Dams Preliminary Inspection Form

Inspector: Hannah Vinson



art Date. 07/27/2010	completed bate: 10/01/20	10
nspection Inform	ation	
1. Date of Inspection		09/26/2018
2. Inspectors Present		Hannah Vinson
3. Other Persons Atten	ding Inspection	
Name	Phone	Owner/Engineer/Other
Kelly Johnson		DHEC
Marvin Cooper	803-370-1135	Owner
4. Is this a follow-up in	nspection?	Te: Ve: V No NA

#### Observation/Instrumentation

1. Estimate the current level of the water in the reservoir:



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

Drained

2. Describe the current weather & conditions:	Sunny and 90 degrees
3. Recent rainfall quantity:	None
4a. Are Piezometers or Observation Wells present?	☐ Ye: 🔽 No
4b. (If Present:) Condition of Piezometers/Observation Wells	
5a. Is a Staff Gauge or Recorder present?	Ye: Vo
5b. (If Present:) Condition of Staff Gauge or Recorder	
6a. Are Measurement Weirs Present?	Ye: Vo
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?







1. Grass Cover

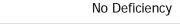


Photo Taken: 9/26/2018 1:07:45 PM GPS Latitude: 34.6443638888889 GPS Longitude: -79.7504888888889

GPS Altitude: 39.2533936651584 meters GPS Azimuth: 66.0960960961 degrees



2. Deleterious Vegetation

No Deficiency

3. Trees

No Deficiency

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Embankment: Crest	
4. Animal Activity	No Deficiency
5. Surface Cracking	No Deficiency
6. Horizontal Alignment	No Deficiency
7. Settlement	No Deficiency
8. Sinkhole	No Deficiency
9. Erosion	No Deficiency
10a. Are Alterations/Repairs Present?	☐ Ye: 🔽 No
10b. (If Present:) Alterations/Repairs Condition	
11. Other:	Action Required
Section in center of dam where primary spillway was, is breached.	
12. Embankment: Crest Condition	Needs Permitted Repair(s)
Violation Determined: 9/27/2018 DAMMAINTREP	
13. Additional Comments (Refer to item number if applicable)	
13. Additional Comments (Refer to item number if applicable)  Concrete/Masonry Dams: Crest	
, ,, ,	☐ Ye: ▼ No
Concrete/Masonry Dams: Crest	☐ Ye: ✓ No
Concrete/Masonry Dams: Crest  Is this section applicable for this dam?	☐ Ye: ☑ No
Concrete/Masonry Dams: Crest  Is this section applicable for this dam?  1. Surface Conditions	☐ Ye: ✓ No
Concrete/Masonry Dams: Crest  Is this section applicable for this dam?  1. Surface Conditions  2. Horizontal Alignment	TYe: ▼ No
Concrete/Masonry Dams: Crest Is this section applicable for this dam?  1. Surface Conditions 2. Horizontal Alignment 3. Vertical Alignment	TYe: ▼ No
Concrete/Masonry Dams: Crest  Is this section applicable for this dam?  1. Surface Conditions  2. Horizontal Alignment  3. Vertical Alignment  4. Condition of Joints	Ye: No  Ye: No
Concrete/Masonry Dams: Crest  Is this section applicable for this dam?  1. Surface Conditions  2. Horizontal Alignment  3. Vertical Alignment  4. Condition of Joints  5. Unusual Movement	
Concrete/Masonry Dams: Crest  Is this section applicable for this dam?  1. Surface Conditions  2. Horizontal Alignment  3. Vertical Alignment  4. Condition of Joints  5. Unusual Movement  6a. Are Alterations/Repairs Present?	
Concrete/Masonry Dams: Crest  Is this section applicable for this dam?  1. Surface Conditions  2. Horizontal Alignment  3. Vertical Alignment  4. Condition of Joints  5. Unusual Movement  6a. Are Alterations/Repairs Present?  6b. (If Present:) Alterations/Repairs Condition	
Concrete/Masonry Dams: Crest  Is this section applicable for this dam?  1. Surface Conditions  2. Horizontal Alignment  3. Vertical Alignment  4. Condition of Joints  5. Unusual Movement  6a. Are Alterations/Repairs Present?  6b. (If Present:) Alterations/Repairs Condition  7. Other:	
Concrete/Masonry Dams: Crest  Is this section applicable for this dam?  1. Surface Conditions  2. Horizontal Alignment  3. Vertical Alignment  4. Condition of Joints  5. Unusual Movement  6a. Are Alterations/Repairs Present?  6b. (If Present:) Alterations/Repairs Condition  7. Other:  8. Concrete/Masonry Dam Crest Condition	

