LISBON DAM REMOVAL RESTORATION WORK PLAN

Operable Unit 3 (OU-3)
Former Nease Chemical Site
Salem, Ohio

REPORT

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November 2016 **Project No. 933-6154-006**

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LIST OF ACRONYMS

CD	Consent Decree
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
E&S	Erosion and Sedimentation
MFLBC	Middle Fork Little Beaver Creek
NCP	National Contingency Plan
NPS	National Park Service
ODNR	Ohio Department of Natural Resources
Ohio EPA	Ohio Environmental Protection Agency
ROC	RÜTGERS Organics Corporation
RWP	Restoration Work Plan
SOW	Statement of Work
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service

1.0 INTRODUCTION

This Lisbon Dam Restoration Work Plan (RWP) has been prepared by Golder Associates Inc. (Golder), on behalf of RÜTGERS Organics Corporation (ROC) in accordance with the Remedial Action and Natural Resource Restoration Consent Decree (CD) for the Nease Chemical Site in Salem, Ohio lodged on September 9, 2016. The CD was entered between the U.S. Environmental Protection Agency (USEPA) the Ohio Environmental Protection Agency (Ohio EPA), ROC, and the U.S. Fish & Wildlife Service (USFWS). The natural resources trustees (Ohio EPA and USFWS) identified the removal of Lisbon Dam, a low head concrete channel dam as a key Restoration Project that will enhance the productivity of the habitat of Middle Fork Little Beaver Creek (MFLBC).

The dam removal as described herein will satisfy the associated requirements set forth in the Restoration Statement of Work, (Appendix H to the CD). The following sections of this RWP provide an overview of the project and summarize the approach and procedures that will be used to implement the Restoration Work.

2.0 SITE DESCRIPTION

Lisbon Dam spans MFLBC at river mile 12.5 and is located within Willow Grove Park, directly west of the center of the Village of Lisbon and just upstream of the State Route 30 (Lincoln Highway) bridge (Site). The Site is accessible on the west from the Willow Grove Park entrance at 700 W. Lincoln Highway and on the east from Maple Street. The dam is a low head concrete channel dam that was constructed in 1952 under the terms of an agreement between the Ohio Department of Natural Resources (ODNR) and the Village of Lisbon. No plans or specifications exist documenting the construction of Lisbon dam have been identified, however, it appears to be constructed of reinforced concrete. The main span of the dam is approximately 75 feet long and 5.5 foot high and is flanked by two adjoining abutments on each side of MFLBC. The abutments are approximately 8 feet wide, 12 feet long, and approximately 10 feet high.

3.0 PERMIT REQUIREMENTS AND ACCESS

This Restoration Project is being performed on-Site (as defined by CERCLA and the National Contingency Plan (NCP)) pursuant to a Consent Decree with the USEPA and state and federal Natural Resources Trustees. As such, the U.S. Army Corps of Engineers has confirmed that no formal permitting is necessary, however, the Restoration Work will be conducted in accordance with the substantive requirements of applicable laws and regulations. The following items in combination with the procedures described in this RWP document substantive state and federal requirements have been/will be met:

- The Restoration Statement of Work stating that removal of Lisbon Dam will result in a net *increase* in wetlands and improvement of stream habitat (Attachment 1).
- USFWS "Finding of No Significant Impact" documenting the project's compliance with the Endangered Species Act (Attachment 2).
- Ohio EPA documentation stating that the removal of Lisbon Dam will not degrade the quality of state waters (Attachment 3).
- Ohio Department of Natural Resource's Division of Soil and Water Resources – Dam Safety Program's statement declaring that the division does not have jurisdiction over Lisbon Dam (Attachment 4).
- U.S. National Park Service's documentation stating that this project will not invade or unreasonably diminish any National Wild and Scenic Rivers (Attachment 5).
- National Register Eligibility Report documenting that Lisbon Dam is not eligible for listing on the National Register of Historic Places (Attachment 6).

The Columbiana County Soil and Water Conservation District Office has indicated that a permit is not required for this work but requested notification prior to construction mobilization. After approval by the Trustees, this RWP will be provided to the County prior to mobilization. A complete copy of this RWP will also be maintained on-Site for the duration of construction activities. Finally, the Village of Lisbon passed Resolution #1940 (Attachment 7) on June 28, 2013 supporting the project, and subsequently entered into an access agreement to facilitate execution of the project.

4.0 PROPOSED RESTORATION APPROACH

The proposed restoration approach described herein is designed to achieve the performance standard established in the Restoration Statement of Work, which is: “Removal of the main span of Lisbon Dam, which will enhance habitat quality and the movement and colonization by fish and invertebrate species.”

4.1 Site Preparation

The dam will be accessed via Village of Lisbon property on the west and/or east side of the dam. Accessing the western side of the dam may include temporary closing of Willow Grove Park to the public and posting warning signs. Access to the eastern side of the dam will be via the access road from Maple Street. Use of this access route may require limited removal of small trees in close proximity to the existing access path. Construction fencing, warning signs, and/or other clearly visible markings/barriers will be erected to prevent public access to the work area. The contractor will establish an efficient ingress and egress traffic pattern and will keep routes clear at all times to facilitate emergency access/egress if needed.

ROC will work closely with the Village to minimize disturbance resulting from the work. This may include requiring that the contractor may only use the park for access during specific times of the year (e.g., only certain months) and/or for a limited amount of time. Coordination will occur once this Work Plan has been approved and a contractor has been selected. The final layout of access routes/areas will be provided to the Trustees prior to mobilization.

“Construction entrance” signs will be posted 350 feet from the entrance to any public roadway in both directions. Flaggers may be used for large construction equipment entering and/or exiting public roadways if determined necessary at the time of construction.

Care will be taken to protect existing features at Willow Grove Park from damage due to construction activities. For example, low ground pressure, rubber tracked equipment will be used or an access road will be constructed (e.g., geotextile plus stone) as needed. All structures, including the Park pavilion, will be clearly identified and demarcated with construction fencing as necessary. Any damage inadvertently caused by construction activities will be repaired at completion of the work at no cost to the Village.

Staging areas will be established for equipment, supplies and debris generated from dam removal (e.g., concrete). Staging areas will be protected by a layer of geotextile over the existing ground surface. Temporary erosion and sediment controls will be installed around staging areas and staged materials will be secured/covered daily (e.g., with poly sheeting) as necessary to prevent release of sediments or construction materials into the adjacent surface water.

4.2 Dam Removal Approach

The following general procedures will be followed to demolish and remove both the main span of the dam and the two abutments.

- Cut a notch as close to the center of the dam wall as possible (based on reach of equipment) to breach the dam and dewater upstream pool. Expand notch as needed to reduce upstream water level to anticipated base flow conditions to minimize release of sediment during construction
- Demolish abutments using an excavator with mounted hydraulic breaker/jackhammer or similar equipment.
- Use abutment materials as necessary to create access and minimize equipment disturbance of sediment.
- Proceed across dam breaking up concrete wall with excavator.
- Remove dam wall to base of stream, cut off any protruding rebar and grade concrete surface to extent practicable to blend with stream substrate.
- Once dam wall is demolished, remove all debris while exiting stream.
- Load debris into trucks and transport to an appropriately permitted solid waste disposal or recycling facility.
- Restore any disturbed areas of stream bank to previous condition.

4.3 Erosion and Sediment Control and Storm Water Pollution Prevention Plan

The area of ground disturbance during the work is anticipated to be less than 1 acres. If the ground is disturbed (e.g., tracking over grassy areas), the surface water will be protected using silt fence, straw bales, or other similar erosion and sediment (E&S) controls. E&S controls will be installed surrounding construction areas and adjacent to MFLBC to protect surface waters from construction runoff. Disturbed areas will be protected with E&S controls prior to commencement of any major construction activities.

