



REQUEST FOR PROPOSALS

Dam Assessments and Plans

Date: March 6, 2019

Contact: Christine Craycroft, Executive Director
ccraycroft@portageparkdistrict.org; (330) 297-7728; portageparkdistrict.org

Due Date: March 22, 12:00 pm EST

Summary: The Portage Park District seeks proposals from qualified professionals for the inspection, evaluation and recommendations for improvements to dam safety, as well as Operations, Maintenance and Inspection Plans and Emergency Management Plans as required for three properties owned by the Portage Park District, Portage County Ohio.

Submittals: Proposals must address the information requested and may be submitted electronically to admin@portageparkdistrict.org or on paper to Portage Park District 705 Oakwood St. Suite G-4, Ravenna, Ohio 44266. The proposal name must be labeled on the envelope or in the subject line. Download the RFP packet at <https://www.co.portage.oh.us/portage-county-park-district/news-publications/pages/public-notice>

The mission of the Portage Park District is to conserve Portage County's natural heritage and provide opportunities for its appreciation and enjoyment

REQUEST FOR PROPOSALS

Dam Assessments and Plans

INTRODUCTION

Portage Park District (PPD—aka the owner) owns and manages park properties that include impounded water: Trail Lake Park, Seneca Ponds Park and Camp Spelman. Only Trail Lake has previously been inspected by the Ohio Department of Natural Resources (ODNR). PPD requests proposals from qualified firms to address the requirements of the ODNR inspection report for Trail Lake Dam; to assess the dam and associated structures for Seneca Ponds Park and Camp Spelman; and to develop Operations, Maintenance and Inspections Manuals (OMI) and Emergency Action Plans (EAP) for each dam.

Appendix A includes information about Camp Spelman, Appendix B includes information about Seneca Ponds Park and Appendix C includes information about Trail Lake Park, including the ODNR report for Trail Lake Dam. Information about Ohio's Dam Safety program and requirements, including the Inspection Checklist and guides for developing the OMI and EAP can be found at <http://water.ohiodnr.gov/safety/dam-safety#ABO>

OBJECTIVE

The objective of this RFP is to obtain the information required to select and reach an agreement with a Qualified Professional to perform inspections and plans for each of the park properties.

It is the Portage Park District's intention to ensure that the dam and related structures are appropriately classified or are exempt from classification, and that all requirements for dam inspections, maintenance, improvements and repairs are identified and managed to ensure dam safety and compliance with Ohio Law and best practices.

QUALIFIED PROFESSIONAL

The role of the Qualified Professional is laid out in [Ohio Revised Code section 1521.062 Inspection of dams and levees](#) and the [Ohio Administrative Code section 1501:21-3-02 Registered professional engineer and surveyor requirement](#).

The Qualified Professional is expected to direct and be involved throughout all phases of the project. If additional outside support, such as technical specialist consultation and quality assurance is required, it should be indicated in the Proposal.

SCOPE OF WORK

Phase 1 – Review of Available Information and Data

The project will commence with a start-up meeting to verify the project scope, timeline and the roles and responsibilities of the owner and the Qualified Professional. The Qualified Professional is expected to:

- Review the information and data available from the owner or other sources. Documents to be reviewed include but are not limited to:
 - Aerial photos and parcel maps
 - Topographic maps and surveys
 - Historical information
 - Construction plans and permits if available
 - Previous dam safety inspections, reports and recommendations
 - Correspondence with regulatory agencies;
 - Other available documents related to design, operation, maintenance, improvement, condition and performance of the dam or appurtenant works.

- Identify all possible hazards and their associated failure modes of the dam, based on an examination of available information.

Phase 2 – Field Review

- Carry out field review(s) of the dams, the impounded waters and the portions of the watershed both upstream and downstream of the dam to understand the condition of the dam and appurtenances, the flow control equipment, upstream hydrological impacts, and the development downstream of the dam.
- Perform surveys as necessary to determine topography and property ownership of the dam, spillway or related structures.
- Interview personnel and others who conduct routine surveillance and maintain the dam.
- Identify and discuss with the dam owner any changes to the scope of the project that need to be made as a result of this phase of work.

Phase 3 – Investigation, Evaluation and Draft Report

- Perform dam safety inspection checklists and determine the dam classification and safety expectations for each site.
- Based on these inspections determine the actual and potential deficiencies and summarize and prioritize the dam safety deficiencies and non-conformances. Determine required and recommended actions for each dam with associated cost estimates.
- Create a draft report of the dam conditions and recommendations. Include relevant maps, photos, plans, surveys, studies, typical drawings and references for recommended improvements and identify any permitting requirements.
- Create a draft Operation, Maintenance and Inspection (OMI) Manual for each site.
- Create a draft Emergency Action Plan (EAP) for each site as necessary.
- Prepare draft correspondence and reports to ODNR as necessary.
- Submit to PPD electronic copies of the inspections, draft reports, plans and manuals, and review with PPD.

Phase 4 – Finalize Report

The Qualified Professional is expected to:

- Address all PPD comments when preparing the Final Report;
- Complete the project deliverables.

DELIVERABLES

The Qualified Professional shall submit:

- Two hard copies and one electronic copy of all final materials produced, organized and

separated by site:

- Dam inspection checklists
- Relevant maps, photos, plans, surveys, studies, typical drawings and references for recommended improvements, and any other materials appropriate for the proper understanding and management of the dam
- Report on recommended actions for each site
- Final OMI and EAP for each site
- Final correspondence to ODNR as needed for each site to ensure compliance with dam safety law

Quality assurance of the final DSR report will be the responsibility of the Qualified Professional and their associated consulting firm.

PROPOSAL SUBMITTALS

Format

Proposals may be submitted electronically in PDF format to admin@portageparkdistrict.org or on paper in a sealed envelope to:

Portage Park District
705 Oakwood St. Suite G-4
Ravenna, Ohio 44266

The title of the proposal (*Dam Assessments and Plans Proposal*), should be included in the email subject field or written on the envelope. Proposals are due by February 25, 2019, 12:00 pm (EST)

Qualifications

- Include the professional qualifications, examples of relevant project experience and the fee structure for the Qualified Professional all other key personnel that will work on this project.
- Include project summaries of at least 2 other successful similar projects, including personnel associated with the project and project owner reference contacts

Cost Estimate and Schedule

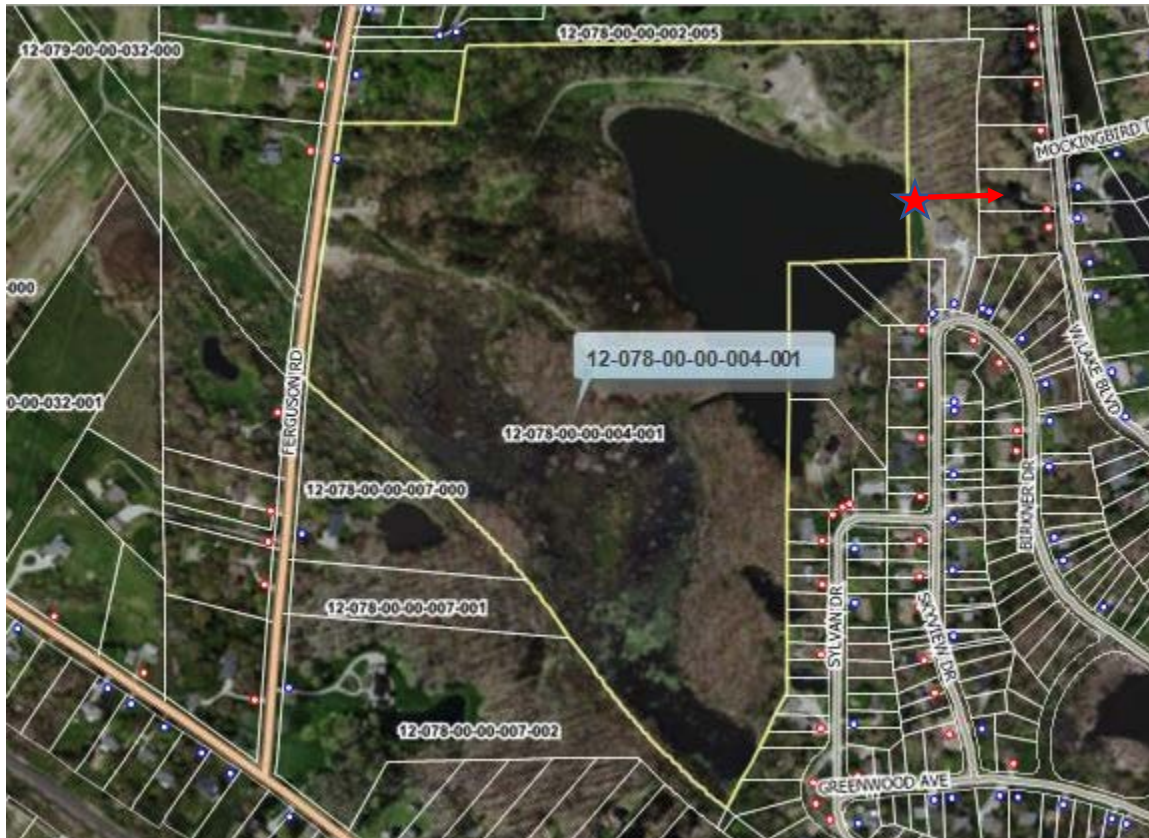
- Prepare a cost estimate broken out by personnel hours per task and by park site
- Include estimates for optional or as-needed services
- Prepare a work schedule based on the following phases, by site:
 - Project start and meeting with owner
 - Information gathering
 - Field review, site assessment and surveys, as needed
 - Evaluation and draft report
 - Review of draft report with owner
 - Final report and deliverables

