## **DAM INSPECTION CHECKLIST**

## Pennsylvania Department of Environmental Protection Bureau of Waterways Engineering Division of Dam Safety

NAME OF DAM: Meado	ow Grounds		DEP DAM NO.: <u>D 29 - 32</u>
LOCATION: Municipal	lity: <u>Ayr Towns</u>	ship	County: Fulton
DEP CLASSIFICATION DA	ATA: Size:	В	Hazard: 1
PHYSICAL DATA: Type of Dam: Zone Earth	1 Height of	f Dam: <u>39 feet</u> Nor	mal Pool Storage Capacity: 3130 ac-1
ELEVATIONS: Normal Pool: 1495.3	Pool at Ir	nspection: approx 1492	Tailwater at Inspection: 1463
DAM OWNER: PA Fish	and Boat Commis	sion OPERATO	DR: Jerry Woomer, P.E.
ADDRESS: 450 Robin	nson Lane, Bellefo	onte, PA 16823	
	am Owners Notice	14)-359-5153 E-MAIL AI e Checklist is to accompany	DDRESS: gwoomer@state.pa.us this Inspection Checklist.
PERSONS PRESENT AT Name		Position	Representing
Lee S. Zeger III, P.E.		Engineer	Fulton County
Carl G. Boyer, P.G.	Geolo		Fulton County
DATE OF INSPECTION:	03 / 14 /	13	
WEATHER:	Overcast, cloud	dy and breezy	
TEMPERATURE:	35-40 degrees	s F	
		This is to certify that the a	above dam has been inspected and s of this inspection.
	-	Signature of Registered Pro (P.E. Seal Red	_

INAIVI	ME OF DAM: Meadow Grounds   DEP DAM NO.: D29-32   DATE: 3			3/14/1	13	
ITEM	CONDITION	COMMENTS		MONITOR	WESTIGATE	REPAIR
		EMBANKMEN	T: CREST			
1	Surface Cracking	None				
2	Sinkhole, Animal Burrow	None				
3	Low Area(s)	None				
4	Horizontal Alignment	Good, visual inspection	on, no shifting and/or bulging			
5	Ruts and/or Puddles	Slight rutting @ east s	ide gate			
6	Vegetation Condition	Good		X		
7	Warning Signs	None				
8				$\perp \perp$	<u> </u>	Щ
9	tional Comments (Refer to it					Ш
		EMD ANIZMENT	20TDF AM F 4 05			
40	Olida Olassala Olassa	EMBANKMENT: UI	PSTREAM FACE			-
10	Slide, Slough, Scarp	None Good				H
11 12	Slope Protection Sinkhole, Animal Burrow	None		ᆛH		H
13	EmbAbut. Contact	Good			-	+
14	Erosion	Slight erosion, continue	to monitor	X		HH
15	Vegetation Condition	Good	to monitor			卌
16	v egotation containon	0004		ᅥ片		H
17						
Addi	tional Comments (Refer to it	em number if applicable)				

NAM	E OF DAM: Meadow Grounds	DEP DAM N	IO.: D29-32	DATE:	3/14/1	3
ITEM	CONDITION	COMMENTS		MONITOR	NESTIGATE	REPAIR
	Е	MBANKMENT: DOWNSTREAM	FACE			
18	Wet Area(s) (No Flow)	Wet area on west side (See below)				X
19	Seepage	Yes, (See below)				X
20	Slide, Slough, Scarp	None				
21	Emb Abut. Contact	Good				
22	Sinkhole, Animal Burrow	None				
23	Erosion	Small erosion on east side of outlet, needs re	epaired			X
24	Unusual Movement	None	-			Щ
25	Vegetation Control	East side may need additional seed and tops	SO1l	14		X
26				14	Щ	Щ
27						Ш
coll of d	ection drains have been installed in rains. We strongly suggest that a s	If for a long period of time due to the moss grathis area over the years, however not all of the epage analysis be performed to determine the ment fill and existing ground interface.	he seepage is being collect	ed in th	ese ser	ies
	E	MBANKMENT: INSTRUMENTA	ATION			
28	Piezometers/Observ. Wells	None				
29	Staff Gauge and Recorder	None				
30	Weirs	None				
31	Survey Monuments	None				
32	Drains	Toe drains				
33	Low Flow Release	2" low flow pipe in stop logs, valve is bro	oke off			
34	Frequency of Readings	None				Щ
35	Location of Records	N/A		<u> </u>		Щ
36				14	Щ.	Щ
37						Ш
Addi	tional Comments (Refer to ite	m number if applicable):				