Although the dam removal necessitates operating in and around MFLBC, to the extent practicable a 50-foot natural buffer, as measured from the ordinary high water mark, will be maintained between surface waters and construction activities such as stockpiling and staging of equipment, and any laydown areas associated with demolition debris. The removal of the dam will be carried out so as to minimize the number of stream crossings and the area of disturbance within surface waters.

The Site will be stabilized in accordance with the requirements and guidance for complying with Ohio EPA's Authorization for Storm Water Discharges Associated with Construction Activities. Any disturbed areas within 50 feet of MFLBC will be temporarily stabilized within two days of disturbance if the area will remain idle for more than 14 days, and permanently stabilized within seven days of completion of construction activities. All other disturbed areas will be temporarily stabilized within seven days of the most recent disturbance, and permanently stabilized within seven days of completion of construction activities.

The above Site-specific storm water pollution prevention measures will be in place prior, during, and following all construction activities until disturbed areas have been stabilized.

Additional measures will be taken to protect surface water from hydraulic and/or fuel spills by requiring:

- All construction equipment and fuel storage containers will be inspected, at a minimum, daily and any damage (e.g., worn hydraulic lines) that could lead to a leak or spill will be repaired or replaced prior to performing work.
- An oil-absorbent boom will be placed across MFLBC downstream of the dam.
- Spill kits and/or absorbent materials will be available on all equipment.
- If fuel will be stored on-Site, double containment will be provided. Any refueling taking place on-Site will be, at a minimum, 50-feet away from surface waters.
- Any soils or sediment impacted by a fuel, hydraulic fluid, etc. leak/spill will be excavated (extent determined based on visual inspection) and disposed off-Site at an appropriately permitted disposal facility.

By breaching the dam and lowering the water level to base flow in a staged and controlled manner, minimal sediment mobilization will occur. The downstream scour pool is sufficiently large to trap and contain any incidentally mobilized sediments. Sediments are not impacted by site-related contaminants of concern at levels that would pose a risk to human health or the environment. Suspended solids generated from the work, and any resulting increase in turbidity, will be temporary and are not expected to cause a degradation to water quality or habitat downstream as stated in Ohio EPA and NPS letters (Attachments 3 and 5) .

4.4 Construction Debris Disposal

All construction debris and any other wastes generated, including concrete rubble associated with the demolition of the dam, will be disposed off-Site at an appropriately permitted solid waste disposal or recycling facility. The selected contractor will identify a proposed disposal facility and the Trustees will be notified of the selected facility prior to off-Site transport of materials.

4.5 Site and Habitat Restoration

Environmental impacts from construction will be minimized to the extent practicable and affected areas will be restored to previous conditions. All temporary structures, materials and equipment associated with the work will be removed upon completion of the work. Disturbed (e.g., access roads, laydown areas, etc.) vegetated riparian areas (not including maintained grassy areas of the park) will be stabilized and vegetated with a native wetland seed mix. It is not anticipated that significant tree removal will occur as a result of this work, but if trees are removed, the Trustees will be contacted to determine any appropriate replacement with native species common to the corridor.

As discussed above, existing Willow Grove Park features will be protected during construction activities. Any incidental damages to Park property will be repaired and restored to previous condition at no cost to the Village.

Maintained grassy areas within Willow Grove Park will be reseeded with a standard grass seed mix capable of achieving vegetative coverage of at least 75% within 60 days and 90% coverage within one year. Bare spots shall be scattered and no bare spot shall be larger than 1 square yard (at both 60 days and 1 year following construction). Maintenance activities during the first year will include periodic watering and reseeding as needed. If the dam removal work is conducted during the winter season, re-vegetation may be postponed until ground conditions allow. E&S controls will be maintained in upland areas, as needed, until vegetation is established.

New riparian wetland habitat will be created naturally from the removal of the dam and the resulting lower water level. Previously submerged sediments will become exposed (during base flow conditions) from lowering the water level and, based on discussions with Ohio EPA, are expected to naturally revegetate to create wetland habitat. The newly exposed areas will be monitored periodically for up to 1 year to confirm that wetland vegetation becomes established. If needed, spot seeding/planting and/or control of invasive species will be conducted during this period to aide wetland creation.

4.6 Protection of Species of Regulatory Concern

Three state or federally listed species have been identified as potentially present within the project area: two bat species (Indiana bat and Northern long-eared bat) and one amphibian (Eastern Hellbender). The USFWS has determined that there will be no significant impact to these species assuming work is performed in accordance with the requirements specified herein. In addition, the NPS has indicated that mussels, if encountered, must be protected as described below.

4.6.1 Bat Habitat

At this time it is anticipated that only minor tree removal will be required, if any, to access the dam. In the event that trees must be removed during the work, the following procedures will apply for protection of bat habitat:

- Between October 1st and March 31st – No restrictions. Trees may be removed as necessary, although all reasonable efforts will be taken to minimize the number of trees removed. Trees will be replaced if requested by the Village.
- Between April 1st and September 31st – If tree removal is required, the USFWS will be notified so that trees that may not be removed can be marked prior to implementing the work. Any trees marked by USFWS will not be disturbed.

4.6.2 Eastern Hellbender

In the event that an eastern hellbender (*Cryptobranchus a. alleganiensis*) is encountered during implementation of the work described herein, Karen Hallberg or Jeromy Applegate in the USFWS Columbus Field Office will be notified immediately at (614) 416-8993 (extensions 23 and 21, respectively).

4.6.3 Mussels

If mussels are encountered within the project area during construction, work will be halted and the Ohio Department of Natural Resources (ODNR) Scenic Rivers staff will be contacted. ODNR will make arrangements to properly relocate affected mussels to a suitable habitat site within the MFLBC.

4.7 Streambank and Riparian Land Conservation

Consistent with the Restoration SOW, three acres of riparian/streambank land in the vicinity of Lisbon Dam will be placed under conservation following dam removal. Possible conservation areas are shown on Figure 2 (based on the Village property limits), but the specific area to be conserved will be determined based on habitat conditions and discussions with the Village of Lisbon. Conservation will be performed in accordance with the Conservation Work Plan, which will be submitted for Trustee review and approval under separate cover.

5.0 CONTRACTING, SCHEDULE AND COORDINATION

5.1 Contracting Approach

Following Trustee approval of this work plan, ROC will retain a qualified contractor to perform the dam removal in accordance with this RWP. ROC will notify the Trustees prior to mobilization and will coordinate to ensure that ROC and the Trustees have the opportunity to provide on-Site oversite of construction activities. Design changes, if any, will be agreed upon in the field during construction in consultation with the Trustees' on-Site representative.

5.2 Preliminary Schedule

It is anticipated that mobilization will occur within 30 days of Trustee approval of this work plan, weather and access permitting. A schedule to perform the work will be developed by the selected contractor and will be provided to the Trustees.

5.3 Coordination

The Trustees, the NPS, the ODNR, the Village of Lisbon, and the Columbiana County Soil and Water Conservation District Office will be notified prior to mobilization. ROC and the selected contractor will work closely with the Village to minimize disruption to the public during construction.