PROPOSAL EVALUATION

The Portage Park District shall review all proposals received by the deadline and consider professional qualifications, experience, availability and capacity to perform work within a reasonable timeframe, and cost. PPD will enter into a contract with the selected firm based on agreed upon scope of work and timeline.

APPENDIX A

Camp Spelman



Camp Spelman is a ~58-acre undeveloped park property located at 7650 Ferguson Road in Franklin Township, Portage County. The lake was created prior to Park District ownership, and the park district has no record of the construction or plans. The outlet structure and a portion of the embankment are located on private property. Drainage flows to the east and eventually into West Twin Lake.

 Outlet location

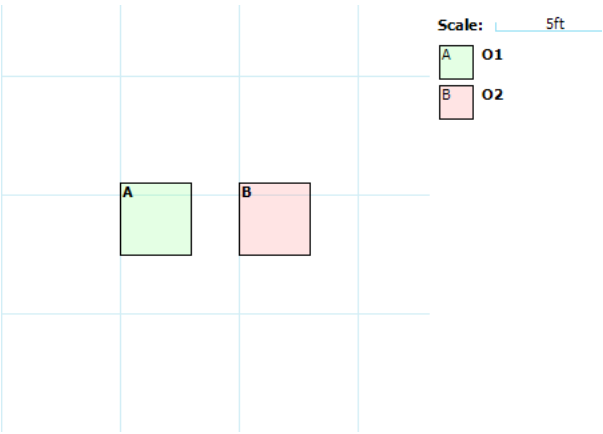
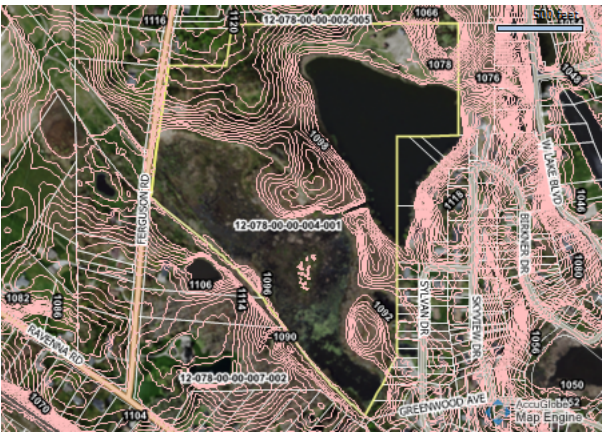
Portage County, Ohio - Property Record Card
Parcel: 12-078-00-00-004-001
Card: 1

GENERAL PARCEL INFORMATION	
Owner	PORTAGE PARK DISTRICT
Property Address	FERGUSON
Mailing Address	705 OAKWOOD ST SUITE G-4 RAVENNA OH 44266
Land Use	660 - EXEMPT PROP OWN BY PARK DISTRICTS
Legal Description	LOT 78 M & 67 N E COR

VALUATION		
	Appraised	Assessed
Land Value	\$223,600.00	\$78,260.00
Improvements Value	\$0.00	\$0.00
CAUV Value	\$0.00	\$0.00
Taxable Value	\$78,260.00	

LAND					
Land Type	Acreage	Depth	Frontage	D. Factor	Value
A4 - Undeveloped	58.08	0	0	0	223610

AGRICULTURAL				
Land Type	Land Usage	Soil Type	Acres	Value



RESIDENTIAL

ADDITIONS

IMPROVEMENTS				
Description	Year Built	Dimension	Area	Value
Shed Utility - 60	0	0x0	0	\$0.00
Misc Shelter - 717	0	0x0	0	\$0.00

SALES			
Date	Buyer	Seller	Price
8/25/2005	PORTAGE PARK DISTRICT	MARTIN CARRIE ANN	0
7/29/2005	MARTIN CARRIE ANN	**PARCEL SPLIT	0
7/29/2005	**PARCEL SPLIT	MARTIN CARRIE ANN	0
8/24/2001	MARTIN CARRIE ANN	MARTIN CARRIE ANN &	0
2/13/1992	MARTIN CARRIE ANN &	Unknown	0

COMMERCIAL

APPENDIX B

Seneca Ponds Park



Seneca Ponds Park is a ~48-acre property located at 515 Mondial Parkway, Streetsboro, Portage County, Ohio. The ponds were created prior to park district ownership, and the park district has no record of the construction or plans. The site includes two causeways separating the smaller ponds at the north end of the site from the larger pond. The outlet is a culvert pipe that drains toward Tinker's Creek.

★ Location of outlet culvert

Portage County, Ohio - Property Record Card

Parcel: 35-031-00-00-010-022

Card: 1

GENERAL PARCEL INFORMATION		
Owner	PORTAGE PARK DISTRICT	
Property Address	MONDIAL PK	
Mailing Address	705 OAKWOOD ST SUITE G-4 RAVENNA OH 44266	
Land Use	660 - EXEMPT PROP OWN BY PARK DISTRICTS	
Legal Description	INTERSTATE COMMERCE	CENTER BLK A-1B

VALUATION		
	Appraised	Assessed
Land Value	\$48,400.00	\$16,940.00
Improvements Value	\$0.00	\$0.00
CAUV Value	\$0.00	\$0.00
Taxable Value	\$16,940.00	

LAND					
Land Type	Acreage	Depth	Frontage	D. Factor	Value
A9 - Waste	48.412	0	0	0	48410

AGRICULTURAL				
Land Type	Land Usage	Soil Type	Acres	Value



A sketch is unavailable for this parcel.

RESIDENTIAL

ADDITIONS

IMPROVEMENTS

SALES			
Date	Buyer	Seller	Price
12/29/2006	PORTAGE PARK DISTRICT	WESTERN RESERVE LAND	0
10/16/2006	WESTERN RESERVE LAND	SNOWY WHITE EGRET	10000
5/2/2006	SNOWY WHITE EGRET	**PARCEL CREATED	0
5/2/2006	**PARCEL CREATED	Unknown	0

COMMERCIAL

APPENDIX C

Trail Lake Park



Trail Lake Park is a ~131-acre property in 2 parcels located on Ravenna Road, Streetsboro, Portage County, Ohio. The dam was constructed in the mid 1950's and has been identified as a Class III earthen dam and last inspected by the Ohio Department of Natural Resources in 2017—see the following report. The lake drains to Herrick Fen State Nature Preserve in the Tinker's Creek Watershed.

