monitor
5. Surface Cracking	
6. Horizontal Alignment	
7. Settlement	
8. Sinkhole	
9. Erosion	Action Required
<p>Several eroded areas were noted on the crest due to overtopping of the dam.</p> <div style="display: flex; align-items: flex-start;">  <div style="margin-left: 20px;"> <p>Photo Taken: 9/27/2018 11:37:34 AM                      GPS Latitude: 34.6073138888889                      GPS Longitude: -79.6308972222222                      GPS Altitude: 43.4995765647856 meters                      GPS Azimuth: 40.2032165565391 degrees</p> </div> </div>	
10a. Are Alterations/Repairs Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No
10b. (If Present:) Alterations/Repairs Condition	
11. Other:	
12. Embankment: Crest Condition	Needs Maintenance, Needs Permitted Repair(s)
<p><b>Violation Determined: 9/28/2018</b>  <b>DAMMAINTREP</b></p>	

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## Embankment: Crest

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

Dam was breached approximately 150 to the right of the primary spillways.



Photo Taken: 9/27/2018 11:46:57 AM  
GPS Latitude: 34.607825  
GPS Longitude: -79.6318138888889  
GPS Altitude: 42.0304298212248 meters  
GPS Azimuth: 41.9827270348076 degrees

## Concrete/Masonry Dams: Crest

Is this section applicable for this dam?

Yes  No

1. Surface Conditions

2. Horizontal Alignment

3. Vertical Alignment

4. Condition of Joints

5. Unusual Movement

6a. Are Alterations/Repairs Present?

Yes  No

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

7. Other:

8. Concrete/Masonry Dam Crest Condition

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

# COVINGTON MILLPOND DAM : D3453

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Start Date: 09/28/2018      Completed Date: 10/01/2018



## Embankment: Upstream Slope

*Is this section applicable for this dam?*

Yes  No



Photo Taken: 9/27/2018 11:41:07 AM  
 GPS Latitude: 34.6075527777778  
 GPS Longitude: -79.6303555555556  
 GPS Altitude: 42.3435096714053 meters  
 GPS Azimuth: 287.074905354246 degrees

1. Grass Cover	Monitor
2. Deleterious Vegetation	Monitor
3. Trees	No Deficiency
4. Animal Activity	No Deficiency, Monitor
5. Surface Cracking	
6. Subsidence, Sinkhole	
7. Slide, Slough, Scarp	
8. Groins	
9. Erosion	Action Required
Dam was breached approximately 150 to the right of the primary spillways. Note: All Directions given are looking downstream.	
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:	

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<b>Embankment: Upstream Slope</b>	
13. <i>Embankment: Upstream Slope Condition</i>	Needs Maintenance
<div style="border: 1px solid black; padding: 5px;"> <b>Violation Determined: 9/28/2018</b>  <b>DAMMAINTREP</b> </div>	
14. <i>Additional Comments (Refer to item number if applicable)</i>	
<b>Concrete/Masonry Dams: Upstream Face</b>	
<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>Condition of Joints</i>	
3. <i>Unusual Movement</i>	
4. <i>Abutments</i>	
5a. <i>Alterations/Repairs Present?</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No
5b. <i>(If Present:) Alterations/Repairs Condition</i>	
6. <i>Other:</i>	
7. <i>Concrete/Masonry Dams: Upstream Face Condition</i>	
8. <i>Additional Comments (Refer to item number if applicable)</i>	
<b>Embankment: Downstream Slope</b>	
<i>Is this section applicable for this dam?</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <i>Grass Cover</i>	Monitor
2. <i>Deleterious Vegetation</i>	Monitor

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## Embankment: Downstream Slope

3. *Trees*

No Deficiency

Trees were removed in 2017. The removed trees are located and placed along the right groin of the dam



Photo Taken: 9/27/2018 11:38:56 AM  
GPS Latitude: 34.6074916666667  
GPS Longitude: -79.6310416666667  
GPS Altitude: 43.2337989466453 meters  
GPS Azimuth: 346.372039724981 degrees

4. *Animal Activity*

No Deficiency

5. *Surface Cracking*

6. *Subsidence, Sinkhole*

7. *Slide, Slough, Scarp*

Action Required

8. *Groins*

No Deficiency

9. *Erosion*

Action Required

Overtopping and breach of the dam caused substantial erosion to the downstream slope and toe of the dam.