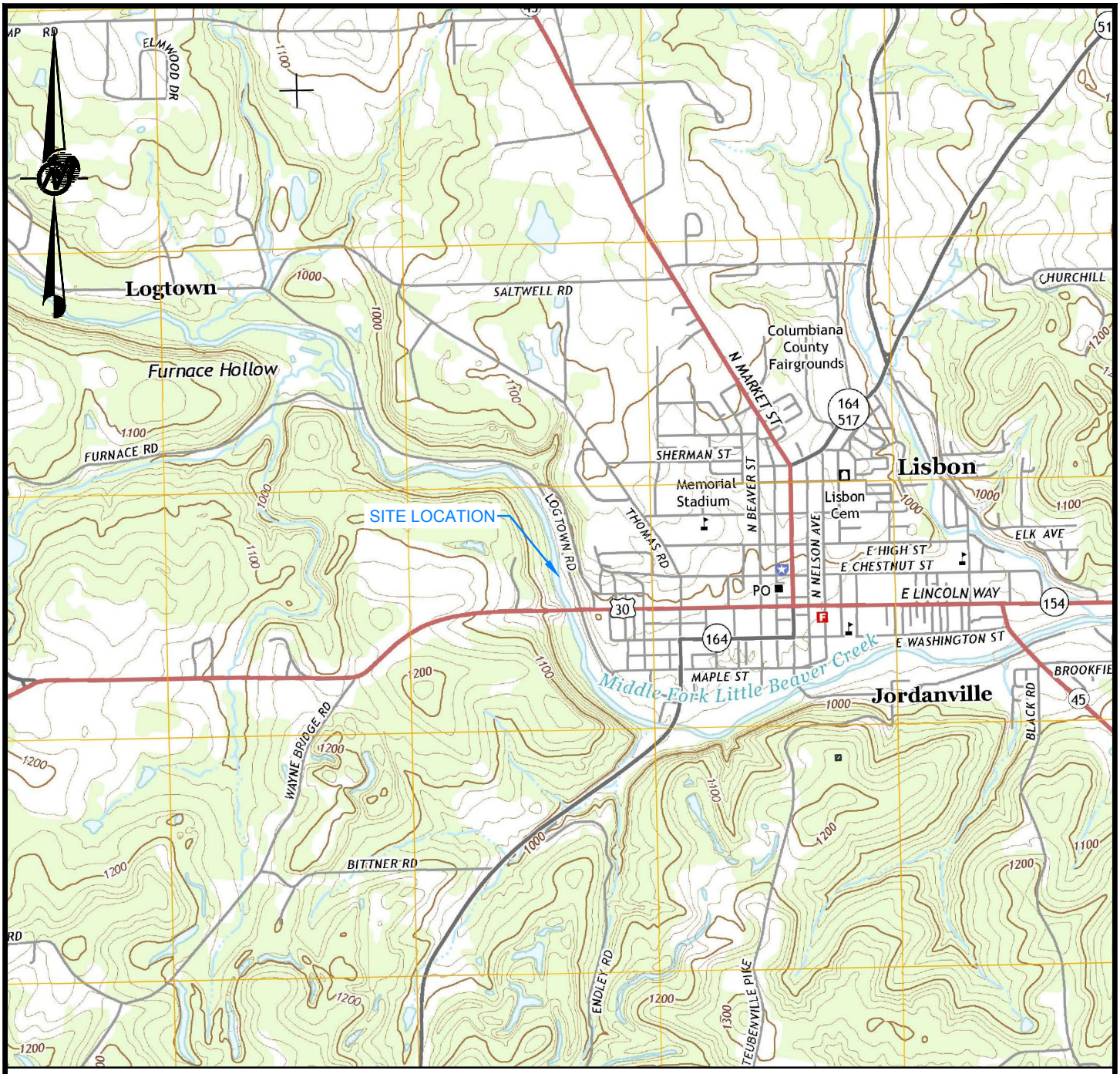
The entities described above will be promptly notified of any incidents or design changes that could be relevant to their interests, and to ensure continued compliance with federal, state and local representative.

6.0 REPORTING

A joint inspection will be performed by ROC and the Trustees at the completion of construction. A Restoration Completion Report summarizing the removal of Lisbon Dam will then be prepared and submitted to the Trustees within 90 days after the inspection. This report will include the following:

- A summary of the work completed including stabilization and/or restoration activities, off-site disposal of removed materials, and any deviations from the approach described herein
- Figure(s) showing the completed work
- A photographic log documenting pre- and post-construction conditions

A copy of the Restoration Completion Report will be provided to the NPS within 3 months after written notification from the Trustees that the project is complete.



KEY MAP

SCALE: 1 INCH = 200 MILES

REFERENCE

1.) BASE MAP TAKEN FROM USGS 7.5 MINUTE SERIES QUADRANGLE OF LISBON, OHIO DATED 2013.

2000 0 2000
SCALE FEET

NJ Authorization #24GA28029100

Golder Associates
Mt. Laurel, New Jersey

FILE No.	9336154ZZB01
PROJECT No.	933-6154
REV.	0

SCALE	AS SHOWN
DATE	11/28/16
DESIGN	KSG
CADD	RG
CHECK	APJ
REVIEW	PSF

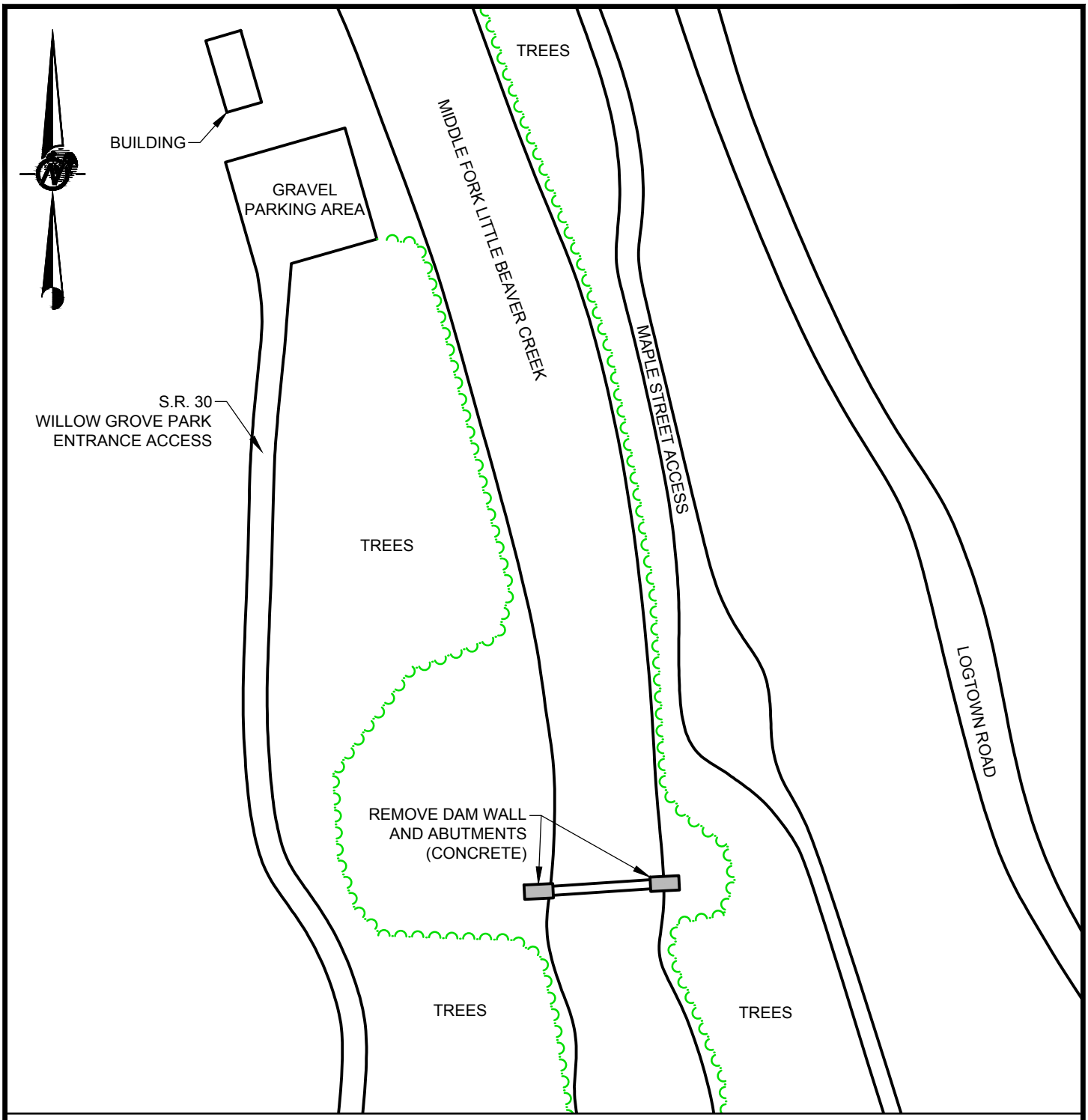
TITLE

SITE LOCATION MAP

RUTGERS ORGANICS CORPORATION

FIGURE 1

Drawing file: 9336154ZZB01.dwg Nov 28, 2016 - 5:24pm



LEGEND

TREE LINE

REFERENCE

1.) SITE FEATURES DIGITIZED FROM GOOGLE EARTH PRO IMAGE 2016).