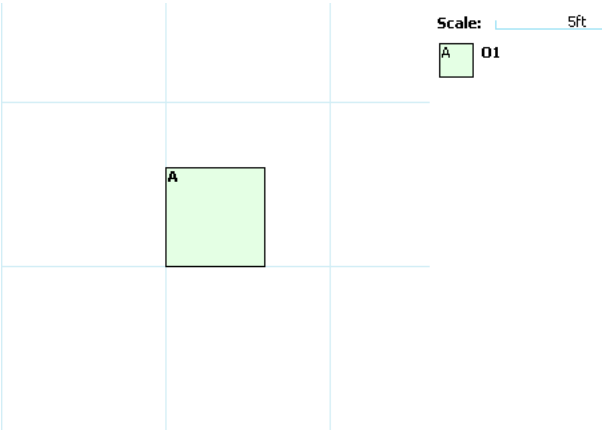
Portage County, Ohio - Property Record Card
Parcel: 35-093-00-00-016-000
Card: 1

GENERAL PARCEL INFORMATION	
Owner	PORTAGE PARK DISTRICT
Property Address	RAVENNA
Mailing Address	705 OAKWOOD ST #G-4 RAVENNA OH 44266
Land Use	100 - AGRICULTURAL VACANT LAND
Legal Description	LOTS 93 & 94

VALUATION		
	Appraised	Assessed
Land Value	\$525,900.00	\$184,070.00
Improvements Value	\$0.00	\$0.00
CAUV Value	\$0.00	\$0.00
Taxable Value	\$184,070.00	

LAND					
Land Type	Acreage	Depth	Frontage	D. Factor	Value
AS - SubTotal	127.638	0	0	100	525920
A0 - Row	1.127	0	0	0	0

AGRICULTURAL				
Land Type	Land Usage	Soil Type	Acres	Value



RESIDENTIAL	
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ADDITIONS	
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IMPROVEMENTS				
Description	Year Built	Dimension	Area	Value
Shed Utility - 60	1970	0x0	0	\$0.00

SALES			
Date	Buyer	Seller	Price
12/29/2017	PORTAGE PARK DISTRICT	GRESSARD FAMILY	0
12/20/1996	GRESSARD FAMILY	Unknown	0

COMMERCIAL	
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Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

Division of Water Resources

Rodney J. Tornes, Acting Chief

2045 Morse Road/Building B-3

Columbus, Ohio 43229

614-265-6620

dswc@dnr.state.oh.us

October 17, 2018

Portage Park District
705 Oakwood Street, #G-4
Ravenna, OH 44266

RE: Trail Lake Dam
File No: 1112-037
Class III - Portage County

Dear Dam Owner:

The Division of Water Resources is responsible for regulating dams throughout Ohio. We recently discovered that you purchased Parcel 35-093-00-00-016-000 in Portage County effective December 27, 2017. Please note that this parcel includes a Class III dam called Trail Lake Dam. If you are not the owner of this dam or believe that there are additional owners of the dam not addressed in this communication, please contact our office at 614/265-6731.

Under the provisions of Ohio Revised Code Section 1521.063, all owners of a dam that is classified as a class I, class II, or class III dam shall pay an annual fee, based upon the classification, the height of the dam, the linear foot length of the dam, and the volume of water impounded by the dam. The fee shall be paid to the Division of Water Resources on or before the thirtieth day of June of each year. Enclosed is the 2018 Dam Safety Annual Fee Invoice in the amount of \$168.64. We have adjusted the due date to November 17, 2018 and have enclosed a self-addressed envelope for your convenience.

The Chief of the Division of Water Resources has the responsibility to ensure that human life, health, and property are protected from dam failures. Conducting periodic safety inspections and working with dam owners to maintain and improve the overall condition of Ohio dams are vital aspects of achieving this purpose. The periodic safety inspection of the Trail Lake Dam was done on April 4, 2017. A copy of that report is enclosed for your review. Currently, dams are on a five year cycle of inspections, so the next inspection of your dam is scheduled to be sometime in 2022.

The 2017 inspection report is generated based on available information. Listed in the report are several repair, maintenance, and monitoring items that as a dam owner you are required by law to perform. Completion of these required items will improve the safety and overall condition of the dam. The Chief must approve any plans for modifications or repairs to the dam. Following approval of the engineered plans, all necessary repairs must be implemented by the owner under the supervision of a registered professional

Trail Lake Dam
October 17, 2018
Page 2

engineer. A copy of the laws and administrative rules for dam safety is available on the division's web site at <http://water.ohiodnr.gov/safety/dam-safety> or by request.

All dam owners are required to have an Emergency Action Plan (EAP) and an Operation, Maintenance and Inspection Manual (OMI). I have enclosed guidelines for preparing an operation, maintenance, and inspection manual and guidelines for preparing an EAP. An example of a Class III EAP and a fillable EAP form are available on the division's website at <http://water.ohiodnr.gov/safety/dam-safety#ADD>.

There is a potential to receive up to a 25% discount on your annual fee. A 15% discount of \$25.00 has not been applied because the dam is in not in compliance with state safety standards. An additional 10% discount of \$17.00 does not apply because there is no approved EAP on file.

Your cooperation in improving the overall condition of this dam is appreciated. Please contact our office at 614/265-6731 if you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Mia Kannik', is written over the word 'Sincerely,'.

Mia P. Kannik, P.E.
Program Manager
Dam Safety Program
Division of Water Resources

MPK:khn

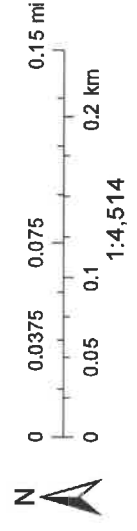
Enclosures

Trail Lake Dam - 1112-037




October 3, 2018

- | | | |
|--|---|--|
| ● Class I Dams | ● Other Dams | Counties |
| ● Class II Dams | Lakes (ODNR) | Current Township |
| ● Class III Dams | — NHD Streams (USGS) | Statewide Parcels |



Data For Parcel 35-093-00-00-016-000

Sales Data								
Parcel:	35-093-00-00-016-000							
Owner:	PORTAGE PARK DISTRICT							
Address:	RAVENNA							
								
[+] Map this property.								
Sales								
Sale Date	Sale Price	Seller	Buyer	No. Of Properties	Valid Sale	Land Only Sale	Deed Type	Conveyance Number
12/29/2017	\$0.00	GRESSARD FAMILY LIMITED PARTNERSHIP	PORTAGE PARK DISTRICT	7	UNKNOWN	Y	Warranty Deed Ex	
12/20/1996	\$0.00	Unknown	GRESSARD FAMILY LIMITED	0	UNKNOWN	Y		0

[Report Discrepancy](#)

GIS parcel shapefile last updated 10/2/2018 11:20:54 PM.

The CAMA data presented on this website is current as of 10/2/2018 3:41:32 AM.

Data For Parcel 35-093-00-00-016-000

Base Data

Parcel: 35-093-00-00-016-000
Owner: PORTAGE PARK DISTRICT
Address: RAVENNA



[+] Map this property.

Tax Mailing Address

Tax Mailing Name: PORTAGE PARK DISTRICT
Address: 705 OAKWOOD ST #G-4
City State Zip: RAVENNA OH 44266

Owner Address

Owner Name: PORTAGE PARK DISTRICT
Address: 705 OAKWOOD ST #G-4
City State Zip: RAVENNA OH 44266

Geographic

City: STREETSBORO CITY
Township:
School District: STREETSBORO C.S.D.

Legal

Legal Acres:	128.765	Homestead Reduction:	NO
Legal Description:	LOTS 93 & 94	2.5% Reduction	NO
Land Use:	110 - AGR VACANT LAND QUALIFIED CAUV	Foreclosure:	NO
Neighborhood:	29000	Board of Revision:	NO
Number Of Cards:	1	New Construction:	NO
Annual Tax (Does not include delinquencies.):	\$2,588.70	Divided Property:	NO
Map Number:		Routing Number:	

[Report Discrepancy](#)

GIS parcel shapefile last updated 10/2/2018 11:20:54 PM.

The CAMA data presented on this website is current as of 10/2/2018 3:41:32 AM.

