



GANNETT FLEMING, INC.
P.O. Box 67100
Harrisburg, PA 17106-7100

Location:
207 Senate Avenue
Camp Hill, PA 17011

Office: (717) 763-7211
Fax: (717) 763-1140
www.gannettfleming.com

September 4, 2015

Mr. Roger Adams, Chief
Pennsylvania Department of Environmental Protection
Bureau of Waterways Engineering and Wetlands
Division of Dam Safety
Rachel Carson State Office Building
P.O. Box 8460
Harrisburg, PA 17105-8460



Dear Mr. Adams;

Re: East Goshen Township
Milltown Dam (DEP ID No. D15-146)
2015 Annual Dam Inspection

On behalf of East Goshen Township (Township), we are pleased to submit herein the 2015 Annual Dam Inspection for Milltown Dam located in Chester County which is owned and operated by the Township. The following information is attached:

- Two signed and sealed copies of the 2015 Annual Inspection Report for Milltown Dam (DEP ID No. D15-146).
- Two copies of the corresponding Dam Owners Notice Checklist which has been completed and signed by the Township. As indicated on the checklist, the Township mailed new notices to the posting locations on August 5th. Copies of the actual mailings are available upon request.

Under DEP cover letter to the Township dated June 17, 2014, the Township was notified that Milltown Dam has inadequate spillway capacity to pass the Spillway Design Flood. As you are aware, the Township has secured the services of Gannett Fleming to provide an assessment of the dam in its current condition and evaluate options for both increasing conveyance capacity and breaching the dam. The results of this study are expected to be complete in early 2016 and the Township hopes to be in a position to make a decision on what they want to do with Milltown Dam by March/April 2016. Due to the uncertainty of the future of the dam, the Township respectfully requests to defer the inspection of the low level dewatering system and the update to the Emergency Action Plan until after a decision has been made by the Township.

Gannett Fleming

Mr. Roger Adams, Chief
PA DEP Division of Dam Safety

-2-

September 4, 2015

Should you have any questions or concerns regarding the Annual Inspection Report, please do not hesitate to contact either me or Paul Schweiger at 717-763-7212, extensions 2828 and 2504, respectively, or Mr. Rick Smith of the Township at 610-692-7171.

Very truly yours,

GANNETT FLEMING, INC.



ERIC C. NEAST, P.E.
Environmental Resources Division

Enclosures

xc: Rick Smith, Township (w/enclosures)

2015 ANNUAL INSPECTION REPORT

August 2015

MILLTOWN DAM

NDI ID No. PA-00218

DEP ID No. D15-146

East Branch Chester Creek, Chester County, Pennsylvania



Prepared for:

**East Goshen Township
West Chester, Pennsylvania**

Prepared by:

 **Gannett Fleming**
100 Years
of Excellence Delivered As Promised

GF Project No. 060466.0100

DAM INSPECTION CHECKLIST
Department of Environmental Protection
Bureau of Waterways Engineering
Division of Dam Safety

NAME OF DAM: Milltown Dam **DEP DAM NO.:** D15 - 146

LOCATION: Municipality: East Goshen Township **County:** Chester County

DEP CLASSIFICATION DATA: Size: C **Hazard:** Category 1

PHYSICAL DATA:

Type of Dam: Earth with Concrete Core **Height of Dam:** 20 FT. **Normal Pool Storage Capacity:** 114 AC-FT

ELEVATIONS:

Normal Pool: 345.0 FT. **Pool at Inspection:** 345.0+ FT. **Tailwater at Inspection:** Low

DAM OWNER: East Goshen Township **OPERATOR:** East Goshen Township

ADDRESS: 1580 Paoli Pike West Chester, PA 19380

PHONE: (610) 692-7171 **FAX NO.:** (610) 692-8950 **E-MAIL ADDRESS:** rsmith@eastgoshen.org
Attn: Mr. Rick Smith

A completed and signed Dam Owners Notice Checklist is to accompany this Inspection Checklist.

PERSONS PRESENT AT INSPECTION:

<u>Name</u>	<u>Title/Position</u>	<u>Representing</u>
<u>Eric C. Neast, P.E.</u>	<u>Project Manager</u>	<u>Gannett Fleming, Inc.</u>
<u>Steve Biondi</u>	<u>Asst. Public Works Foreman</u>	<u>East Goshen Township</u>
_____	_____	_____
_____	_____	_____

DATE OF INSPECTION: 08/04/2015

WEATHER: Sunny

TEMPERATURE: 85 Deg. F

The inspection documented in this report does not include an assessment of site safety as related to facility operators and the public. Hazards may exist at the site which should be addressed by the Owner.

The observations presented herein represent the condition of the dam on the date of the inspection only. The condition of a dam can change rapidly, particularly with changes in reservoir level and climatic conditions. Significantly changed conditions should be immediately reported to Gannett Fleming, Inc., and/or the Pennsylvania Department of Environmental Protection, Division of Dam Safety. Failure to do so could impact the safety of the dam and downstream population. This is to certify that the above dam has been inspected and the following are the results of this inspection.

Eric C. Neast
 Signature of Registered Professional Engineer
 (P.E. Seal Required)

9-4-15
 Date

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
EMBANKMENT: CREST					
1	Surface Cracking	None observed. Right embankment crest paved with aggregate. Left embankment crest armored with riprap (refer to Photos 1 & 4).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Sinkhole, Animal Burrow	None observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Low Area(s)	None observed. See note below.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Horizontal Alignment	No deficiencies observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Ruts and/or Puddles	None observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Vegetation Condition	Right embankment crest paved with aggregate (refer to Photo 1). Left embankment crest armored with riprap. Woody vegetation observed on left embankment crest (refer to Photos 4, 5 and 6).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	Warning Signs	One warning sign observed on swing gate at right abutment. Sign contains graffiti but remains legible (refer to Photo 1). See note below.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional Comments (Refer to item number if applicable):

Item 3: Topographic survey performed by Gannett Fleming in July, 2015 indicates that the majority of the embankment crest is higher than the original design top of dam elevation.

Item 6: Woody vegetation observed on left embankment crest. **Recommend** removing woody vegetation to prevent root intrusion into the embankment, eliminate cover for burrowing animals and allow visual observation of the embankment crest.