100 0 100

SCALE FEET

NJ Authorization #24GA28029100

Golder Associates
Mt. Laurel, New Jersey

FILE No.	9336154ZZB02
PROJECT No.	933-6154
REV.	0

SCALE	AS SHOWN
DATE	11/28/16
DESIGN	KSG
CADD	RG
CHECK	APJ
REVIEW	PSF

TITLE

MFLBC LISBON DAM REMOVAL

RUTGERS ORGANICS CORPORATION

FIGURE 2

Drawing file: 9336154ZZB02.dwg Nov 28, 2016 - 5:27pm

ATTACHMENT 1

RESTORATION STATEMENT OF WORK

United States v. Rutgers Organics Corporation (N.D. Ohio)

Consent Decree
Appendix H

Restoration Statement of Work

Restoration Statement of Work for the
Natural Resource Damage Settlement with Rütgers Organics Corporation for
Injuries Related to the Former Nease Chemical Facility

I. Purpose

The purpose of this Statement of Work is to describe the general requirements for Restoration Work Plans to be developed by Rütgers Organics Corporation (ROC) to implement restoration for the projects listed below. Two Restoration Work Plans are anticipated, one for the Lisbon Dam removal and one for the Conserved Lands. If Trustees believe that additional or supplemental work plans are needed, Trustees will so inform ROC. The Restoration Work Plans are to be submitted to the Trustees for their review and approval prior to initiating the restoration.

II. Restoration Projects

The Restoration Projects agreed to by the Trustees and ROC include the removal of Lisbon Dam or "Dam" and the conservation of a minimum of 153 acres of suitable habitat within the Little Beaver Creek watershed and the City of Salem drinking water source areas (*i.e.*, Priority Properties[1] and/or Alternate Properties selected in accordance with the Alternate Properties Screening Criteria established in the Consent Decree as Appendix K) as well as an existing 7-acre wetland and adjacent habitat in the northwest portion of the Former Nease facility. The role of the Restoration Work Plans is to provide detailed information on the restoration activities to be conducted for the Restoration Projects and to specify how ROC will achieve the Restoration Performance Standards in full satisfaction of the requirements of the Consent Decree.

III. Restoration Work Plans Requirements (General)

General Restoration Work Plan requirements are provided below and reflect the scope of the Restoration Projects agreed to by ROC and the Trustees.

a. Removal of Lisbon Dam

The Dam Restoration Work Plan shall describe in detail the proposed removal of Lisbon Dam. This information should include:

1. A topographic map showing the location of the Lisbon Dam in relation to the Former Nease Chemical Facility.

[1] The "Priority Properties" are: riparian and forested land at river mile 35 and river mile 33.3 of the Middle Fork of the Little Beaver Creek (estimated acreage of 72 acres), Egypt Swamp riparian land (estimated acreage of 18 acres), riparian and forested land around river mile 31 of the Middle Fork of the Little Beaver Creek (estimated acreage of 20 acres), and protection of the City of Salem water resource areas (estimated acreage of 40 acres) as well as 3 acres of riparian habitat at the Lisbon Dam location.

2. Preliminary (30% level) plans or designs to remove the main span of the Dam, including the use or disposal of the concrete rubble resulting from the Dam removal. Plans shall include:
   (i) any restoration activities required or anticipated as the result of the dam removal activities (*e.*g., bank repair/stabilization, one-time removal of invasive species, seeding of grass or replacement of removed trees/vegetation).
   (ii) Locations of equipment and material staging areas.
   (iii) Locations of ingress and egress rights of way.
   (iv) Potential locations(s) of disposal sites(s) for Dam material (if necessary).
3. The contracting approach (for example, design/build) proposed by ROC to complete the Dam removal, including provisions for oversight by ROC and the Trustees.
4. A draft Conservation Instrument as per Paragraph 76 of the Consent Decree for the three (3) acres of riparian habitat at the Dam location that will be pursued by ROC.
5. Location of the three (3) acres described above and a description of the intended restoration (*e.g.*, one-time removal of invasive species and one-time planting of native species of plants and shrubs to enhance the riparian habitat, if needed).
6. Identification of any permits[2] necessary for the Dam removal and restoration activities, and description of any activities necessary to comply with such permits.
7. A proposed schedule for the completion of the Dam removal project. The schedule should identify all stages of the Dam removal (*e.g.*, obtaining access; clearing and grubbing; breaching the Dam; demolition sequence, disposal of Dam materials, post-removal activities) and the submission of a Restoration Completion Report summarizing the work completed.

b. Conserved Lands

ROC shall prepare a Conserved Lands Restoration Work Plan that describes the process to be used to conserve a minimum of 153 acres (*i.e.*, Priority Properties and/or Alternate Properties) of appropriate habitat. As provided in the Consent Decree, Alternate Properties may be implemented under certain circumstances. In such cases, Work Plan Supplements may be required. The Conserved Lands Restoration Work Plan and/or Work Plan Supplements shall include:

1. A description of the ROC Conservation Trust or "Trust" and its goals, specifically for conserving a minimum of 153 acres in the Little Beaver Creek watershed and the City of Salem drinking water source areas. The

[2] ROC, with the assistance of the Trustees, will obtain any necessary permits for the removal of Lisbon Dam. The permits may be provided as attachments to the Restoration Completion Report (*i.e.*, not required in the Restoration Work Plan).

total initial value of the Trust ($366,000) and an outline of how the Trust funds will be expended should be included.
2. Identification of the Grantee of the Trust.
3. A brief description of the type of properties targeted for conservation, including their habitat type and quality.
4. A description of the Grantee's process for acquiring land and/or Conservation Instruments as per Paragraph 76 of the Consent Decree and the selection process to be used for identifying and acquiring the Conserved Lands. In the case of Alternate Properties, the selection process shall be in accordance with the Alternate Properties Screening Criteria provided in Appendix K of the Consent Decree.
5. Conservation Instruments, including prohibitions and activity and use limitations anticipated for the Conserved Lands, based upon the applicable template attached to the Consent Decree as Appendix I.
6. A proposed schedule to acquire the minimum acreage required by the Consent Decree and additional acres conserved until the Trust money is exhausted.
7. Topographic maps showing the location(s) and estimated acreage of the properties to be targeted for conservation, as available at the time of Work Plan submission.
8. Identification of any necessary one-time removal of invasive species and replanting with native species, if necessary to prevent unacceptable soil erosion or storm water run-off, on the targeted Conserved Lands.
9. A proposed schedule for completion of the acquisition of interests in the Conserved Lands, identifying all stages of the land acquisition as per number 4 above.

c. Donation of Wetland

ROC will donate an existing seven (7) acre wetland and adjacent habitat in the Northwest portion of the Former Nease Facility to the Grantee of the ROC Conservation Trust for perpetual conservation. The Conserved Lands Restoration Work Plan shall include the following:

1. Topographic map showing the location and boundaries of the area to be donated.
2. A brief description of the area targeted for conservation, including the habitat type and quality.
3. Draft Conservation Instrument including prohibitions and activity and use limitations anticipated for the Conserved Land, based upon the applicable template attached to the Consent Decree as Appendix I.
4. Identification of the Grantee.
5. A proposed schedule for completion of the donation of the Site wetland.