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Portage County GIS



Notes

DAM SAFETY INSPECTION REPORT



TRAIL LAKE DAM

FILE NUMBER: 1112-037

INSPECTED: APRIL 4, 2017

PORTAGE COUNTY

CLASS III



Dam Safety Legal Obligations and Responsibilities in Ohio

In accordance with Ohio Revised Code (ORC) Section 1521.062, the owners of dams must monitor, maintain, and operate their dams safely. Negligence of owners in fulfilling these responsibilities can lead to the development of extremely hazardous conditions to downstream residents and properties. In the event of a dam failure, dam owners can be subject to liability claims and potential criminal charges.

The Chief of the Division of Water Resources has the responsibility to ensure that human life, health, and property are protected from the failure of dams. Conducting periodic safety inspections and working with dam owners to maintain and improve the overall condition of Ohio dams are vital aspects of achieving this purpose.

Representatives of the Chief conducted this inspection to evaluate the condition of the dam and its appurtenances under authority of Ohio Revised Code Section 1521.062. This inspection does not take the place of the owner's responsibility for performing dam inspections, nor does it provide any guarantee of the safety of the dam.

In accordance with Ohio Administrative Code (OAC) Rule 1501:21-21-03, the owners of dams must implement all remedial measures listed in the enclosed report.

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REQUIRED REMEDIAL MEASURES

The requirements listed below are based on observations made during inspection, calculations performed, and requirements of the Ohio Administrative Code (OAC). A checklist noting all observations made during the inspection is included as an appendix of this report. References to right and left in this report are oriented as if you were standing on the dam crest, looking downstream.

ENGINEER REPAIRS AND INVESTIGATIONS

The owner must retain the services of a registered professional engineer to address the following items. Plans, specifications, investigative reports, and other supporting documentation, as necessary, must be submitted to the Division of Water Resources for review and approval prior to construction. The owner must complete these items and implement all engineered plans for improvement within 5 years unless otherwise stated. A record of all repairs should be included in the operation, maintenance, and inspection manual. Please refer to the fact sheets included in the Dam Safety Fact Sheet Booklet for additional information.

1. Every dam shall have a spillway system which will safely operate during the design flood without endangering the safety of the dam in accordance with OAC Rule 1501:21-13-03. Investigate the deterioration and structural integrity of the principal spillway system and, as necessary, prepare plans and specifications for repair or replacement. The condition of the principal spillway system must be monitored quarterly until repairs can be made. See the "Spillway Conduit System Problems" and "Problems with Metal Materials" fact sheets for additional information.

OWNER REPAIRS AND MONITORING

The dam owner must address the items below as part of the required dam maintenance. The owner may perform the work or hire a contractor. The owner must implement all owner repairs and monitoring items within a timely manner. Repair activities should be documented in the Operation, Maintenance, and Inspection Manual (OMI). Please refer to the fact sheets included in the Dam Safety Fact Sheet Booklet for additional information.

The monitoring items in this section must also be incorporated in the OMI. Information in the OMI must include inspection frequency, method of assessing the condition, and documentation of observations. See the Owner Dam Safety Program section of this report for additional information regarding an OMI.

Owner Repairs

1. Remove the trees and brush from the entire main embankment and saddle dam. Seed all disturbed areas to establish a proper grass cover. See the "Trees and Brush" fact sheet for additional information.
2. Mow all vegetation on the main embankment, saddle dam and in the emergency spillway to maintain a maximum height of 12 inches. See the "Ground Cover" fact sheet for additional information.

3. Seed the bare areas on the crest of the main embankment and saddle dam as well as the emergency spillway control section to establish a proper grass cover. See the "Ground Cover" fact sheet for additional information.
4. Repair the rodent burrows on the main embankment and saddle dam. See the "Rodent Control" fact sheet for additional information.
5. Repair the vehicle ruts on the crest of the main embankment and saddle dam as well as the emergency spillway control section. If vehicular traffic is to continue, a proper wearing course should be installed. See the "Ground Cover" fact sheet for additional information.
6. Repair the low areas on the crest of the main embankment. Following repairs, the alignment of the crest must be monitored quarterly for recurrence of the low area. See Discussion Item #1 included in this section for additional information.
7. Replace the trashrack at the inlet of the principal spillway. Install a suitable anti-vortex plate. See the "Design and Maintenance of Trashracks" fact sheet for additional information.
8. Remove the brush and debris from the principal spillway inlet area, riser, and discharge pipe to improve flow. Remove the trees, brush, and debris from the inlet and channel of the emergency spillway. Also, remove the pile of debris and woody vegetation from the upstream slope, near the principal spillway inlet.

Monitoring Items

9. Monitor the seepage and/or wet area on the downstream slope of the main embankment quarterly for any signs of increased flow, muddy flow, or instability on or adjacent to the embankment. See the "Seepage Through Earthen Dams" fact sheet for guidance in monitoring the seepage and/or wet area and for additional information.

Resolving all Engineering Repair and Investigation items as well as Owner Repair items listed in the sections above makes a dam eligible to receive a 15% discount off the annual fee for the dam. The Engineering items must be resolved as directed in this report. The Owner Repair items may be resolved by submitting a description of the repairs and photographs. There are no partial discounts available.

OWNER DAM SAFETY PROGRAM

Assuring the safety of dams is a cooperative effort between owners, consultants and the Division of Water Resources - Dam Safety Program, with the most important role being that of the owner. The owners see the dam regularly and through their surveillance and monitoring, can detect changing and/or deteriorating conditions.

The scope of a particular owner's dam safety program should be commensurate with the size, type, and complexity of the owner's dam(s). There is no "one size fits all" dam safety program. At a minimum, the owner's dam safety program must include:

- A person (owner or owner's designated representative) responsible for dam safety (Dam Safety Officer) with the authority to maintain dam safety (clear designation of responsibility, oversight, and authority).
- Access to sufficient technical resources and expertise.
- A proactive and informed owner inspection and engineering evaluation program.
- Adequate on-site presence and/or remote monitoring capability.
- An approved Operation, Maintenance, and Inspection Manual that is kept up-to-date, requirements and recommendations followed, and proper records kept.
- An approved Emergency Action Plan that is kept up-to-date and is well coordinated with the local emergency management agencies.

OPERATION, MAINTENANCE, AND INSPECTION MANUAL (OMI)

A dam, like any other infrastructure, will change and deteriorate over time. Appurtenances such as gates and valves must be routinely exercised to ensure their operability. Inspection and monitoring of the dam identifies changing conditions and problems as they develop, and maintenance prevents minor problems from developing into major ones. Dam owners must have these procedures documented in an OMI.

1. Trail Lake Dam does not have an OMI on file. Prepare an OMI and submit for approval. Guidelines for the preparation of this document can be found online at: <http://water.ohiodnr.gov/safety/dam-safety#ADD>.

EMERGENCY ACTION PLAN (EAP)

Despite efforts to provide sufficient structural integrity and to perform inspection and maintenance, dams can develop problems that can lead to failure. Early detection and appropriate response are crucial for maintaining the safety of the dam and downstream people and property. The ORC requires the owner to fully and promptly notify the Division of Water Resources of any condition which threatens the safety of the structure. A rapidly changing condition may be an indication of a potentially dangerous problem. The Division of Water Resources - Dam Safety Program can be contacted at 614/265-6731 during business hours or at 614/799-9538 after business hours. Dam owners must have emergency preparedness procedures documented in an EAP. All contact names and phone numbers in the EAP must be verified on an annual basis. Any revisions to the EAP must be submitted to the Division of Water Resources and the local county Emergency Management Agency (EMA).

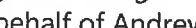
1. Trail Lake Dam does not have an approved emergency action plan (EAP). Prepare an EAP and submit for approval. Guidelines for the preparation of this document can be found online at: <http://water.ohiodnr.gov/safety/dam-safety#ADD>. The fillable EAP located on the above website is appropriate for Trail Lake Dam.

Having an approved OMI and EAP on file with Division of Water Resources makes a dam eligible to receive a 10% discount off the annual fee charged to the dam.