NAME OF DAM: Meadow Grounds DEP DAM NO.: 29-32 DATE: 3/14/					3
ITEM	CONDITION	COMMENTS	MONITOR	NESTIGATE	REPAIR
		DOWNSTREAM AREA			_
38	Abutment Leakage	None			ПП
39	Foundation Seepage	None	$\overline{\Box}$	一一	Ħ
40	Slide, Slough, Scarp	None	Ħ	Ħ	
41	Drainage System	east toe drain approx. 50-60 gpm, west side unknown due to tailwater	X		
42	Boils	None			
43	Wet Areas	There is a seep between the west drain endwall and outlet	X		X
44	Reservoir Slopes	Good			
45	Access Roads	Road stops @ east abutment			
46	Security Devices	Gate on east abutment			
47	Act 91 Run-of-the-River Signs or Bouys	None			
48					
49					
		SPILLWAYS: ERODABLE CHANNEL			
50	Slide, Slough, Scarp	None			
51	Erosion	Severe eroded channel from spillway to downstream channel			
52	Vegetation Condition	Large amounts of brush in channel	Ц_	<u> </u>	X
53	Debris	Trees and logs need removed	井	井	X
54			井	井	ዙ
55 Addi	tional Comments (Refer to it	tem number if applicable):			

NAM	E OF DAM: Meadow Grounds	DEP DAM NO.: 29-32	DATE:	3/14/	13
ITEM	CONDITION	COMMENTS	MONITOR	NESTIGATE	REPAIR
	SF	PILLWAYS: NON-ERODABLE CHANNEL	'		
56	Sidewalls	Good, minor cracking, sealed joints need repaired soon	X		П
57	Channel Floor	Good, minor cracking	Ħ	Ħ	Ħ
58	Unusual Movement	None			
59	Approach Area	Some woody debris needs removed			X
60	Weir or Control	Good, minor cracking			
61	Discharge Channel	Concrete section in good condition, natural channel needs debris remove	d		X
62	Boils	None			
63					
64					
		SPILLWAYS: DROP INLET			
65	Intake Structure	N/A		<u> </u>	닏
66	Trashrack	N/A N/A		<u> </u>	H
67 68	Stilling Basin	IVA	H	<del>-  -  </del> -	HH
69				$\vdash$	H
	tional Comments (Refer to it	em number if applicable):			

INAIVI	E OF DAM: Meadow Grounds		DEP DAM NO.: 29-32	DATE:	3/14/1	3
ITEM	CONDITION	COMMENTS		MONITOR	NESTIGATE	REPAIR
		OUTLET W	ORKS	•		
70	Intake Structure	Good from outside (See b	elow)			
71	Trashrack	N/A				
72	Stilling Basin	N/A				
73	Primary Closure	Unable to see during inspec				
74	Secondary Closure	Unable to see during inspe	ction			
75	Control Mechanism	Unable to see during inspe				
76	Outlet Pipe	Good from visual inspection				
77	Outlet Tower	Good from outside visual i	nspection			
78	Outlet Structure	Good from outside visual i	nspection			
79	Seepage	Unable to be deteremined				
80	Unusual Movement	None				
81						
82						
	75. As described above, we were usual observation review of the ove	• •	of the structure. This inspection was p	performed :	from or	nly
	CONCE	RETE/MASONRY D	AMS: UPSTREAM FACE			
83	Surface Conditions	N/A				
84	Condition of Joints	N/A				
85	Unusual Movement	N/A				
86	Abutment-Dam Contacts	N/A				
87						
88						
Addi	tional Comments (Refer to it	em number if applicable)	:			