IV. Restoration Performance Standards

The Restoration Work Plans shall specify how ROC will achieve the following restoration performance standards consistent with Section X of the Consent Decree:

- Removal of the main span of the Lisbon Dam, which will enhance habitat quality and the movement and colonization by fish and invertebrate species.
- Protection of 40 acres of potable water source areas from contamination, by means of Conservation Instruments as per Paragraph 76 of the Consent Decree.
- Protection of at least 120 acres of wetlands, associated riparian habitat and ecologically associated uplands, by means of Conservation Instruments, which will foster and promote increased spawning and nursery habitats for fish, as well as nesting and foraging opportunities for a wide variety of birds and other wildlife. [3]

V. Restoration Completion Report

Restoration Completion Report(s), including the following components, shall be submitted per the deliverables schedule in the Work Plans.

1. For Lisbon Dam, the Restoration Completion Report shall include a detailed summary of the work completed, including the disposition of removed materials and any stabilization and/or any restoration activities conducted in conjunction with the Dam removal.

2. For the Conserved Lands, a map showing the location and acreage of the properties acquired, and a brief summary of their ecological value and any restoration activities conducted.

3. A certification that interests in the Conserved Lands have been acquired and/or transferred to the Grantee, and that the associated Conservation Instruments have been recorded.

4. A summary of the costs incurred by ROC for the acquisition of the Conserved Lands.

VI. Progress Reports

During the period of the development and implementation of the Restoration Work Plans, ROC shall submit brief (1 to 2 page) monthly progress reports delineating the status of the various Restoration Projects. The Progress Report for each month shall be submitted by the 10th day of the following month. The frequency of the Progress Reports may be reduced as agreed to by the Trustees. The progress reports shall include:

[3] As detailed in Section X of the Consent Decree, the 120 acres includes 110 acres of Conserved Lands, 7 acres of wetlands donated by ROC, and 3 acres of riparian habitat in the Lisbon Dam area.

1. Activities conducted during the period.
2. Problems encountered during the period.
3. Schedule variances and corrective actions, if necessary.
4. Projected activities for the next month.
5. As specific restoration properties are identified for conservation, a brief description of their value from a natural resource restoration standpoint. This should include a brief summary of the ecological habitat and restoration activities, if any.
6. Documents related to or appertaining to Conservation Instruments.
7. Status of permits and applications, as applicable.
8. An accounting of the funds remaining in the Trust on a quarterly basis.

VII. Deliverables

The following deliverables will be generated and submitted to the Trustee representatives for approval as per the schedule below. Note that some specific deliverables may be streamlined or waived at the discretion of the Trustees.

DELIVERABLE (UNLESS WAIVED BY THE TRUSTEES)	**DUE DATE**
Restoration Work Plans	60 days after the effective date of the Consent Decree
Progress Reports	The 10th day of the subsequent month following the effective date of the Consent Decree, unless the due date is modified or the requirement is waived by the Trustees
Restoration Completion Report(s)	In accordance with the Consent Decree

In addition to the requirements of Section XXXI of the Consent Decree, deliverables shall also be submitted via electronic mail to the Trustee Project Coordinators at the addresses specified below, unless those individuals or their successors give notice of a change to ROC in writing:

- Deborah Millsap, U.S. Fish and Wildlife Service, deborah_millsap@fws.gov
- Sheila Abraham, Ohio EPA North East District Office, sheila.abraham@epa.ohio.gov

ATTACHMENT 2

U.S. FISH AND WILDLIFE SERVICE "FINDING OF NO SIGNIFICANT IMPACT"

FINDING OF NO SIGNIFICANT IMPACT

Restoration Plan and Environmental Assessment for the Nease Chemical Assessment Area, Salem, Columbiana County, Ohio

The U.S. Fish and Wildlife Service (the "Service"), representing the U.S. Department of the Interior (DOI), is a cooperating agency pursuant to the National Environmental Policy Act (NEPA) for the final Restoration Plan and Environmental Assessment (RP/EA) for the Nease Chemical Assessment Area Natural Resource Damage Assessment (NRDA) . The Service and the Ohio Environmental Protection Agency (Ohio EPA) propose to implement restoration to benefit natural resources injured by the release of hazardous substances into and near the Little Beaver Creek (LBC) and the Middle Fork of Little Beaver Creek (MFLBC). The Service and Ohio EPA (the "Trustees") initiated an NRDA to assess damages under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), for natural resource injuries resulting from exposure to hazardous substances, primarily, mirex.

The release of hazardous substances injured natural resources under the trusteeship of the Service and Ohio EPA, including but not limited to, ground and surface water, migratory birds, fish, and their supporting ecosystems. The recovered natural resource damages compensate for these injuries to trust resources at and near LBC and MFLBC. Compensation will include preserving, rehabilitating, replacing, and acquiring equivalent natural resources at various locations within the LBC and MFLBC watershed depending upon the availability and participation of willing landowners.

Under CERCLA, damages recovered from parties responsible for natural resource injuries are used to "restore, replace, rehabilitate and/or acquire the equivalent of the injured natural resources. *See*, 42 U.S.C. 9607(f)(1). Any funds used by the Federal Trustee (DOI) to implement restoration activities are subject to the requirements of NEPA , 42 U.S.C. 4321. Accordingly, the Trustees developed the RP/EA to identify restoration alternatives that address the resources injured and ecosystem services lost due to the release of hazardous substances, and to analyze the effects of those alternatives on the human environment. The RP/EA lists and describes three alternatives. The preferred alternative consists of preservation of wetlands, riparian corridors, adjacent uplands, and restoration of wetland habitat. In addition, the removal of the low head Lisbon Dam will improve water quality in the stream and improve aquatic habitat for fish and macroinvertebrates above and below the dam.

The acquisition and/or preservation of selected sites is an essential first step in meeting the Trustees' restoration goals. Selection of potential properties will be determined by participation of willing landowners. These actions will compensate for injuries to natural resources by preserving aquatic, wetland, riparian and upland habitat for affected natural resources including migratory birds and fish.

DETERMINATION

Based upon an environmental review and evaluation of the Final Restoration Plan and Environmental Assessment for the Nease Chemical Assessment Area NRDA, I have determined that restoring, rehabilitating, replacing and/or acquiring the equivalent of injured resources within the natural resource damage assessment area as described under Alternative B in the Final RP/EA for the Nease Chemical Assessment Aren is not a major Federal action which would significantly affect the quality of human environment within the meaning of Section 102(2)(c) of the National Environmental Policy Act of 1969,. Accordingly, an Environmental Impact Statement will not be preparod.

Reasons:

1 A number of federally listed threatened or endangered and candidate species would receive further protection and benefit through wetland, associated upland and aquatic habitat preservation and improvement. Specific restoration projects will be evaluated for impacts to federally listed species under section 7 of the Endangered Species act prior to implementation. Protective measures (Appendix A), which should provide for no adverse effects, would be taken during implementation of all projects.

2 Implementation of the proposed action may result in minimal short-term impacts to habitat due to removal of the Lisbon dam and physical manipulation needed to restore and enhance ecological systems. These projects would also protect and improve the quality of natural resources by improving water quality in the stream(s) and improving aquatic habitat. All necessary permits will be obtained and regulations, policies and laws followed.