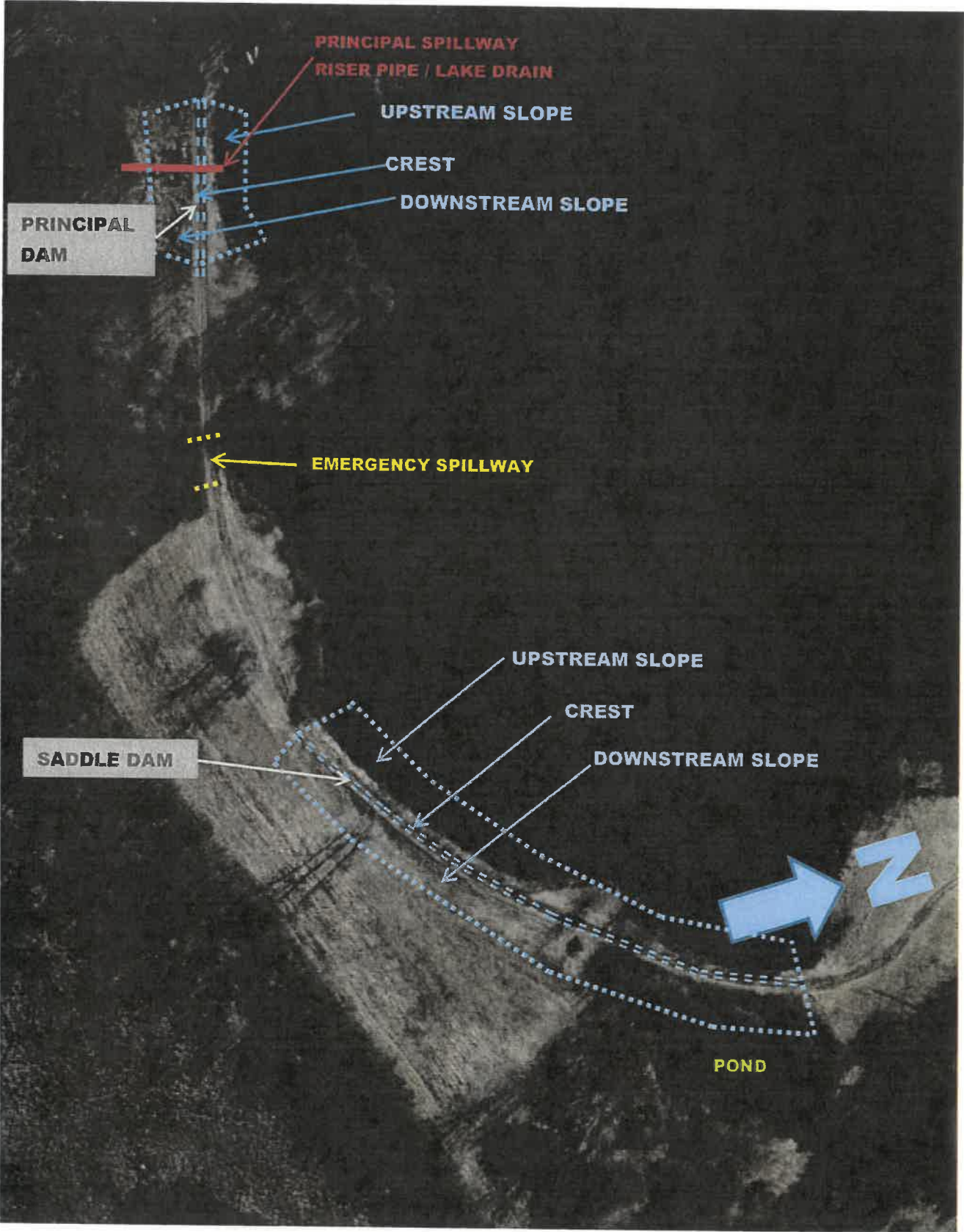
-

 _____ Date _____
Jim Huitger
Construction Specialist
Dam Safety Program
Division of Water Resources

 _____ 6/27/2017
Matthew Hook, P.E.
Project Manager
Dam Safety Program
Division of Water Resources

 6/30/17
Mia P. Kannik, P.E. Date
Program Manager
On behalf of Andrew D. Ware, Acting Chief
Division of Water Resources

SITE MAP



PHOTOGRAPHS



1. A view of the upstream slope of the saddle dam.

Note the trees and brush entirely covering the slope.



2. A view of the upstream slope of the main dam.



3. A view of rodent activity on the upstream slope.



4. A view of the crest of the saddle dam.

Note the rutting on the crest.



5. A view of the crest of the main dam.



6. A view of an un-level portion of the main dam crest.



7. A view of the downstream slope of the saddle dam.



8. A view of the downstream slope of the main dam.



9. A view of rodent activity on the downstream slope.



10. A view of the principal spillway riser and trashrack

Note the small openings in the wire fence.

Also, note the pile of debris and brush removed from the riser placed by rodents.



11. A view inside the riser.

Note the vegetation obstructing the flow to the riser.



12. A view of the principal spillway outlet.

Note the vegetation obstructing flow out of the pipe. Also, note the bottom of the pipe filled with debris.





13. A view inside the principal spillway outlet pipe.

Note the deterioration and corrosion.



14. A view of the emergency spillway.

Note the bare control section



15. A view downstream from the emergency spillway control section.

Note the tall brush and weeds.

CLASSIFICATION

Trail Lake Dam

Height	11.9 ft	Class
Storage	183.1 ac-ft	IV
Potential Downstream Hazard		III
		III
Final Class:		III

The classification of a dam is based on three factors:

- the dam's height,
- storage capacity, and
- potential downstream hazard.

The height of the dam is the vertical distance from the top of dam (crest) elevation to the lowest point along the downstream toe. The storage capacity is the total volume of water that the dam can impound at the top of dam (crest) elevation. The potential downstream hazard consists of roads, buildings, homes, and other structures that would be

damaged in the event of a dam failure. Potential for loss of life is also evaluated. Various dam failure scenarios must be considered, and they include failures when the dam is at normal pool level and failures during significant flood events. Each of the three factors is evaluated, and the final classification of the dam is based on the highest individual factor. Class I is the highest and Class IV is the lowest. The classification of a dam can change based on future development or other changes along the downstream channel or from changes made to the dam.

HEIGHT AND STORAGE CRITERIA		
Class	Height (ft)	Storage (ac-ft)
I	> 60	> 5000
II	> 40	> 500
III	> 25	> 50
IV	≤ 25	≤ 50
Exempt	< 10 and	< 50
Exempt	< 6 or	< 15