Item 7: Maintain warning sign(s) in a condition which is legible and clearly displayed to the public. **Recommend** removing graffiti from warning sign or replacing sign. **Recommend** adding warning sign(s) at left abutment. **Recommend** monitoring area for unauthorized activities.

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
EMBANKMENT: UPSTREAM FACE					
10	Slide, Slough, Scarp	None observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	Slope Protection	Upstream face of left and right embankments armored with riprap (refer to Photos 2 & 5). See note below.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	Sinkhole, Animal Burrow	None observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	Emb.-Abut. Contact	No deficiencies observed. Refer to Item 15 for vegetation condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	Erosion	None observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	Vegetation Condition	Woody vegetation observed on left and right embankments. See note below.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
16			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional Comments (Refer to item number if applicable):

Item 11: Surface of upstream right embankment is covered with riprap which has been chinked with aggregate. Riprap on left embankment is not chinked with aggregate.

Item 15: Spotty low vegetation growth observed in right rock-lined embankment. Township reports that vegetation is controlled by spraying several times per year. Woody vegetation observed on left embankment (refer to Photo 5) and on right embankment at abutment interface (refer to Photo 18). **Recommend** removing vegetation to prevent root intrusion into the embankment, eliminate cover for burrowing animals and allow for visual observation. **Recommend** removing trees in their entirety, including the root system. Backfill voids left by root system removal with impervious earthfill, compact and replace riprap cover.

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
EMBANKMENT: DOWNSTREAM FACE					
18	Wet Area(s) (No Flow)	None observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19	Seepage	None observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20	Slide, Slough, Scarp	None observed. See note below.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21	Emb: - Abut. Contact	No deficiencies observed. Refer to Item 25 for vegetation condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22	Sinkhole, Animal Burrow	Start of animal burrow observed near crest of dam. Recommend backfilling hole with aggregate/riprap and monitoring embankment for additional animal activity.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
23	Erosion	None observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24	Unusual Movement	None observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25	Vegetation Control	Vegetation growth observed on left and right embankments. See note below.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
26			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional Comments (Refer to item number if applicable):

Item 20: Area of riprap on downstream right embankment is slush grouted with concrete. Owner reports slush grout was placed to prevent movement of riprap (refer to Photos 11 and 31).

Item 25: Spotty low vegetation growth observed in right rock-lined embankment. Township reports that vegetation is controlled by spraying several times per year. Woody vegetation observed on left embankment (refer to Photo 6) and on right embankment at abutment interface (refer to Photo 17). **Recommend** removing vegetation to prevent root intrusion into the embankment, eliminate cover for burrowing animals and allow for visual observation of the embankment.

Recommend removing trees in their entirety, including the root system. Backfill voids left by root system removal with impervious earthfill, compact and replace riprap cover.

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
EMBANKMENT: INSTRUMENTATION					
28	Piezometers/Observ. Wells	Not applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29	Staff Gauge and Recorder	Left spillway training wall painted with horizontal stripes that correspond to Emergency Action Plan event trigger levels (refer to Photo 7).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30	Weirs	Not applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31	Survey Monuments	Not applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32	Drains	Not applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33	Low Flow Release	Not applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34	Frequency of Readings	Not applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35	Location of Records	Not applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Additional Comments (Refer to item number if applicable):					

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
DOWNSTREAM AREA					
38	Abutment Leakage	None observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39	Foundation Seepage	None observed. See Item 43.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40	Slide, Slough, Scarp	None observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41	Drainage System	Milltown Dam is located on and discharges to East Branch Chester Creek (refer to Photo 32). See note below.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42	Boils	None observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43	Wet Areas	None observed. See note below.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44	Reservoir Slopes	Appear to be well vegetated and stable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45	Access Roads	Access to dam crest is from Reservoir Road. Access route to base of downstream right embankment by a vegetated path along the downstream property.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
46	Security Devices	Access to dam crest secured by lockable swing gate which contains a warning sign. Access to spillway crest limited by chain-link fence at the left spillway abutment and a combination of chain-link fence and the Valve House at the right spillway abutment (refer to Photos 10 & 19). See note below.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
47	Act 91 Run-of-the-River Signs or Buoys	Act 91 Signs and Buoys not required. No additional warning signs observed. Township reports that boating is not permitted on Milltown Reservoir.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional Comments (Refer to item number if applicable):

Item 41: East Branch Chester Creek flows under Route 3 approximately 600 feet downstream of Milltown Dam.

Item 43: Previously reported wet areas identified in the 2013 Annual Dam Inspection were observed to be dry. **Recommend** continued monitoring of this area for changes in flow.

Item 46: Refer to Item 7 for warning sign recommendations. Top support post on chain-link fence at Valve House is missing (refer to Photo 20). **Recommend** repairing fence.

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
SPILLWAYS: CONCRETE OVERFLOW STRUCTURE					
50	Sidewalls	Delaminations and cracks throughout. See note below.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
51	Channel Floor	Concrete ogee spillway with low flow notch and apron. See note below.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
52	Unusual Movement	None observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
53	Approach Area	No obstructions or deficiencies observed. See note below.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
54	Weir or Control	Concrete ogee control weir with low flow notch. See note below.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
55	Discharge Channel	East Branch Chester Creek. No obstructions observed. See note below.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
56	Boils	None observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
57			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
58			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional Comments (Refer to item number if applicable):

Item 50: Hairline cracking with efflorescence observed on the vertical portions of both the left and right spillway training walls (refer to Photos 11, 12, 15 & 16). Several spalls observed near downstream end of right spillway training wall (refer to Photo 13). **Recommend** monitoring concrete for changes in condition which may require additional repairs.

Recommend repairing spalled concrete on right spillway training wall.

Item 51: Epoxy coating on ogee spillway face installed in 2013 observed to be failing. Multiple areas observed where the coating has peeled away from the concrete (refer to Photos 14 and 15). Various other areas of surface patchwork observed. Township reports that the epoxy coating will be repaired this fall. **Recommend** replacing the epoxy coating as currently planned by the Township.

Item 53: Upstream reservoir floor rises to meet crest of spillway. Material immediately upstream of the spillway crest was placed by design. It is noted that the reservoir is heavily silted (refer to Item 72).