3 During preparation of the Restoratiđn Work Plan for the removal of the Lisbon dam, the Field Supervisor, Columbus Ecological Field Office and the contractor for the Responsible Party, will initiate consultation with the Ohio State Historic Preservation Officer and, with the assistance of the FWS Regional Historic Preservation Officer, will complete the Section 106 process as described in 36 Code of Federal Regulations Part 800. (Section 6.1)

4 Preservation of habitats through acquisition of land, Environmental Covenants, or Conservation Easements will only be from willing sellers or participants. Neighbors adjacent to land purchased for preservation under this restoration will retain all of their current rights to their land. Since habitat preservation would be through fee title or easements with willing sellers who would be paid fair market value, acquisition procedures would have little or no impact on the market price, or on landowners who choose not to sell.

5 A Notice of Availability was published in the local media outlets. Copies of the RP/EA were available for review at the offices of the Ohio Environmental Protection Agency (OEPA), Twinsburg, Ohio. The Restoration Plan and EA were available on the OEPA website. Comments were accepted from March 5 through April 9, 2015. A public

meeting was held on April 7, 2015 in Lisbon, Ohio. The Trustees gave a presentation on the restoration alternatives, and a formal question and answer period followed. Six written comments were considered during and after the comment period and have been addressed in the Final RP/EA. The public comments received did not identify any significant environmental issues or impacts. No written comments were received that required substantive modification of the RP/EA, and comments received indicate an acceptance and approval of the proposed action. As indicated in the RP/EA, the proposed alternative will have no or inconsequential effects on social, economic, recreational, biological, and cultural resources. Conversely, over the long term, restoration projects are expected to benefit trust resources.

Supporting References:

1. Natural Resource Restoration Plan and Environment Assessment for the Nease Chemical Assessment Area
2. Section 7 Endangered Species Consultation (Appendix B of Restoration Plan and EA)
3. Public Comments (Section 7 of Restoration Plan and Environmental Assessment for the Nease Chemical Assessment Area)

ACTING Regional Director, FWS, Region 5

Date: 5/16/16

UNITED STATES FISH & WILDLIFE SERVICE

ENVIRONMENTAL ACTION STATEMENT

Within the spirit and intent of the Council of Environmental Quality's regulations for implementing the National Environmental Policy Act (NEPA) and other statutes, orders, and policies that protect fish and wildlife resources, the Trustees have established the following administrative record and have determined that the action of (describe action):

____ is a categorical exclusion as provided by 516 DM 6, Appendix 1 and 516 DM 2, Appendix 1. No further documentation will therefore be made.

__X__ is found not to have significant environmental effects as determined by the attached Environmental Assessment and Finding of No Significant Impact.

____ is found to have significant effects, and therefore further consideration of this action will require a notice of intent to be published in the Federal Register announcing the decision to prepare an EIS.

____ is not approved because of unacceptable environmental damage, or violation of Fish and Wildlife Service mandates, policy, regulations, or procedures.

____ is an emergency action within the context of 40 CFR 1506.11. Only those actions necessary to control the immediate impacts of the emergency will be taken. Other related actions remain subject to NEPA review.

Other supporting documents (list):

__✓__ Environmental Assessment and FONSI

__✓__ Public comments

Initiator 5-3-2016 Date

ARD 5/16/16 Date

ACTING RD 5/16/16 Date

Charles M. Wooley
Acting Regional Director

ATTACHMENT 3

LETTER FROM OHIO EPA

Ohio Environmental Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

October 21, 2016

RE: Lisbon Dam
Columbiana County

Stephen Finn
Golder Associates Inc.
200 Century Parkway, Suite C
Mt. Laurel, NJ 08054

Dear Mr. Finn,

Please accept these comments on the current and anticipated water quality within the Middle Fork Little Beaver Creek in the vicinity of the Lisbon Dam. Removal of the Lisbon Dam will help to improve watershed integrity within the Middle Fork subwatershed of Little Beaver Creek. Dam removal within the watershed was listed as a reasonable assurance for water quality improvements in the U.S. EPA approved Total Maximum Daily Load Report for the watershed area.

The Lisbon Dam is located just over 12.5 miles upstream of the point where the West Fork and Middle Fork meet to form the Little Beaver Creek. Ohio EPA has documented lower fish community performance above the Lisbon Dam compared to downstream of the dam (Figure 1). Fish community scores are anticipated to increase upstream of the dam following its removal and restoration of a free-flowing condition.

You have also requested information relating to water quality in the Middle Fork Little Beaver Creek following dam removal. Ohio EPA has been involved in a number of dam removals and has documented water quality conditions before, during, and after the project. Several patterns are consistently observed in streams as a response to dam removal. Habitat quality evaluations of dam pools when compared to downstream free-flowing sections of a stream show lower scores in the pool area utilizing Ohio EPA's evaluation methodology. Upon dam removal habitat immediately starts to improve. With the loss of the dam pool, a more natural flow regime is restored to the stream section. Restoration of flow allows the stream to process bedload, elimination of sedimentation in the dam pool. Natural bedload movement will also likely result in elimination or a decrease in size of the scour pool on the downstream side of the dam. This pool is formed by the unnatural alteration of flow energy by the dam itself and excess erosion as the stream worked to reclaim bedload. The Little Beaver Creek watershed typically has excellent habitat in undisturbed and unaltered areas, there is no reason to not have that same expectation of habitat recovery here.

Water chemistry is generally altered downstream of dams where large pools can release low-oxygen containing waters downstream. These anaerobic pools often create hydrogen sulfide which can negatively impact downstream aquatic communities. As the pool above the Lisbon Dam was not deep enough to have an anaerobic bottom water layer there is no anticipated negative impact from a water