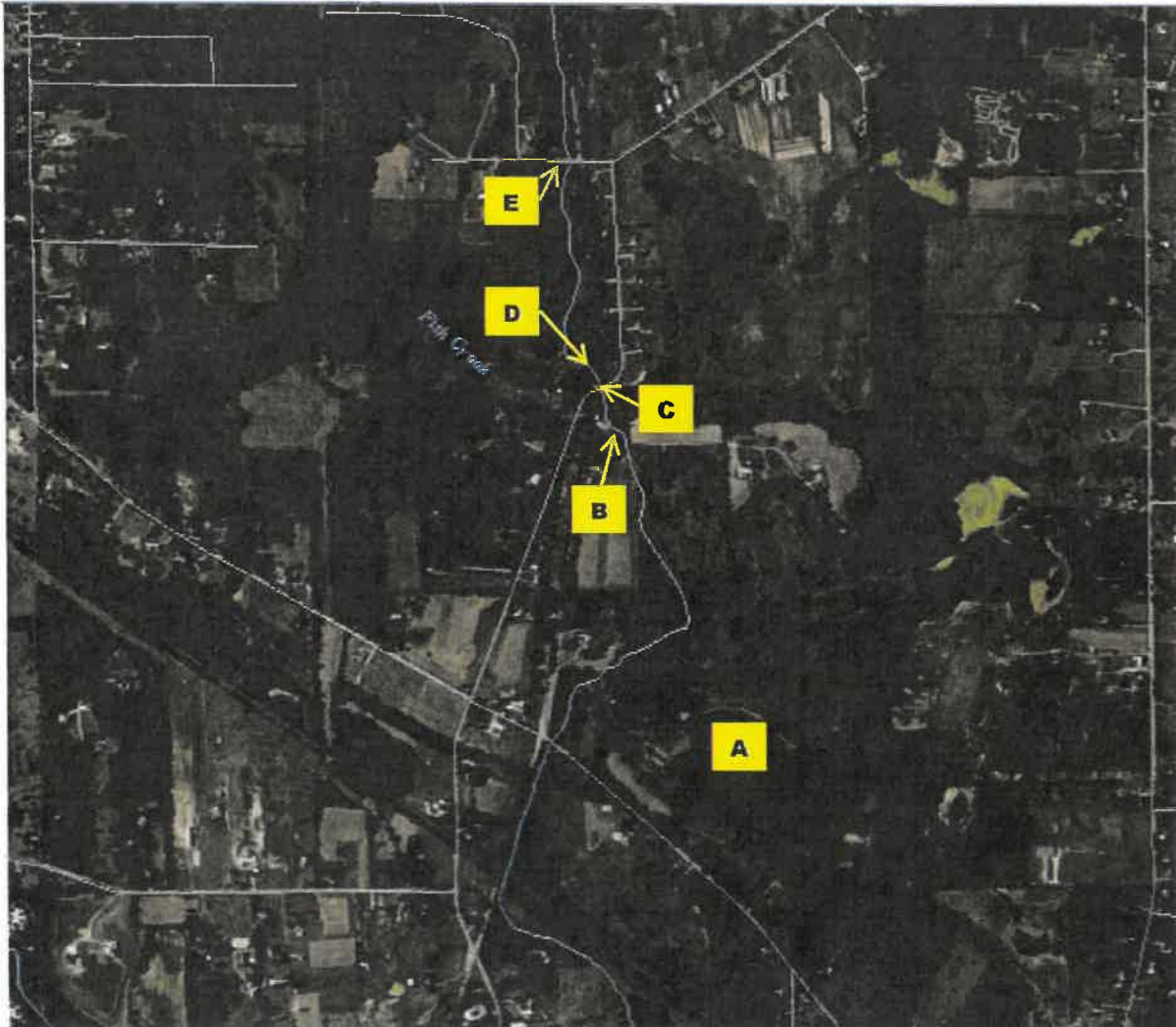
POTENTIAL DOWNSTREAM HAZARD

The following table shows the structures such as homes, businesses, roads, etc. that have been identified as part of the potential downstream hazard investigation. The letter in the table corresponds to the structure on the aerial photograph. The table is intended to establish or verify the appropriate classification in accordance with the OAC. It does not necessarily show all potential hazards or the full extent of inundation. Furthermore, in the event of dam failure, property owners in addition to those identified in the table should be made aware of the situation. This potential downstream hazard investigation is based on field observations, and aerial photography from Google and the Ohio Statewide Imagery Program.

Trail Lake Dam Potential Downstream Hazard Classification

Hazard Class:	I	II					III	IV	—	Distance (ft)				
Potential Hazard	Probable loss of human life.	Loss of public water supply or wastewater treatment facility, release of health hazardous waste	Flooding of structure or high-value property	Damage to high-value or Class I, II, III dam or levee	Damage to major road (US or state route), disruption of only access to residential or critical facility area	Damage to railroad or public utility	Damage to rural building, not otherwise high-valued property, or Class IV dam or levee	Damage to local road (county and township)	Loss restricted mainly to the dam or agricultural, rural land	No hazard to structure noted	No hazard assessment; further investigation needed	Downstream - Dam to affected structure	Vertical - Streambed to base of affected structure	Horizontal — Stream to affected structure
Trail Lake Dam							A					-	-	-
Tinker's Creek Road							B					3,600	6	0
Seasons Road										C		4,235	20	0
Railroad Tracks										D		4,500	16	0
Clark Road										E		5,900	12	0

Downstream Map



FLOOD CAPACITY

A dam must be able to safely pass severe flood events. A dam uses a combination of spillway discharge capacity and the reservoir's ability to store floodwater (storage capacity), known as discharge/storage capacity, to prevent floodwater from overtopping the embankment crest and destabilizing the dam. When a dam has inadequate discharge/storage capacity, floodwater will overtop and most likely erode the embankment. This can cause severe damage and dam failure.

As part of this inspection, the Division of Water Resources did not thoroughly investigate the ability of this dam to safely pass the required design flood. However, in 2012, the Division of Water Resources performed hydrologic and hydraulic calculations to estimate the size of the design flood and the total spillway discharge capacity of the dam. These calculations combined with the reservoir storage capacity were used in the flood routings to estimate the maximum water surface elevation in the reservoir for various flood events.

Trail Lake Dam is a Class III dam; therefore, in accordance with OAC Rule 1501:21-13-02, the required design flood is 25% of the Probable Maximum Flood (PMF) or the critical flood. This dam and its spillway system must safely pass the design flood without overtopping the embankment crest. Flood routing calculations indicate that the dam can pass 80% of the PMF; Trail Lake Dam appears to be able to safely pass the design flood.

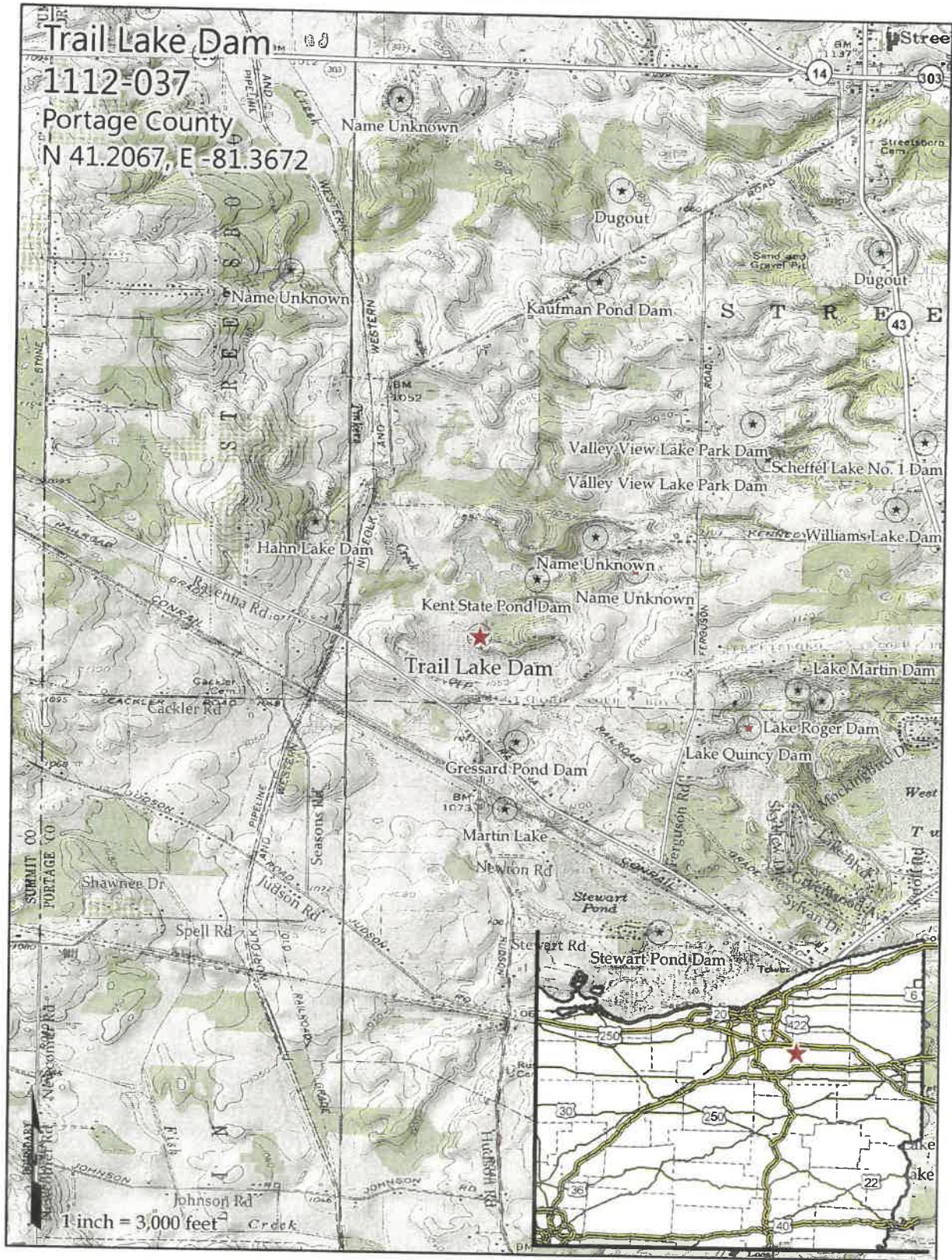
HISTORY

Trail Lake Dam

	Dam constructed.
July 9, 1980	Dam inventoried.
May 28, 1992	Site Visit
February 9, 2001	Dam safety inspection by the Division of Water Resources.
June 28, 2012	Dam safety inspection by the Division of Water Resources.
April 4, 2017	Dam safety inspection by the Division of Water Resources.