Item 54: Crest and downstream face of concrete spillway low flow notch obscured by flow. Downstream face of concrete low flow notch contains exposed aggregate. **Recommend** monitoring concrete surface for deterioration that may warrant repairs.

Item 55: Rock scour protection between concrete spillway apron and concrete sill is partially dislodged and moved downstream (refer to Photo 6). Voids in riprap up to two feet in depth observed immediately downstream of concrete spillway apron. **Recommend** replacement of scour protection to replicate the original design intent and to protect the concrete apron from undermining.

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
OUTLET WORKS					
59	Intake Structure	Record drawings indicate the low level dewatering system is comprised of a 16" CIP and a 24" CIP with valving located in a Valve House at the right abutment of the spillway. See note below.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
60	Trashrack	Trashracks located on the 16" and 24" CIP intake pipes not observed due to reservoir levels.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
61	Stilling Basin	24" CIP low level dewatering pipe discharges into East Branch Chester Creek (refer to Photo 30). No stilling basin observed. Ogee spillway discharges onto rock-lined stilling basin (refer to Item 55).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
62	Primary Closure	Sluice gates (2) located on 16" and 24" CIPs entering Valve House. Leakage observed at 16" sluice gate (estimated to be less than 1 gpm). Refer to Item 59 for additional information associated with the observed condition of the upstream sluice gates.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
63	Secondary Closure	Sluice gates (2) located on 16" and 24" CIPs leaving Valve House. Downstream sluice gates reported to be inoperable (refer to Item 59).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
64	Control Mechanism	Sluice gates controlled by manual handwheels located on floorstands within the Valve House.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
65	Outlet Pipe	24" CIP low level discharge pipe. See note below.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
66	Outlet Tower	Concrete valve chamber with masonry stone Valve House (refer to Photo 21). Animal burrow on right side of Valve House reported in the 2014 Annual Inspection report was backfilled with concrete.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
67	Outlet Structure	See Item No. 66.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
68	Seepage	None observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
69	Unusual Movement	None observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
70			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
71			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional Comments (Refer to item number if applicable):

Item 59: Sluice gates were observed on the 16" and 24" CIPs entering and leaving the Valve House (four gates total) controlled by manually operated handwheels (refer to Photos 25, 26, 27 & 28). The upstream 16" sluice gate was operated at time of inspection. The upstream 24" sluice gate was unsuccessfully operated due to connection failure between the gate stem and gate. *Post inspection note: Township reported on 8/19/15 that 24" gate has been repaired and is operable.* Downstream gates are inoperable with the 16" gate frozen in the closed position and the 24" gate frozen in the open position. Downstream gates are not required for the operation of the low level dewatering system. East Goshen Township reports that the downstream 16" CIP has been abandoned and plugged at an unknown location downstream of the dam. Valve House constructed of masonry with lockable door and observed to be in fair condition (refer to Photos 19, 21 & 23). Hairline cracks with efflorescence observed on exposed exterior portions of the valve chamber (refer to Photos 22, 23 & 24). Dampness with efflorescence observed in the interior downstream left corner of the concrete valve chamber (refer to Photo 28). **Recommend** monitoring the condition of the concrete valve chamber for changes in condition which may warrant repairs.

Item 65: Loss of mortar observed around frame and cover of valve manhole located immediately upstream of the discharge outlet of the 24" CIP low level dewatering system (refer to Photo 29). **Recommend** repairing mortar to keep manhole frame and cover operable and to prevent further deterioration of the structure.

ITEM	CONDITION	COMMENTS	MONITOR	INVESTIGATE	REPAIR
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RESERVOIR AREA

72	Sedimentation	Reservoir almost completely filled with sediment. No obstructions observed directly upstream of principal spillway. See note below.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
73	Slope Stability	Relatively flat and well vegetated. Shoreline appears to be stable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
74	Sinkholes	None observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
75	Fractures	None observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
76	Unwanted Growth	None observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
77	Storage Gauge	Elevations which trigger EAP actions painted on left spillway training wall (refer to Item 29). No additional storage gauges observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
78			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
79			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional Comments (Refer to item number if applicable):

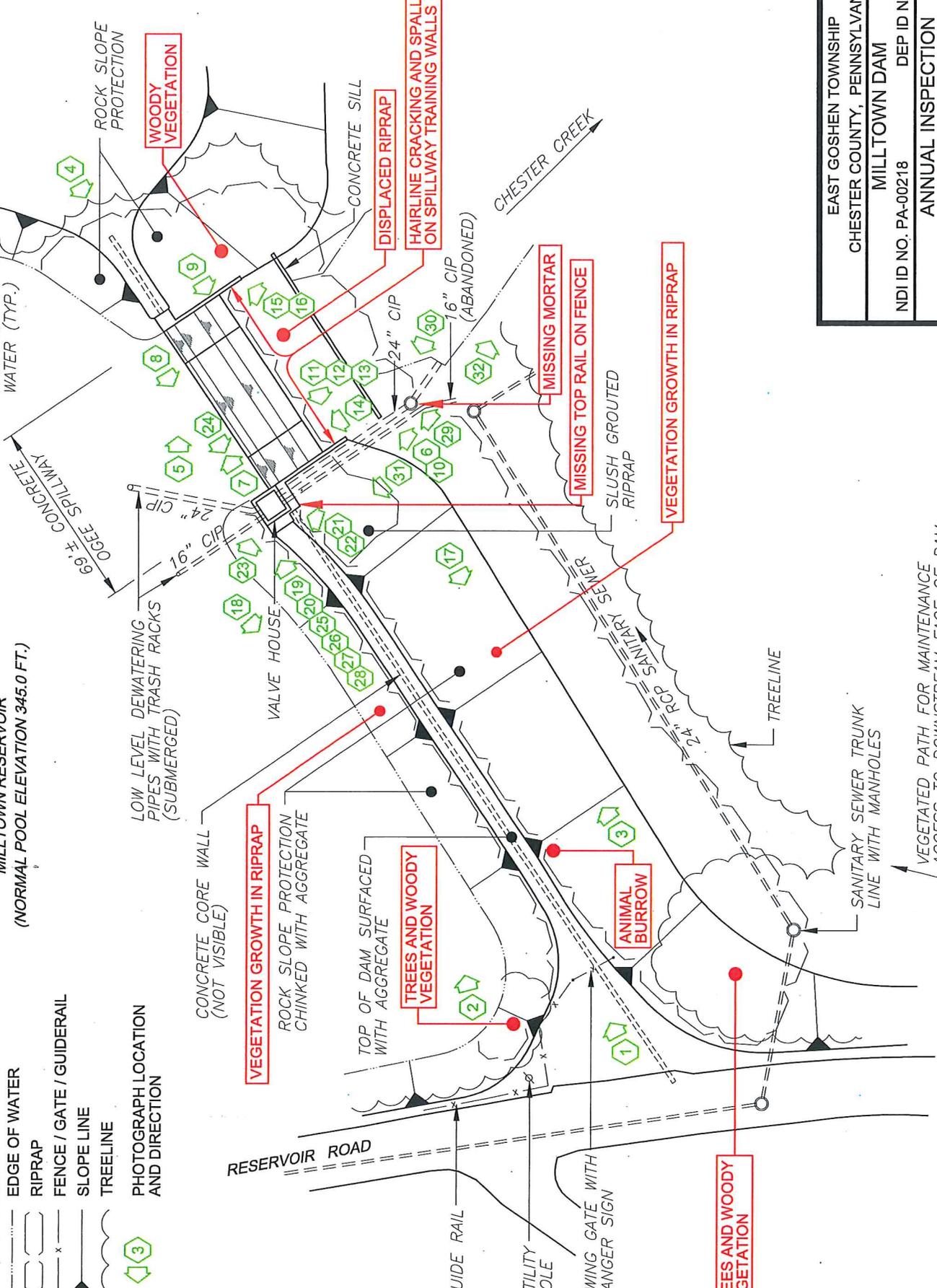
Item 72: Bathymetric survey performed by Gannett Fleming in July 2015 reports significant sediment build-up throughout the reservoir. **Recommend** monitoring sediment levels in the reservoir to ensure approach area to the principal spillway remains unobstructed.