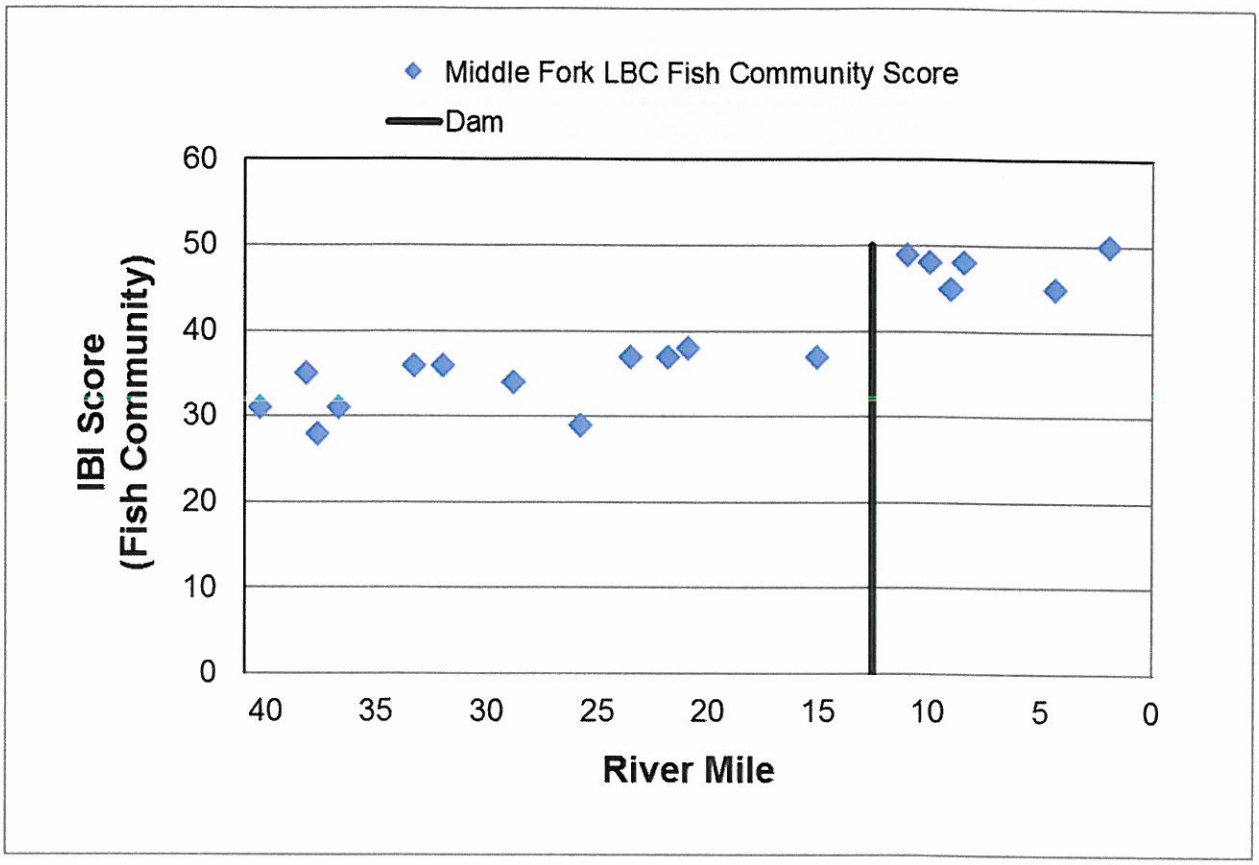


Figure 1

quality perspective relative to dam removal. Silt and sediment stirred up during the removal process will be temporary and past studies by Ohio EPA document a rapid return to undisturbed conditions.

Ohio EPA has, and continues to support the removal of the Lisbon Dam. Removal of the structure will benefit water quality in the watershed and allow for upstream improvements in ecological integrity.

Should you have any further questions please call me at 330/963-1134.

Sincerely,

William J. Zawiski
Water Quality Group Supervisor
Division of Surface Water

WJZ/cs

ATTACHMENT 4

LETTER FROM THE OHIO DEPARTMENT OF NATURAL RESOURCE'S DIVISION OF SOIL AND WATER RESOURCES - DAM SAFETY PROGRAM

Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR
JAMES ZEHRINGER, DIRECTOR
Division of Soil and Water Resources
Michael D. Bailey, Chief
2045 Morse Road/Building B-3
Columbus, Ohio 43229
614-265-6610
dswc@dnr.state.oh.us

JUL 14

July 10, 2014

Andrew Joslyn, P.E.
Golder Associates
200 Century Parkway, Suite C
Mt. Laurel, NJ 08054

RE: Lisbon Low-head Dam
File No.: 0606-025
Columbiana County

Dear Mr. Joslyn:

The Division of Soil and Water Resources received your letter dated June 25, 2014, requesting confirmation that a permit is not required for removal of Lisbon Low-head Dam. I have enclosed a map showing the location of the dam. Based on the division's records, the dam is less than six feet in height and is, therefore, exempt from the division's jurisdiction. The owner of a dam that is exempt from the division's jurisdiction is not required to obtain a construction permit nor approval from the Chief of the Division of Soil and Water Resources (under Ohio Revised Code Section 1521.06 and 1521.062, respectively) for removal of the dam.

Please contact me at 614/265-6738 if you have any questions.

Sincerely,

Keith R. Banachowski, P.E.
Program Manager, Dam Safety Program
ODNR, Division of Soil and Water Resources

cc: John Kessler, Office of Real Estate

Enclosure

Location Map

ATTACHMENT 5

LETTER FROM U.S. NATIONAL PARK SERVICE

United States Department of the Interior
National Park Service
Midwest Region
601 Riverfront Drive
Omaha Nebraska 68102-4226

1.A.2(MWRO-PCL/PC)

October 24, 2016

Mr. P. Stephen Finn
Golder Associates Inc.
200 Century Parkway, Suite C
Mt. Laurel, New Jersey 08054

Dear Mr. Finn:

The National Park Service (NPS) has received your request for a Final Section 7(a) Determination regarding the Lisbon Dam Removal Project (Project) located upstream from the Little Beaver Creek National Scenic River (River), in Columbiana County, Ohio.

The River is a state-administered component of the National Wild and Scenic Rivers System (System) and was added to the System in recognition of its free-flowing condition, water quality, and outstanding remarkable values. The Project is subject to the "invade the area and unreasonably diminish" evaluation standard under Section 7(a) of the Act because it is located upstream from the designated reach.

In the attached Final Section 7(a) Determination, the NPS has determined the project will not invade the area or unreasonably diminish the values for which the River was established, provided that proponents adhere to the required measures listed within the enclosed determination.

The NPS has a continuing interest in working to ensure direct and adverse impacts to the River values are avoided or eliminated. We look forward to continued coordination and project completion without incident or degradation of this important water resource.

Should you have any questions or comments, please direct them to Midwest Region Rivers Coordinator Hector Santiago at (402) 661-1848.

Sincerely,

Cameron H. Sholly
Regional Director

Enclosure

cc:
Ms. Deborah Millsap
NRDA Case Manager
U.S. Fish and Wildlife Service
4625 Morse Road, Suite 104
Columbus, Ohio 43230

Ms. Sheila Abraham
Project Coordinator
Ohio Environmental Protection Agency NE District Office
2110 East Aurora Road
Twinsburg, Ohio 44087

Mr. Bob Gable, Scenic River Services Group
Division of Natural Areas and Preserves
Ohio Department of Natural Resources
2045 Morse Road, Building F-1
Columbus, Ohio 43224

Mr. Matthew Smith
Assistant Regional Scenic River Manager
ODNR, Div. Parks & Watercraft
5708 Esworthy Road
Ravenna, Ohio 44266

Dr. Mary Knapp, Field Supervisor
Ohio Field Office
U.S. Fish and Wildlife Service
4625 Morse Road, Suite 104
Columbus, Ohio 43230

Ms. Nancy Mullen
Northern Area Section Chief
Regulatory Branch, US Army Corps of Engineers
1000 Liberty Avenue
Pittsburgh, Pennsylvania 15222-4186

FINAL
SECTION 7(a) DETERMINATION
Lisbon Dam Removal Project
Implementation NEASE Chemical Final Natural Resource Restoration Plan
Prepared by the National Park Service
October 2016

INTRODUCTION: The Little Beaver Creek National Scenic River (River) is a State-administered component of the National Wild and Scenic Rivers System (System) under section 2(a)(ii) of the Wild and Scenic Rivers Act (Act) (Public Law 90-542). The River was designated to the System on October 23, 1975, because of its free-flowing condition, water quality, and outstandingly remarkable scenic, recreational, geologic, fish and wildlife, and historic values. Designated reaches of the River include the main stem from the confluence of the West Fork with the Middle Fork near Williamsport to the mouth; the North Fork from its confluence with Brush Run to its confluence with the main stem at Fredericktown; the Middle Fork from the vicinity of the County Road 901 (Elkston Road) bridge crossing to its confluence with the West Fork near Williamsport; and the West Fork from the vicinity of the County Road 914 (Y-Camp Road) bridge crossing to its confluence with the Middle Fork near Williamsport. The project subject of this determination occurs upstream of the Middle Fork segment, within 5 miles of Elkston Road, and is subject to the "Invade the area or unreasonably diminish" evaluation standard.

The River and its corridor contain some of the wildest and most scenic areas in Ohio. It is a river of steeply incised valleys, abundant forest slopes, rock outcroppings, boulder-strewn, fast moving rapids and riffles as well as quiet pools. The River continues to exhibit a noticeable absence of development while supporting a variety of plants, mammals, birds, and aquatic fauna. In addition to a diverse macroinvertebrate population, the River is home to 63 species of fish, 49 mammal species, 140 types of birds and 46 species of reptiles and amphibians. Ohio's largest population of endangered Northern Hellbender salamanders (Cryptobranchus a. alleganiensis) resides in the River.