APPENDIX - LOCATION MAP, INVENTORY, INSPECTION CHECKLIST, OTHER AGENCIES

LOCATION MAP



Dam Inventory Sheet

Name: TRAIL LAKE DAM

File No: 1112-037

National #: OH00671

Permit No.: EXEMPT

Reservoir:

Class (Ht-Vol): III (IV - III)

Owner: Gressard Family Limited Partnership

Owner Information

Owner Type: Private

Address: Gwenn Gressard

Multi-Dams: -

978 Janet Drive

Parcel No.:

City: Kent

State: OH

Zip: 44240

Contact:

Phone No.: 330/673-1489

Location Information

County: Portage

Latitude Deg.: 41

Min.: 12

Sec.: 24

Township: City Of Streetsboro

Longitude Deg.: 81

Min.: 22

Sec.: 2

Stream: Tributary To Tinkers Creek

USGS Quad.: Kent

USGS Basin No.: 04110002

Design/Construction Information

Designed By: William Gressard, Owner

Constructed By: William Gressard, Owner

Completed:

Plan Available: NO

At:

Failure/Incident/Breach:

Structure Information

Purpose: Fish Hatchery

Type of Impound.: Dam And Spillway

Type of Structure: Earthfill

Drainage Area (sq. miles): 0.13

or (acres): 85

Embankment Data

Length (ft): 200

Upstream Slope: 3H:1V

Height (ft): 11.9

Downstream Slope: 3H:1V

Top Width (ft): 13

Volume of Fill (cub. yds.):

Spillway Outlet Works Data

Lake Drain: 8-IN-DIA CIP AT BOTTOM OF RISER W/BOLTED FLANGE

Principal: 36-IN-DIA CMP RISER W/24-IN-DIA CMP DISCHARGE

Emergency: 85-FT-WIDE OPEN CHANNEL IN LEFT ABUTMENT BETWEEN DAM & DIKE

Maximum Spillway Discharge (cfs): 960 Design Flood: 0.25 Flood Capacity: 0.80

Dam Reservoir Data

Elevation (ft-MSL)*

Area (acres)

Storage (acre-feet)

Top of Dam: 1037.7

34.2

183.1

Emergency Spillway: 1036

32.2

126.7

Principal Spillway: 1035

31

95.1

Streambed: 1025.8

Foundation:

*Elevations are not necessarily related to a USGS benchmark

Inspection Information

Inspection 4/4/2017 JRH

Phase I:

History: 6/28/2012 BAR

Other Visits: 7/09/80 INV

6/25/2012 BAR

2/9/2001 VAZ

Inspection Year: E

5/28/1992

Operation Information/Remarks

LAKE HAS 640-FT-LONG DIKE ALONG NORTHERN SHORELINE. SEE FILE FOR PROFILES OF DAM, DIKE & EMERGENCY SPILLWAY. FLOOD CAPACITY IS ESTIMATED, APPEARS TO PASS DESIGN FLOOD.

Emergency Action Plan: Not Approved

Format: No Plan

OMI: Not Approved

Last Entry: 4/13/2017

Dam Safety Inspection Checklist

Name of Dam: Trail Lake Dam
 Date of Inspection: April 4, 2017
 File Number: 1112-037
 Class: III
 Haz.: III, Height IV, Volume: III

Portage County
 Required Action
 None Mon. Maint. Eng.
☒ ☐ ☐ ☐

Interview with Owner (at the site):

Owner/Representative present: (Yes, No) Name(s): Gwenn Gressard, and Bob Lange (with Portage Park District)
 Owner's Name(s): Gressard Family Limited Partnership
 Address: Gwenn Gressard, 978 Janet Drive,
 City: Kent State: OH Zip (+4): 44240
 Contact Person: Gwenn Gressard Telephone: 330/673-1489
 Email Address:
 Purpose of dam: Fish Hatchery

Owner Dam Safety Program

Emergency Action Plan Not Approved No Plan
 EAP (document): Up-to-date? (yes, no) ☐ ☐ ☒ ☐
 Downstream development: No change.

Operation, Maintenance, and Inspection Not Approved No Manual
 OMI (document): Up-to-date? (yes, no) ☐ ☐ ☒ ☐
 All drains operable? (yes, no) owner reported that the Lake Drain was operable.

Normal rate of drawdown: 7 Accessibility for operation: Valve is in the principal spillway riser.
Maintenance
 Frequency of mowing: Very infrequent
 Other maintenance: Removed beaver damage.

Inspection

Frequency and thoroughness of day-to-day & routine inspections: None

Problems found during inspections: None

Field Information

Pool Elevation (during inspection): 1" ± above normal pool Time: 2:30 (a.m. p.m.)
 Site Conditions (temp., weather, ground moisture): 60°, overcast, dry
 Inspection Party: Jim Huitger, Matt Hook, and Ryan Haskett

Confirm the Following: ☒ Dam Height (ft): 11.9 ☒ NP Area (ac): 31

Reference Information

The emergency spillway is located to the west of the dam, and the dike is located to the west of the emergency spillway.

Auditor's site says tax mailing to Gwen Gressard, 978 Janet Drive, Kent Ohio 44240

Lake Has 640-ft-long Dike Along Northern Shoreline. See File For Profiles Of Dam, Dike & Emergency Spillway. Flood Capacity Is Estimated, Appears To Pass Design Flood.

Impound. Type: Dam And Spillway
 Structure Type: Earthfill
 Township: City Of Streetsboro
 Stream: Tributary To Tinkers Creek
 Designed By: William Gressard, Owner
 Constr. By: William Gressard, Owner
 Year Compl.: Plans Avail.? No At:
 Fail./Incid.:

	Elev.	Area (ac)	Stor. (ac-ft)	(in.)
TOD:	1037.7	34.2	183.1	12.4
Em. S/w:	1036	32.2	126.7	4.5
Prin. S/w:	1035	31	95.1	
Strmbd:	1025.8			
Basin (ac):	85			

Upstream Slope

☒ Gradient: 3H:1V

Required
Action

None
Monitor
Repair
Engineer

Typical Problems: shoreline erosion, trees & brush, surface erosion, ruts, rodent burrows, earth slides, cracks

Main Embankment + Saddle Dam

Trees and brush over the entire slope; with aquatic vegetation.

No erosion noted.

Rodent activity noted.

No ruts, slides, or cracks noted.

X		X	
X		X	

Crest

☒ Width (ft): 13

☒ Length (ft): 200

☒ Total Freeboard (ft): 2.70

Typical Problems: low areas, trees & brush, surface erosion, ruts, cracks

Main Embankment + Saddle Dam

Entire crest has ruts, low areas, & bare areas

None
Mon.
Rep.
Eng.

		X	

Downstream Slope

☒ Gradient: 3H:1V

Typical Problems: trees & brush, surface erosion, ruts, rodent burrows, earth slides, cracks, seepage

Main Embankment + Saddle Dam

Trees and brush over the entire slope.

Water ponding on toe of the slope. Could not determine if it is seepage or ponding.

Rodent activity noted.

No erosion, ruts, slides or cracks noted.

None
Mon.
Rep.
Eng.

	X	X	X
X			

Principal Spillway

☒ 36-in-dia Cmp Riser W/24-in-dia Cmp Discharge

Typical Problems: Inlet obstructed, unsatisfactory trashrack/anti-vortex plate, material deterioration, misalignment, open joints, outlet erosion, outlet overgrown, undermining

None
Mon.
Rep.
Eng.