Final Comments:

LEGEND

- EDGE OF WATER
- RIPRAP
- FENCE / GATE / GUIDERAIL
- SLOPE LINE
- TREELINE
- PHOTOGRAPH LOCATION AND DIRECTION

MILLTOWN RESERVOIR
(NORMAL POOL ELEVATION 345.0 FT.)



EAST GOSHEN TOWNSHIP
CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM
NDI ID NO. PA-00218
DEP ID NO. D15-146
ANNUAL INSPECTION
SITE SKETCH
GANNETT FLEMING, INC.
HARRISBURG, PA
AUGUST 2015

FIELD INSPECTION DATE: AUGUST 4, 2015
 RESERVOIR ELEVATION: 345.0± FT.
 (APPROXIMATELY 1/8" FLOW OVER SPILLWAY LOW FLOW NOTCH)

**MILLTOWN DAM
(DEP ID NO. D15-146)**



Photo No. 1
View of right embankment crest looking toward spillway and Valve House.
Inset shows condition of Danger Sign.

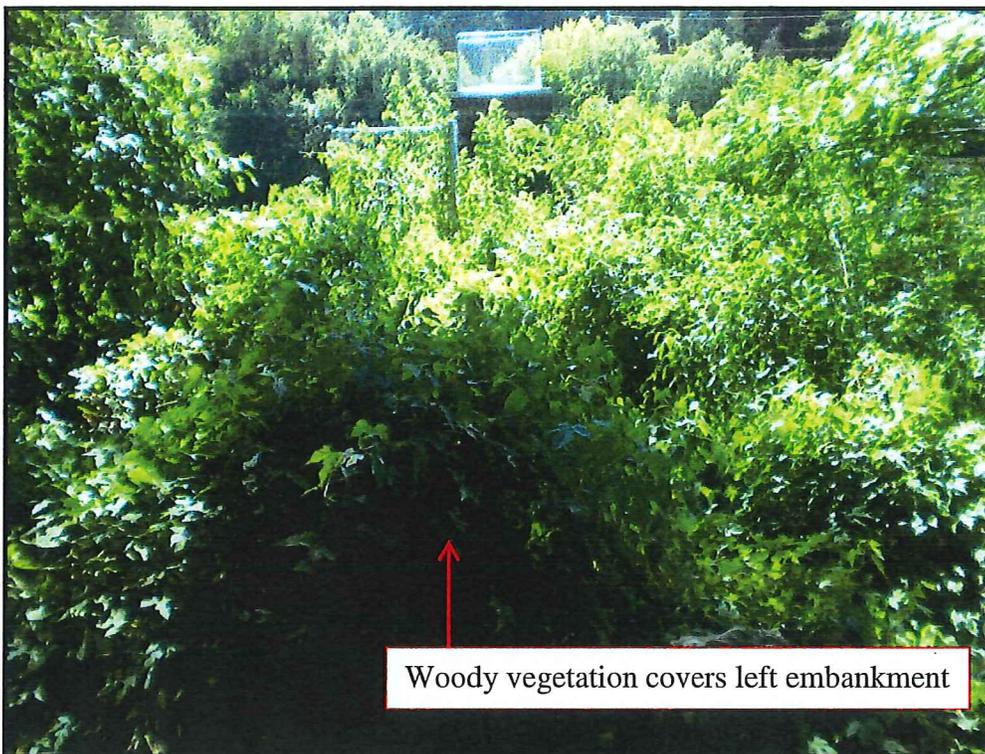


Photo No. 2
View of upstream slope of right embankment.

**MILLTOWN DAM
(DEP ID NO. D15-146)**



**Photo No. 3
View of downstream slope of right embankment.**



**Photo No. 4
View of left embankment crest looking toward spillway. Valve House visible
in top center of photograph. Note woody vegetation on left embankment.**

**MILLTOWN DAM
(DEP ID NO. D15-146)**



Woody vegetation covers left embankment

**Photo No. 5
View of upstream slope of left embankment. Note woody vegetation.**



Woody vegetation covers left embankment

Displaced riprap below spillway

**Photo No. 6
View of downstream slope of left embankment and riprap scour protection below spillway.**

**MILLTOWN DAM
(DEP ID NO. D15-146)**



Photo No. 7

**View of ogee spillway crest with low flow notch (looking towards left abutment).
Note horizontal paint markings on left abutment which relate to EAP trigger elevations.**



Photo No. 8

View of ogee spillway crest, right spillway training wall and Valve House.