Photo Taken: 9/27/2018 11:37:18 AM  
GPS Latitude: 34.6072666666667  
GPS Longitude: -79.6309583333333  
GPS Altitude: 43.7910805148159 meters  
GPS Azimuth: 32.4665832290363 degrees

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Start Date: 09/28/2018      Completed Date: 10/01/2018

## Embankment: Downstream Slope



Photo Taken: 9/27/2018 11:45:48 AM  
GPS Latitude: 34.6073694444444  
GPS Longitude: -79.6312555555556  
GPS Altitude: 40.9411048917011 meters  
GPS Azimuth: 12.6222839405326 degrees



Photo Taken: 9/27/2018 11:46:32 AM  
GPS Latitude: 34.6076555555556  
GPS Longitude: -79.6316611111111  
GPS Altitude: 42.0926857034437 meters  
GPS Azimuth: 356.944885361552 degrees



Photo Taken: 9/27/2018 11:48:34 AM  
GPS Latitude: 34.6080888888889  
GPS Longitude: -79.6320027777778  
GPS Altitude: 43.6280555555556 meters  
GPS Azimuth: 11.1315002411963 degrees

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**Embankment: Downstream Slope**



Photo Taken: 9/27/2018 12:02:10 PM  
 GPS Latitude: 34.60805  
 GPS Longitude: -79.6318805555556  
 GPS Altitude: 36.9383278145695 meters  
 GPS Azimuth: 109.034256055363 degrees

10a. Slope Protection/Armoring Present?  Yes  No

10b. (If Present:) Slope Protection Condition

11. Wet Areas Action Required

Standing water observed along the toe of the dam from the breach location to the bridge crossing

12a. Seepage  Yes  No

12b. (If Present): Seepage Flow

13a. Drainage System Present?  Yes  No

13b. (If Present:) Drainage System Condition

14a. Alterations/Repairs Present?  Yes  No

14b. (If Present:) Alterations/Repairs Condition

15. Other:

16. Embankment: Downstream Slope Condition Needs Permitted Repair(s)

**Violation Determined: 9/28/2018  
 DAMMAINTREP**

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

**Concrete/Masonry Dams: Downstream Face**

Is this section applicable for this dam?  Yes  No

1. Surface Conditions



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<b>Concrete/Masonry Dams: Downstream Face</b>	
<i>2. Condition of Joints</i>	
<i>3. Unusual Movement</i>	
<i>4. Drains</i>	
<i>5. Leakage</i>	
<i>6. Abutments</i>	
<i>7a. Alterations/Repairs Present?</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<i>7b. (If Present:) Alterations/Repairs Condition</i>	
<i>8. Other:</i>	
<i>9. Concrete/Masonry Dam: Downstream Face Condition</i>	
<i>10. Additional Comments (Refer to item number if applicable)</i>	
<b>Downstream Area</b>	
<i>Is this section applicable for this dam?</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<i>Is Downstream Area clear?</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Covington Millpond Road is immediately below the dam	
<i>1. Trees</i>	No Deficiency
<i>2. Deleterious Vegetation</i>	No Deficiency
<i>3. Wet Areas</i>	No Deficiency
<i>4a. Seepage</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
<i>4b. (If Present): Seepage Flow</i>	
<i>5a. Boils</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
<i>5b. (If Present): Boil Flow</i>	

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## Downstream Area

6a. Alterations/Repairs Present

Yes    No    NA

Road shoulder was repaired the week following Hurricane Florence by the local DOT. Road is open and the area beyond the road and bridge is primarily swampland.



Photo Taken: 9/27/2018 12:49:46 PM  
GPS Latitude: 34.6077027777778  
GPS Longitude: -79.6318138888889  
GPS Altitude: 45.2015723957196 meters  
GPS Azimuth: 297.919143876338 degrees

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

7. Other:

8. Downstream Area Condition

Regular Monitoring  
Necessary

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

## Spillways: Erodible Channel

Is this section applicable for this dam?

Yes    No

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## Spillways: Erodible Channel

### 1. Location

Approximately 50' wide along the left, or eastern side of the dam



Photo Taken: 9/27/2018 11:38:01 AM  
 GPS Latitude: 34.6072611111111  
 GPS Longitude: -79.6306833333333  
 GPS Altitude: 44.8196754563895 meters  
 GPS Azimuth: 125.19212721585 degrees

2. Grass Cover	Monitor
3. Deleterious Vegetation	No Deficiency
4. Trees	No Deficiency
5. Animal Activity	No Deficiency
6. Subsidence, Sinkhole	No Deficiency
7. Slide, Slough, Scarp	No Deficiency
8. Erosion	Monitor
Emergency spillway was fully engaged. Erosion was observed along the downstream side of the crest.	
9. Debris	Monitor
10. Flowing?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
11a. Alterations/Repairs Present	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
11b. (If Present:) Alterations/Repairs Condition	
12. Other:	
13. Spillway: Erodible Channel Condition	Needs Maintenance
<b>Violation Determined: 9/28/2018 DAMMAINTREP</b>	