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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

#### 3. Trees



#### Monitor

#### 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

Dams Preliminary Inspection Form

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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: 34.6443861111111
GPS Longitude: -79.7503361111111
GPS Altitude: 41.6364175563464 meters
GPS Azimuth: 78.1836228287841 degrees



Photo Taken: 9/26/2018 1:08:27 PM
GPS Latitude: 34.6444055555556
GPS Longitude: -79.7503055555556
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. compacted.	These should be filled and
7. Slide, Slough, Scarp	No Deficiency
8. Groins	No Deficiency
9. Erosion	Monitor
10a. Slope Protection/Armoring Present?	☐ Ye: 🔽 No
10b. (If Present:) Slope Protection/Armoring	

Dams Preliminary Inspection Form



Ε	mbankment: Upstream Slope	
	11a. Alterations/Repairs Present?	☐ Ye: 🔽 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)	
C	concrete/Masonry Dams: Upstream Face	
	Is this section applicable for this dam?	Ye: Vo
	1. Surface Conditions	
	2. Condition of Joints	
	3. Unusual Movement	
	4. Abutments	
	5a. Alterations/Repairs Present?	Ye: 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)	
Ε	mbankment: Downstream Slope	
	Is this section applicable for this dam?	✓ Ye: No
	1. Grass Cover	Action Required

Dams Preliminary Inspection Form

Inspector: Hannah Vinson



# **Embankment: Downstream Slope**

#### 2. Deleterious Vegetation

#### Bamboo on right side.



#### **Action Required**

Photo Taken: 9/26/2018 1:07:50 PM
GPS Latitude: 34.644372222222
GPS Longitude: -79.750466666667
GPS Altitude: 40.5715372907154 meters
GPS Azimuth: 97.6252723311547 degrees

# 3. Trees 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

4. Animal Activity	No Deficiency
5. Surface Cracking	No Deficiency
6. Subsidence, Sinkhole	No Deficiency
7. Slide, Slough, Scarp	No Deficiency
8. Groins	No Deficiency, Action Required
9. Erosion	No Deficiency