**MILLTOWN DAM
(DEP ID NO. D15-146)**



Photo No. 9

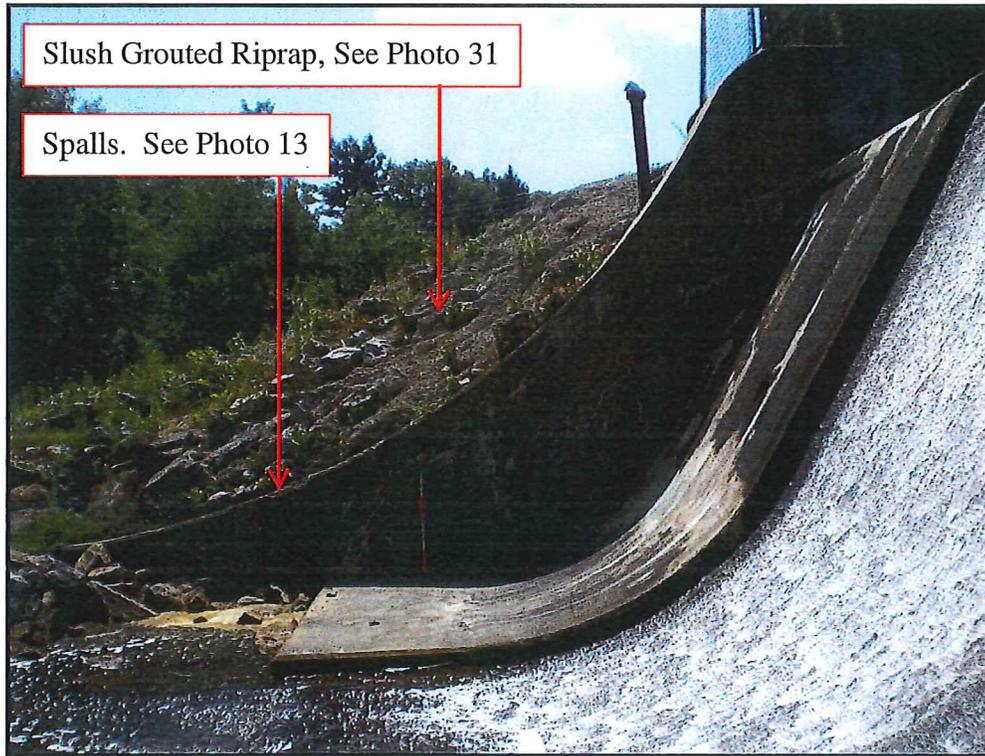
View from left embankment looking at downstream face of concrete spillway and downstream slope of right embankment and Valve House.



Photo No. 10

Standing below right embankment looking at downstream face of concrete spillway.

**MILLTOWN DAM
(DEP ID NO. D15-146)**



**Photo No. 11
View of right spillway training wall.**



**Photo No. 12
View of right spillway training wall. Note hairline cracking with efflorescence (typical throughout wall).**

**MILLTOWN DAM
(DEP ID NO. D15-146)**



Photo No. 13

View of downstream end of right spillway training wall. Note spalls on top of wall.



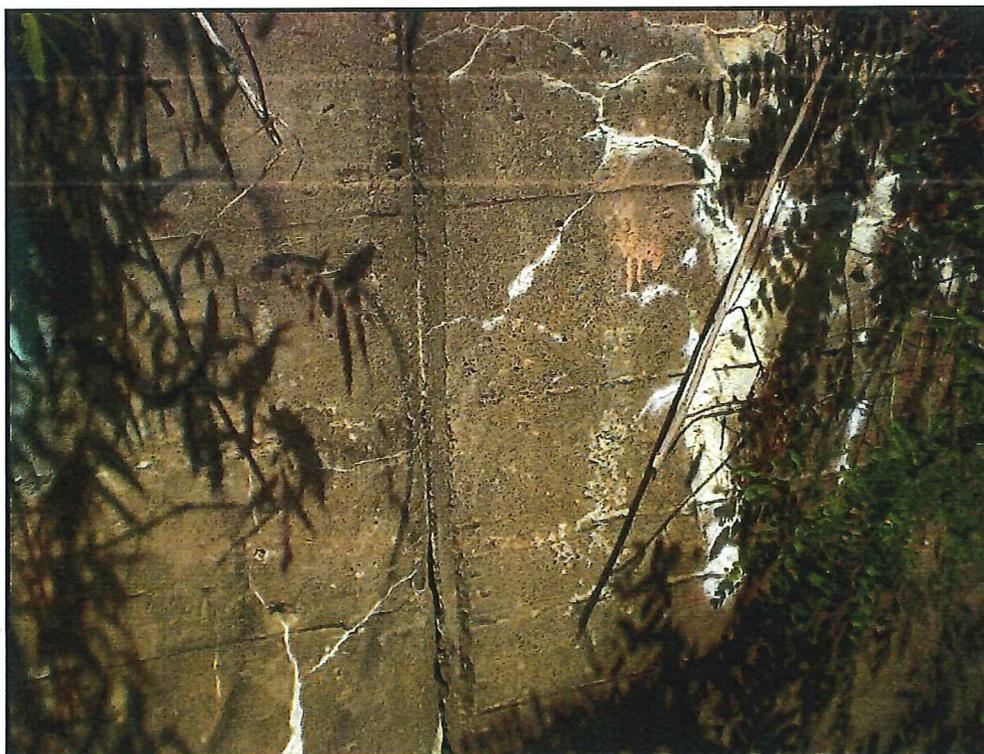
Photo No. 14

View of right half of downstream face of the concrete spillway. Note patchwork and areas where epoxy coating (black material) has peeled.

**MILLTOWN DAM
(DEP ID NO. D15-146)**



**Photo No. 15
View of left spillway training wall.**



**Photo No. 16
View of left spillway training wall. Note hairline cracking with efflorescence (typical throughout wall).**

**MILLTOWN DAM
(DEP ID NO. D15-146)**



Woody vegetation at abutment contact area

Photo 17

View of downstream slope of right embankment.



Woody vegetation at abutment contact area

Photo 18

View of upstream face of right embankment.