NAME OF DAM: Meadow Grounds			DEP DAM NO.: 29-32	1271121	3/14/1.	
ITEM	CONDITION	COMMENTS		MONITOR	NESTIGATE	REPAIR
	CONCRE	TE/MASONRY DA	MS: DOWNSTREAM FACE			
89	Surface Conditions	N/A				ПП
90	Condition of Joints	N/A				
91	Unusual Movement	N/A				
92	Abutment-Dam Contacts	N/A				
93	Drains	N/A				
94	Leakage	N/A				
95						
96						Ш
		NCRETE/MASONI	RY DAMS: CREST			
97	Surface Conditions	N/A			<u> </u>	뷰
98	Horizontal Alignment	N/A N/A			<u> </u>	₽₽
99	Vertical Alignment Condition of Joints	+			-	+
100 101	Unusual Movements	N/A N/A		-	-	ዙ
102	Onusual Movements	1 1// 1				H
103					$\dashv$	H
	tional Comments (Refer to it	tem number if applicable)	:	, —		

INAIVI	Meadow Grounds		DEP DAIVI NO 29-32	DATE.	3/14/1	3
ITEM	CONDITION	COMMENTS		MONITOR	WESTIGATE	REPAIR
		RESERVOIR	AREA			
104	Sedimentation	Some				
105	Slope Stability	Good				
106	Sinkholes	None				
107	Fractures	None				
108	Unwanted Growth	There is some close to the w	rest embankment that should be removed			X
109	Storage Gage	None				
110						
111						
Addi	itional Comments (Refer to it	em number if applicable):				

## **Final Comments:**

During inspection the dam was approximately 3' to 4' below normal operating pool level. The Commission has begun the complete release of the reservoir at the the dam, according to local sources. The existing discharge appears to be at several thousand gallons per minute. There is a wet area/seepage area on the upper west side of the downstream embankment that needs immediate attention. We highly recommend that before dewatering the reservoir, a seepage analysis should be performed to further determine the exact location of the seepage area and evaluate if a risk of dam stability exists. From our observations, without reviewing as-constructed drawings of the dam, it appears that the seepage occurs high on the dam face over a small area near the western terminus of the dam, and where the dam embankment fill material meets the existing embankment/foundation. This foundation which could be fully or partially in bedrock. From nearby small weathered outcrop, it appears to be a weathered and deformed shale or shaley calcareous unit with distinct bedding separations and slippage, a near-vertical dip to the west, striking generally perpendicular to the dam. Without a seepage analysis to verify, it is possible that reservoir pressure induced weathering along the bedrock contact with the embankment structure led to the visible seepage over the years. There is no superficial evidence of seepage or any deformation at lower levels on the outfall side of the dam. Further, the elevation of the seepage correlated well with the full impoundment elevation prior to commencement of dewatering. As such, we speculate that within the next several weeks of continued dewatering at its current rate, this seepage will stop as the reservoir level falls below the seep elevation. This seep area is the only visible concern at

this time and the only evident reason to partially dewater the impoundment. It does not lead to a conclusion of imminent threat of failure or need to hastily or completely dewater the facility. Subsequent repair of the reservoir side by clay capping or limited slurry injection would most likely mitigate the issue. Additional investigation is warranted to evaluate and design this measure, however.

DAM OWNERS NOTICE CHECKLIST

## Pennsylvania Department of Environmental Protection Bureau of Waterways Engineering Division of Dam Safety

NA	ME OF DAM:		DEP DAM NO.:				
	This is to certify that both the Downstream Hazard Description is accurate and the Posted Notice						
	locations l	isted below have been ins	spected and the following are the results of these	inspe	ectio	ns.	
	lame of Dam Ow	ner	Signature of Dam Owner	Dat	е		
			company the Inspection Checklist filed by the			er.	
EMERGENCY ACTION PLAN							
		of Emergency Plan:	_				
Downstream Hazard Description (Refer to sections II.C and II.D in the EAP), additionally, specify any new							
dev	elopments, struct	tures, etc. downstream wi	thin the inundation area:				
		POSTED NOTIC	<b>ES</b> (Refer to section V.A in the EAP)				
				(1)	<b>(D</b>	۵	
Σ	DATE	LOCATION	2211172	EXISTING	MISSIING	REPLACED	
ITEM	INSPECTED	LOCATION	COMMENTS	XIS	IISS	Ä	
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Add	litional Comments	s (Refer to item number if	applicable):	<u> </u>			