		X	
		X	
		X	
		X	

Very poor trashrack and ^{no} anti-vortex plate.

Inlet is obstructed with a wire fence and vegetation.

The principal spillway riser is deteriorating. It will need to be replaced soon. Inspect completely to determine if a new liner is required.

The principal spillway pipe is deteriorating. It will need to be replaced soon. Inspect completely to determine if a new liner is required.

Outlet pipe is almost completely hidden with grass and weeds.

There is debris in the bottom of the pipe.

☒ Sufficient measurements to perform hydraulics (dimensions, riser depth, outlet elevation)

Required
Action

☒ 85-ft-wide Open Channel In Left Abutment Between Dam & Dike
Emergency Spillway ☒ Freeboard (to normal pool, feet) 1.00

Typical Problems: Flowpath obstructed, material deterioration, erosion, misalignment, overgrown, undermining

None
Monitor
Repair
Engineer

*Trees and brush over the entire emergency spillway.
Could not inspect dp to amount of brush.
Control Section is safe.*

X			X	
			X	

☒ Sufficient measurements to perform hydraulics (dimensions, breadth, side slopes)

Lake Drain

☒ 8-in-dia Cip At Bottom Of Riser W/bolted Flange

Typical Problems: Poor operating access, inoperable, deteriorated/missing components, outlet erosion

None
Mon.
Rep.
Eng.

The owner indicated that the lake drain valve is operable.

X				

Other

None
Mon.
Rep.
Eng.

☒ All Field Data Gathered (inspector's initials): **JBH** **MJH**

Site Sketch

☒ Investigate Downstream Hazard

Agencies Associated with Dams and Lakes

The Division of Soil & Water Resources has the responsibility to ensure that human life, health, and property are protected from dam failures. The division provides fact sheets and dam safety information for dam owners on the division's web site: www.dnr.state.oh.us/water. Other governmental agencies are involved with the lakes and streams associated with dams, but have other responsibilities. Listed below are several relevant agencies that dam owners may be interested in contacting.

County Emergency Management Agency



County Emergency Management Agencies (EMAs) serve the public in disaster preparedness, public safety, and emergency management at the county level. County EMAs are responsible for coordinating relief efforts related to manmade and natural disasters. In the case of a dam emergency, the County EMA is one of the dam owner's first contacts.

Telephone: 330 297-3609

State Web Site: <http://ema.ohio.gov/index.aspx>



Soil & Water Conservation District

County soil and water conservation districts (SWCDs) serve communities by providing assistance to urban and agricultural land users. SWCDs specialize in soil erosion prevention and water management. Some of services offered by county SWCD offices include survey and design of grassed waterways, erosion control structures, surface and subsurface drainage, farm ponds, and livestock waste management facilities. SWCDs also sponsor a number of information and education programs. In addition to these services, SWCDs may utilize assistance from the USDA Natural Resources Conservation Service (NRCS) for some technical matters.

http://www.dnr.state.oh.us/H_Nav2/OFFICESWCDSDistrictOffices/tabid/9093/Default.aspx

330-297-7633 - Telephone

Natural Resources Conservation Service



Since 1935, the Natural Resources Conservation Service (originally called the Soil Conservation Service) has provided leadership in a partnership effort to help America's private landowners and managers conserve their soil, water, and other natural resources. NRCS employees provide technical assistance based on sound science and suited to a customer's specific needs. NRCS provides financial assistance for many conservation activities.

Web Site: <http://www.nrcs.usda.gov/>

Division of Wildlife



The Division of Wildlife within the Ohio Department of Natural Resources manages fish and wildlife of the state. The division offers assistance in stream improvement and pollution investigations and provides fishery information and publications on pond stocking. Information regarding pest and rodent control can be obtained by visiting the division website or by contacting the regional office. The Division of Wildlife should be contacted before starting any construction activity where loss of aquatic life is anticipated.

330-644-2293 - District Office 3

<http://ohiodnr.com/Home/ContactUs/tabid/18270/Default.aspx> - Web Site

Ohio Environmental Protection Agency



The Ohio Environmental Protection Agency (EPA) establishes environmental guidance and enforcement standards for the state. In particular, the Division of Surface Water provides assistance for matters pertaining to rivers, lakes, and streams in Ohio. The Division of Surface Water can provide information and assistance in developing best management practices for the control of point and non-point pollution sources and spills. Suspected pollution spills can be reported directly by using the Ohio EPA Spill Hotline at 1-800-282-9378.

District Office Northeast: 330-963-1200

State Web Site: <http://www.epa.state.oh.us/>

OSU Extension



The Ohio State University (OSU) Extension utilizes knowledge and research developed by the Ohio Agricultural Research and Development Center, Ohio State, and other land-grant universities to assist communities, businesses, and individuals. In addition to a wide variety of community leadership and agricultural services for all ages, county OSU Extension offices offer information and assistance in agricultural water resource conservation and management, farm pond management, and safety, Ohio hydrologic cycles and non-point source pollution management. Information regarding dry hydrant fire protection and legal liabilities associated with farm ponds in Ohio can be found on the extension website.

330-263-3831 - Extension Region: North East

<http://extension.osu.edu/locate-an-office> - Web Site



Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

Division of Water Resources

Andrew D. Ware, Acting Chief

2045 Morse Road/Building B-3

Columbus, Ohio 43229

614-265-6620

Email: dswrc@dnr.state.oh.us

June 30, 2017

Gressard Family Limited Partnership
c/o Gwenn Gressard
978 Janet Drive
Kent, OH 44240

RE: Trail Lake Dam
File Number: 1112-037
Portage County

Dear Ms. Gressard:

Thank you for allowing Jim Huitger, Ryan Heskett, and Matt Hook of the Division of Water Resources to conduct a safety inspection of Trail Lake Dam on April 4, 2017. This inspection was conducted by representatives of the Chief of the Division of Water Resources under the provisions of Ohio Revised Code (ORC) Section 1521.062 to evaluate the condition of the dam and its appurtenances. The Chief has the responsibility to ensure that human life, health, and property are protected from dam failures. Conducting periodic safety inspections and working with dam owners to maintain and improve the overall condition of Ohio dams are vital aspects of achieving this purpose. A copy of the laws and administrative rules for dam safety is available on the division's web site or by request. I have enclosed guidelines for preparing an operation, maintenance, and inspection manual and guidelines for preparing an emergency action plan.

The enclosed inspection report was generated based on available information and is hereby provided for your use and study. Listed in the report are several repair, maintenance, and monitoring items that as a dam owner you are required by law to perform. Completion of these required items will improve the safety and overall condition of the dam. The Chief must approve any plans for modifications or repairs to the dam. Modifying or repairing a dam includes, but is not limited to, installing or replacing a spillway pipe or a portion of a spillway, raising the embankment crest elevation, raising the normal pool level, and placement of fill and/or piping in an open channel spillway. Following approval of the engineered plans, all necessary repairs must be implemented by the owner under the supervision of a registered professional engineer.

To gain information that will help improve the inspection program, a short survey has been developed and is enclosed. Please complete the survey and return it in the self-addressed envelope provided. Your feedback is important.

Trail Lake Dam
June 30, 2017
Page 2

It is the Division's understanding that you are the owner of this dam. Under Ohio's dam safety regulations, "owners" are "those who own, or propose to construct a dam or levee." OAC Rule 1501:21-3-01(V). A "dam" is defined as "any artificial barrier together with any appurtenant works, which either does or may impound water or other liquefied material ..." OAC Rule 1501:21-3-01(F). "Appurtenant works" include but are not limited to outlet works and spillway channels.

If you are not an owner of this dam, or believe that there are additional owners of the dam not addressed in this communication, please contact Jim Huitger. Please note that ORC Section 1521.062 requires a dam owner to notify the Chief of the Division of Water Resources in writing of a change in ownership of a dam prior to the exchange of the property.

Your cooperation in improving the overall condition of this dam is appreciated. Please contact Jim Huitger at 614/265-6736 if you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Mia Kannik', is written over the typed name.

Mia P. Kannik, P.E.
Program Manager
Dam Safety Program
Division of Water Resources

MPK:jrh

Enclosures