**MILLTOWN DAM
(DEP ID NO. D15-146)**

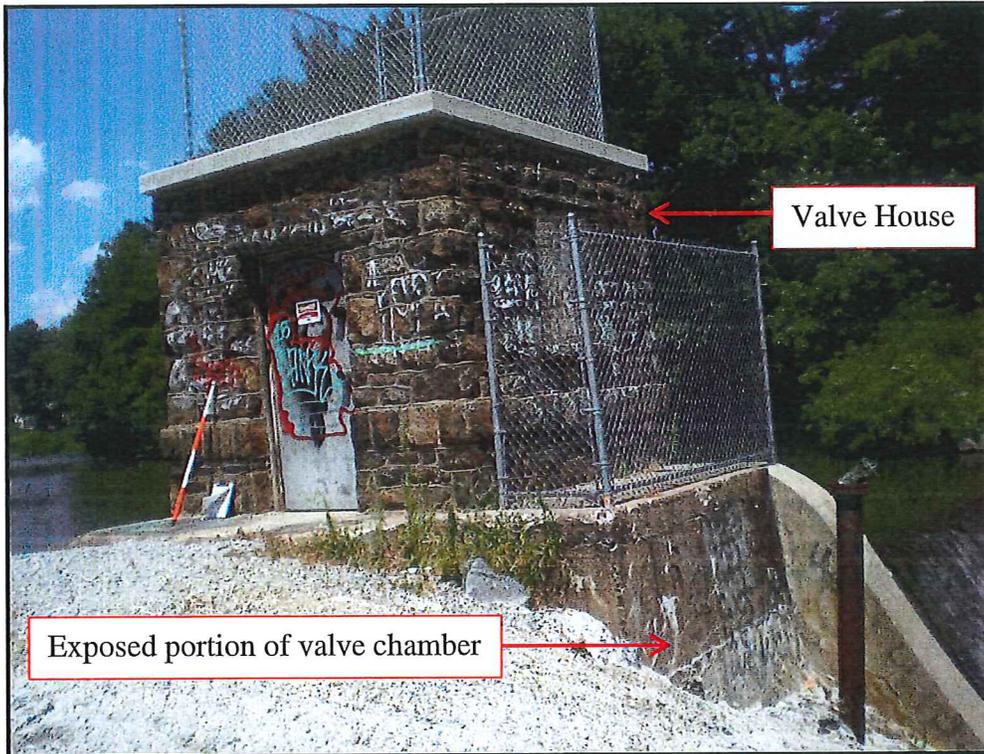


**Photo 19
View of Valve House.**

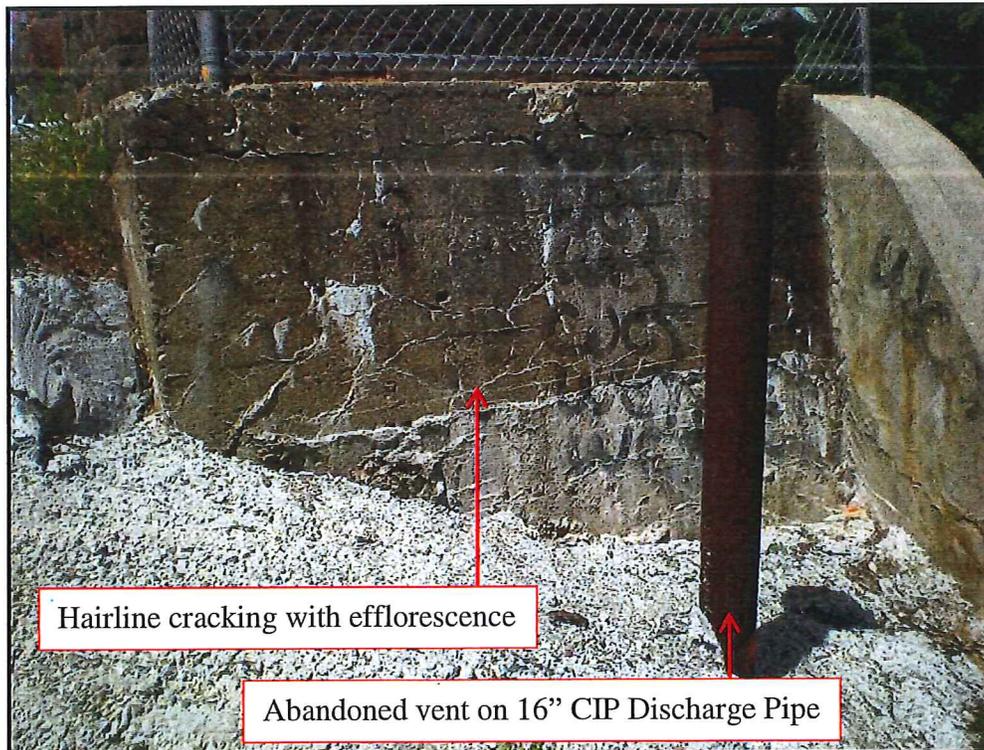


**Photo No. 20
Chain link fence on downstream side of Valve House. Note missing top rail.**

**MILLTOWN DAM
(DEP ID NO. D15-146)**



**Photo 21
View of downstream side of Valve House.**

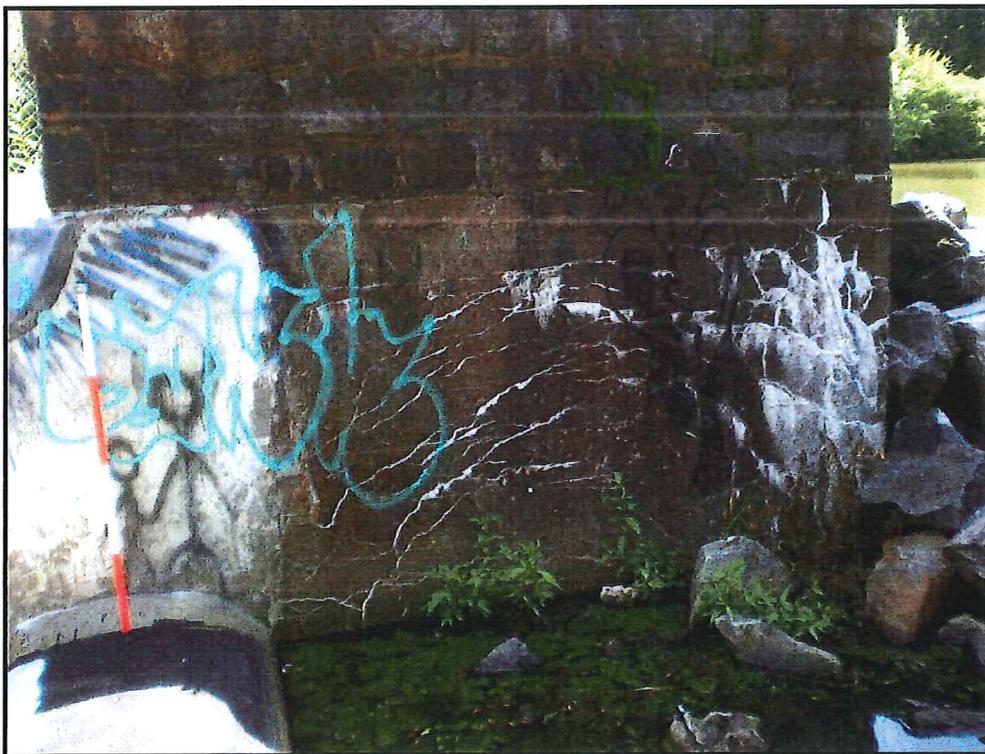