Dams Preliminary Inspection Form



Embankment: Downstream Slope	
10a. Slope Protection/Armoring Present?	☐ Ye: ✓ No
10b. (If Present:) Slope Protection Condition	
11. Wet Areas	No Deficiency
12a. Seepage	☐ Ye: 🔽 No
12b. (If Present): Seepage Flow	
13a. Drainage System Present?	☐ Yet 🔽 No
13b. (If Present:) Drainage System Condition	
14a. Alterations/Repairs Present?	☐ Ye: 🔽 No
14b. (If Present:) Alterations/Repairs Condition	
15. Other:	Action Required
16. Embankment: Downstream Slope Condition	Needs Permitted Repair(s), Condition Prevented Full Inspection
Violation Determined: 9/27/2018 DAMMAINTREP	
	applicable)
DAMMAINTREP	
DAMMAINTREP  17. Additional Comments (Refer to item number if a	
DAMMAINTREP  17. Additional Comments (Refer to item number if a Concrete/Masonry Dams: Downstream)	Face
DAMMAINTREP  17. Additional Comments (Refer to item number if a Concrete/Masonry Dams: Downstream Is this section applicable for this dam?	Face
17. Additional Comments (Refer to item number if a Concrete/Masonry Dams: Downstream Is this section applicable for this dam?  1. Surface Conditions	Face
17. Additional Comments (Refer to item number if a Concrete/Masonry Dams: Downstream Is this section applicable for this dam?  1. Surface Conditions  2. Condition of Joints	Face
DAMMAINTREP  17. Additional Comments (Refer to item number if a Concrete/Masonry Dams: Downstream Is this section applicable for this dam?  1. Surface Conditions  2. Condition of Joints  3. Unusual Movement	Face
DAMMAINTREP  17. Additional Comments (Refer to item number if a Concrete/Masonry Dams: Downstream Is this section applicable for this dam?  1. Surface Conditions  2. Condition of Joints  3. Unusual Movement  4. Drains	Face
DAMMAINTREP  17. Additional Comments (Refer to item number if a Concrete/Masonry Dams: Downstream Is this section applicable for this dam?  1. Surface Conditions  2. Condition of Joints  3. Unusual Movement  4. Drains  5. Leakage	Face
DAMMAINTREP  17. Additional Comments (Refer to item number if a Concrete/Masonry Dams: Downstream Is this section applicable for this dam?  1. Surface Conditions  2. Condition of Joints  3. Unusual Movement  4. Drains  5. Leakage  6. Abutments	Face Yes V No
DAMMAINTREP  17. Additional Comments (Refer to item number if a Concrete/Masonry Dams: Downstream Is this section applicable for this dam?  1. Surface Conditions  2. Condition of Joints  3. Unusual Movement  4. Drains  5. Leakage  6. Abutments  7a. Alterations/Repairs Present?	Face Yes V No

Dams Preliminary Inspection Form



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



# 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 V No

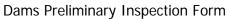
Paved road and associated ditch is located in downstream area.



GPS Latitude: 34.64415 GPS Longitude: -79.7481472222222 GPS Altitude: 50.7057522123894 meters GPS Azimuth: 262.738461538462 degrees

Photo Taken: 9/26/2018 1:00:48 PM

1. Trees	Action Required
2. Polotoriaus Vagatation	<u> </u>
2. Deleterious Vegetation	Action Required
3. Wet Areas	No Deficiency
4a. Seepage	Γ Ye: ▼ No Γ N
4b. (If Present): Seepage Flow	
5a. Boils	re: re No re N
5b. (If Present): Boil Flow	
6a. Alterations/Repairs Present	Ye: Vo No
6b. (If Present:) Alterations/Repairs Condition	
7. Other:	No Deficiency
8. Downstream Area Condition	Needs Permitted
	Repair(s), Condition
	Prevented Full Inspection





Downstream Area	
9. Additional Comments (Refer to item number if applicable)	
Spillways: Erodible Channel	
Is this section applicable for this dam?	
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? Ye: No ▼ No	4
11a. Alterations/Repairs Present	4
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?  Ye. No	

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



# **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: 34.6443833333333

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: -79.7447361111111 GPS Altitude: 40.9489194499018 meters GPS Azimuth: 168.917098445596 degrees

Dams Preliminary Inspection Form



pillways: Non-Erodible Channel	
1. Location	
2. Approach Area	No Deficiency
3. Weir/Control	No Deficiency
4. Sidewalls	Monitor
Crack observed in wall on upstream side	Photo Taken: 9/26/2018 12:54:35 PM GPS Latitude: 34.6443777777778 GPS Longitude: -79.7447666666667 GPS Altitude: 40.2417640807651 meters GPS Orientation: 90 degrees  90 degrees
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?	ΓYe: ▼ No ΓN
12a. Boils	re: ✓ No R
12b. (If Present): Boils	
13a. Alterations/Repairs Present	Ye: ▼ No  N
13b. (If Present:) Alterations/Repairs Condition	
14. Other:	No Deficiency
15. Spillway: Non-Erodible Channel Condition	No Deficiencies Observed, Regular Monitoring Necessary

Dams Preliminary Inspection Form

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



# Spillways: Non-Erodible Channel

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

#### **Spillways: Inlet Structure**

Is this section applicable for this dam?