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

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Inspector: Charles Owens

Start Date: 09/28/2018 Completed Date: 10/01/2018

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

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## Spillways: Inlet Structure

*2b. Intake Structure Types*

Drop Inlet, Other  
(Explain In Comments)

There are two 96" diameter aluminum risers with 60 inch culverts through the dam. One half round 96" riser with control boards is also present. At the time of the inspection, all boards were removed and flow was present only through the half round structure.



Photo Taken: 9/27/2018 11:38:44 AM  
 GPS Latitude: 34.6074916666667  
 GPS Longitude: -79.6310583333333  
 GPS Altitude: 42.2941627423064 meters  
 GPS Azimuth: 19.3800048828125 degrees



Photo Taken: 9/27/2018 11:38:56 AM  
 GPS Latitude: 34.6074916666667  
 GPS Longitude: -79.6310416666667  
 GPS Altitude: 43.2337989466453 meters  
 GPS Azimuth: 346.372039724981 degrees

*3. Trashrack*

No Deficiency

*4a. Low-Level Valve Present?*

Yes  No  NA

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

*5. Debris*

Monitor

*6a. Repairs/Alterations Present*

Yes  No  NA

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

# COVINGTON MILLPOND DAM : D3453

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Inspector: Charles Owens

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## Spillways: Inlet Structure

7. Other:

8. Spillway: Inlet Structure Condition

No Deficiencies  
Observed

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

Refer to item 2

## Spillways: Outlet Works

Is this section applicable for this dam?

Yes  No

1. Location

2a. Outlet Structure

No Deficiency

2b. Outlet Structure Type

Pipe



Photo Taken: 9/27/2018 11:36:05 AM  
GPS Latitude: 34.6073583333333  
GPS Longitude: -79.6312638888889  
GPS Altitude: 35.6602821276045 meters  
GPS Azimuth: 11.4051208423068 degrees

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## Spillways: Outlet Works

3. Outlet Pipe

Monitor

The majority of the outlet pipes were submerged in the plunge pool at the bridge crossing



Photo Taken: 9/27/2018 11:36:26 AM  
GPS Latitude: 34.60731111111111  
GPS Longitude: -79.63113333333333  
GPS Altitude: 38.858646373057 meters  
GPS Azimuth: 319.644455021418 degrees

4. Primary Closure/Control

5. Secondary Closure/Control (If Applicable)

6. Unusual Movement

7a. Seepage

Yes  No  NA

7b. (If Present): Seepage

8. Stilling Basin

Action Required

Eroded areas were observed along the side slopes of the plunge pool

9. Normal Flow Quantity

10. Low-Level Flow Quantity

11a. Alterations/Repairs Present

Yes  No  NA

11b. (If Present:) Alterations/Repairs

12. Other:

13. Outlet Works Condition

Needs Maintenance

**Violation Determined: 9/28/2018  
DAMMAINTREP**

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

Refer to Item 3 and Item 8

# COVINGTON MILLPOND DAM : D3453

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## 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 11:41:22 AM

2. Inundation Map  Yes  No  NA

3. Structures/Developments  Yes  No  NA

4. Roads/Railways  Yes  No  NA

Covington Millpond Road is immediately below the dam and Hwy 9 is approximately 3/4 mile downstream

5. Utilities  Yes  No  NA

AT&T residential phone line



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## Downstream Hazard Check

6. Consider For Reclass?

Yes    No    NA

Recommend, at a minimum, to be a Significant Hazard, Class 2 dam due to the potential impacts of Covington Millpond Rd. Inundation Mapping needs to be created to determine if Hwy 9, would also be impacted in the event of a dam breach.

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

## Inspection Summary

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

Not Rated

-----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.*

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## Inspection Summary

### *3. Final Comments*

Dam breach occurred approximately 150 feet to the right of the primary spillways. Significant erosion was observed along the downstream slope and toe of the dam. Engage an engineer to develop a repair plan or a plan to decommission the dam if repairs are not going to be conducted.

### *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.*

COVINGTON MILLPOND DAM (D3453)  
Violation List



Form	Determined	Description	Sec. #
Dams Preliminary Inspection Form	9/28/2018	<b>Reference: DAMMAINTREP</b>	
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