**Photo No. 22
View of downstream face of exposed valve chamber. Note hairline cracking with efflorescence.**

**MILLTOWN DAM
(DEP ID NO. D15-146)**

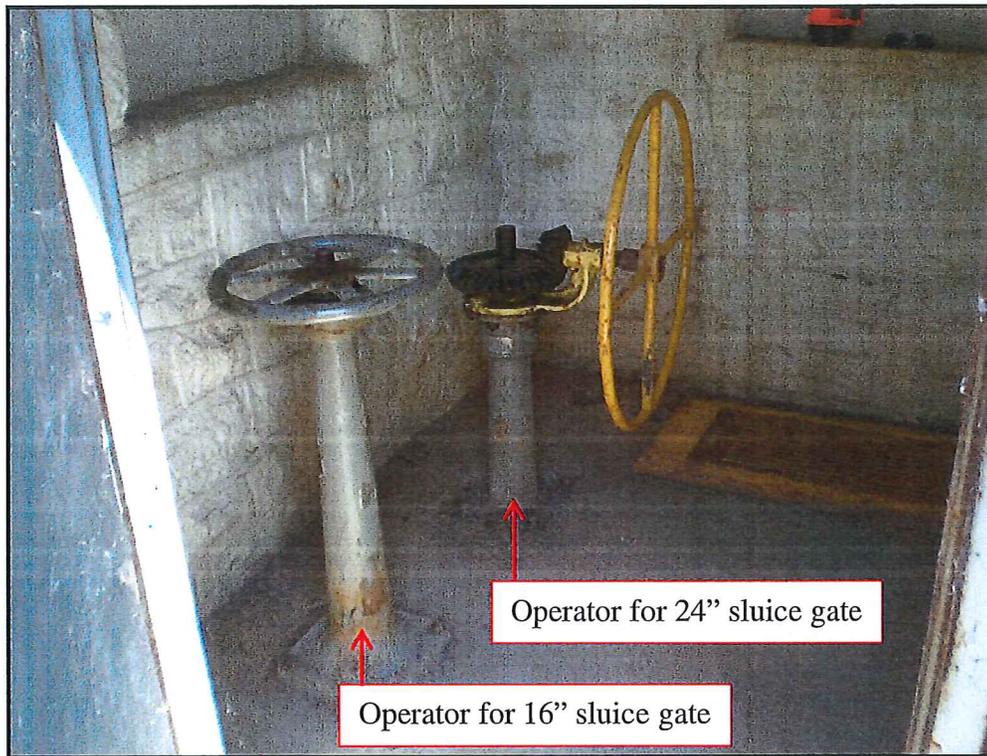


**Photo 23
View of upstream face of Valve House.**

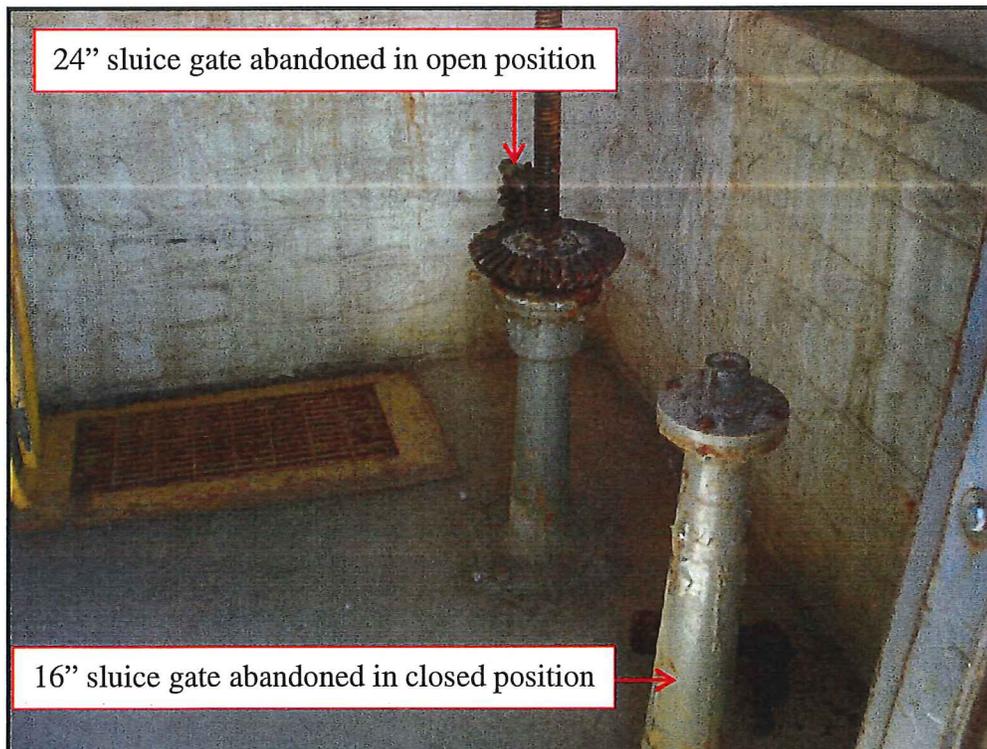


**Photo No. 24
View of left face of Valve House and exposed portions of the valve chamber. Note hairline cracking with efflorescence throughout exposed portion of concrete valve chamber.**