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

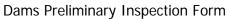
2a. Intake Structure

**Action Required** 

#### 2b. Intake Structure Types

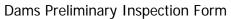
Prior to Hurricane Florence, the spillway was an old bridge. This bridge structure was washed away and has left an erodible channel as the primary spillway.

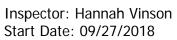
3. Trashrack **Action Required** 





Spillways: Inlet Structure	
4a. Low-Level Valve Present?	Ye! ▼ No
4b. (If Present:) Low-Level Valve Condition	
5. Debris	No Deficiency
6a. Repairs/Alterations Present	Ye! No NA
Prior to Hurricane Florence, the spillway was an old bridge. This bridge away and has left an erodible channel as the primary spillway.	structure was washed
6b. (If Present:) Alterations/Repairs Condition	
7. Other:	Action Required
8. Spillway: Inlet Structure Condition	Needs Permitted Repair(s), Condition Prevented Full Inspection
Violation Determined: 10/1/2018  DAMMAINTREP	
9. Additional Comments (Refer to item number if applicable)	
Spillways: Outlet Works	
Is this section applicable for this dam?	☐ Ye: ▼ 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	Ye! No NA
7b. (If Present): Seepage	
8. Stilling Basin	
9. Normal Flow Quantity	
10. Low-Level Flow Quantity	
11a. Alterations/Repairs Present	Yes No NA





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



Spillways: Outlet Works		
11b. (If Present:) Alterations/Repairs		
12. Other:		
13. Outlet Works Condition		
14. Additional Comments (Refer to item number if applicable)		
<b>Emergency Action Plan</b>		
Is this section applicable for this dam?	☐ Ye! ✓ No	
1. Date of last update of emergency plan:		
2a. EAP provided by owner?	Ye! No	NA
2b. (If EAP was not provided, was a copy of the EAP form left with the owner?)	Ye: No	NA NA
3. Does EAP contain emergency alert plan?	Ye! No	NA
4. Does EAP contain specific actions to take if the dam has failed or is failing?	Ye: No	□ NA
5. Additional Comments (Refer to item number if applicable)		
Downstream Hazard Check		
1. Satellite Imagery	Ye! No	NA
Photo Taken:	10/1/2018 2:32:33 PM	
2. Inundation Map	✓ Ye: No	NA
SIMS method		

Dams Preliminary Inspection Form

Inspector: Hannah Vinson Start Date: 09/27/2018 Completed Date: 10/01/2018



# **Downstream Hazard Check**



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



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

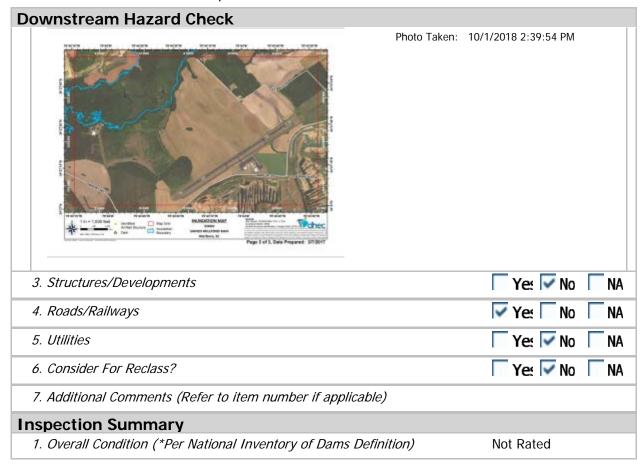


Photo Taken: 10/1/2018 2:39:27 PM

Dams Preliminary Inspection Form

Inspector: Hannah Vinson





Dams Preliminary Inspection Form

Inspector: Hannah Vinson

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



# **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.

Dams Preliminary Inspection Form

Inspector: Hannah Vinson

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



# **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.

# 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	

10/01/2018 12:57 PM 20