**MILLTOWN DAM
(DEP ID NO. D15-146)**



**Photo 25
View of upstream interior of Valve House.**



**Photo No. 26
View of downstream interior of Valve House.**

**MILLTOWN DAM
(DEP ID NO. D15-146)**

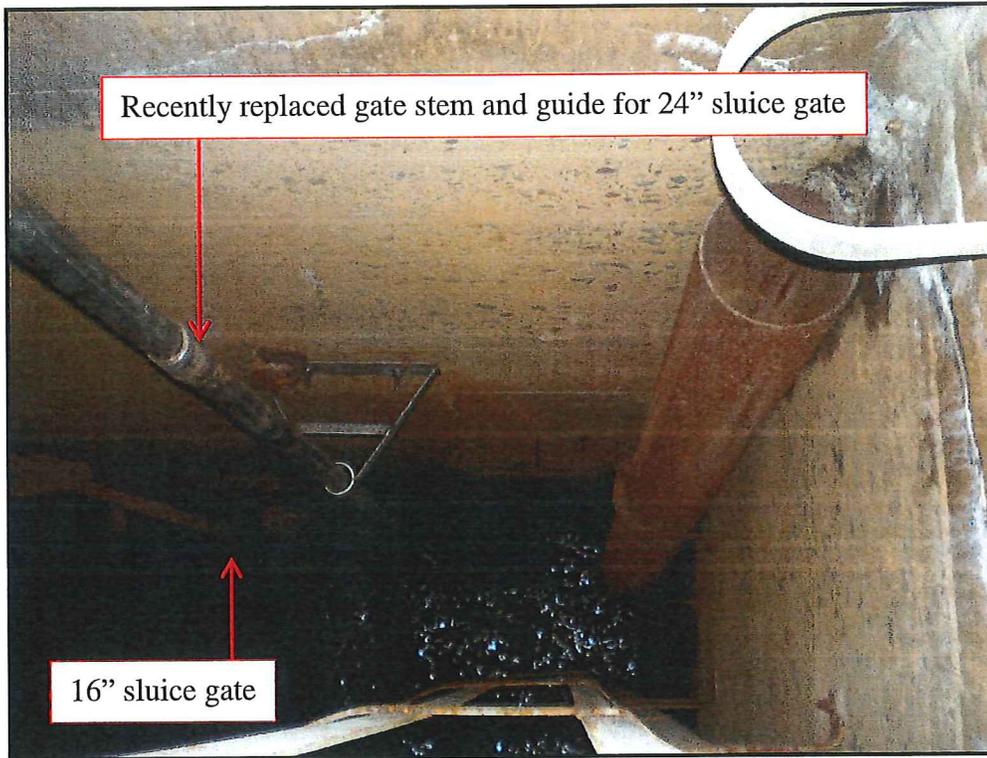


Photo 27

View of interior upstream wall of valve chamber.

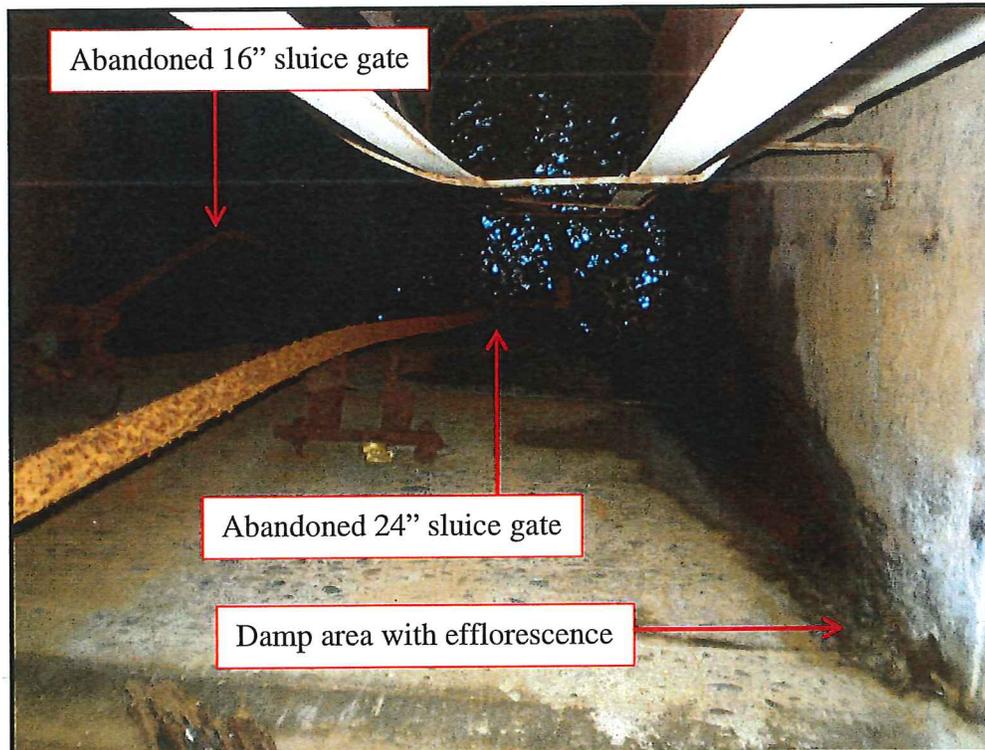


Photo No. 28

View of interior downstream wall of valve chamber.

**MILLTOWN DAM
(DEP ID NO. D15-146)**



Photo 29

Valve manhole on 24" CIP low level dewatering pipe. Note loss of mortar around frame and cover.



Photo No. 30

Discharge location of 24" CIP low level dewatering pipe.

**MILLTOWN DAM
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Photo 31

**Slush grouted riprap on downstream right embankment near Valve House.
(Photograph taken on June 19, 2015)**



Photo No. 32

Standing on right embankment looking downstream at receiving channel (East Branch Chester Creek).