As the river-managing Agency, the State of Ohio is responsible for ensuring that the River is managed in accordance with Section 10(a) of the Act, among other provisions. Section 10(a) is the anti-degradation policy of the Act, which states:

> "Each component of the national wild and scenic rivers system shall be administered in such manner as to protect and enhance the values which caused it to be included in said system without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values. In such administration, primary emphasis shall be given to protecting its esthetic, scenic, historic, archaeologic, and scientific features. Management plans for any such component may establish varying degrees of intensity for its protection and development, based on the special attributes of the area."

The Secretary of the Interior (Secretary), through the National Park Service (NPS), retains the responsibility for making determinations of effect under Section 7(a) of the Act, with respect to federally-assisted water resources projects.

Section 7(a) states in part:

> "... no department or agency of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river was established, as determined by the Secretary charged with its administration. Nothing contained in the foregoing sentence, however, shall preclude licensing of, or assistance to, developments below or above a wild, scenic or recreational river area or on any stream tributary thereto which will not invade the area or unreasonably diminish the scenic, recreational, and fish and wildlife values present in the area on the date of designation of a river as a component of the national wild and scenic rivers system."

The NPS cannot consent to any federally-assisted water resources project on the designated reach that is determined to have direct and adverse effect on river values or, in the case of projects upstream from the designated segment, may invade the area or unreasonably diminish the scenic, recreational, and fish and wildlife values of the river. Every effort must be made by project proponents to conform to practices that will minimize impacts to the river, protect and enhance river values, and avoid or eliminate direct and adverse impacts to the values for which the River was established.

LOCATION: Middle Fork Little Beaver Creek, vicinity of Willow Grove Park, Lisbon, Ohio, Little Beaver State Park Campground, Lisbon, Columbiana County, Ohio.

TIMING/DURATION: Winter 2016-17, 2-3 weeks

PURPOSE/NEED: To remove the Lisbon Dam and restore fish passage and natural stream function to the Middle Fork Little Beaver Creek, Columbiana County, Ohio; to meet the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, superfund law) by addressing natural resources injured and ecological services lost due to releases of hazardous substances from the former Nease Chemical facility near Salem, Ohio.

PROJECT DESCRIPTION:

The project will entail the breaching and removal of the dam over a period of approximately 2 to 3 weeks. Structures related to the dam will be removed. A limited amount of sediment that has accumulated behind the dam will be removed.. The Lisbon [low head] Dam presents a significant obstacle to both fish and invertebrate species and limits the River's ability to reach full attainment of water quality standards. The removal of this obstacle should result in significant improvements in water quality and ecological habitat both upstream and downstream of the dam. In addition, fish and invertebrate species will gain access to new riparian and wetland habitats, which results in greater numbers of fish and invertebrate species and

individuals. Low head dams can also be dangerous to humans and can pose drowning threat to people. The removal of the dam will eliminate a proven drowning risk at this location on the River.

FINAL SECTION 7(a) DETERMINATION:

The Project will occur upstream from the designated River and is subject to Section 7(a) of the Act under the "invade the area or unreasonably diminish the scenic, recreational, and fish and wildlife values" evaluation standard because it will occur upstream from the designated reach of the River. The potential for adverse impacts to the free-flowing condition, water quality, scenic, recreational, and fish and wildlife values are evaluated below. A final determination follows.

Free-Flowing Condition: Section 16(b) of the Act defines free-flowing as "existing or flowing in a natural condition without impoundment, diversion, straightening, riprapping, or other modification of the waterway." As proposed, the project will not occur within the designated reach of the River, but will improve in stream conditions of the River by enhancing the natural flow regime and supporting additional river values. Considering the proposed activity would improve the flow conditions of the river and remove impediments to free-flowing condition, the NPS has determined the project will not invade or unreasonably diminish the free-flowing condition of the River.

Water Quality: The protection of the water quality in designated rivers is explicitly directed as part of the Congressional declaration of policy under Section 1(b) of the Act. Additional management policies under Section 12(c) of the Act reinforce the role of the Environmental Protection Agency (EPA) and appropriate State water pollution control agencies in enforcing the Clean Water Act and related water quality standards. Wild and Scenic River-administering agencies work in cooperation with the EPA and State agencies to address water quality issues that affect the River as directed by the Act.

The Ohio EPA (OEPA) has designated the River as exceptional warmwater habitat (EWH). The EWH waters are capable of supporting and maintaining an exceptional or unusual community of warmwater aquatic organisms. The OEPA surveyed the status of the water quality in this watershed during 1999. The study found impairment of the Aquatic Life Use, with causes of impairment identified including organic enrichment/dissolved oxygen, siltation, habitat alteration, nutrients, and salinity/total dissolved solids/chlorides. Some of the recommended solutions include agricultural best management practices development, habitat restoration/protection, and phosphorus load reductions at waste water treatment plants. Continuing to attain the EWH aquatic use designation without degradation attributable to the project is the criteria by which the OEPA determines adverse effects to the water quality of the River in the project area.

The project will include limited use of track equipment (track hoe) in the River and the immediate streambank areas will be temporarily disturbed. Additionally, temporary turbidity and transport of sediments from behind the dam through designated reaches of the River will occur. The project as proposed would not permanently impact the River's water quality

provided that a stormwater prevention and sediment erosion control plan are in place and followed during project activities. Considering the limited scope of the project, the expected long-term benefits of the restored flow, the NPS has determined, on behalf of the Secretary, the project will not invade the area or unreasonably diminish the water quality of the River.

Scenic Values: The project will not be visible from the designated reaches of the River. The project will not invade the area or unreasonably diminish the scenic values of the River.

Recreational Values: Although the project will not occur within the designated reach of the River, it may improve the recreational opportunities of the River through portions of the designated reaches by providing additional continuity for paddling activities on the River and increased safety. The project will not invade the area or unreasonably diminish the recreational value of the River.

Fish and Wildlife Values: The River and its tributaries, with the excellent habitat surrounding the streams, provide a diverse array of fish and wildlife. Sixty-three species of fish have been recorded in the River and its tributaries. A significant fishery exists for smallmouth bass, largemouth bass, channel catfish, flathead catfish, rock bass, white crappie, bluegills, and suckers. The River also supports a diverse macroinvertebrate population, 49 mammal species, 140 bird species, and 46 species of reptiles and amphibians.

The proposed project lies within the range of the **eastern hellbender** (*Cryptobranchus a. alleganiensis*), a State-endangered species currently being evaluated for Federal Candidate status. The U.S. Fish and Wildlife Service (USFWS) has special concerns about the existing population. One of Ohio's largest populations of these pollution-intolerant amphibians resides in Little Beaver Creek. Once present throughout much of the Ohio River watershed in Ohio, recent statewide surveys revealed an almost 80 percent decline in hellbender abundance since the 1980s. This long-lived, aquatic salamander inhabits perennial streams with large flat rocks. Instream work in hellbender streams can reduce availability of large cover rocks and can destroy hellbender nests and/or kill adults and juveniles. The contribution of additional sediment to hellbender streams can smother large cover rocks and gravel/cobble substrate (used by juveniles), making them unsuitable for refuge and nesting. Projects that contribute to altered flow regimes (e.g., by increasing areas of impervious surfaces or modifying the floodplain) can also adversely affect hellbender habitat.

Limited sedimentation from excavation activities and instream channel work will occur during the project and could result in localized increases in turbidity and suspended solids in aquatic and shallow-water habitat within the River, but the project will enhance habitat quality, increase hydrologic connectivity, and facilitate the unobstructed movement of fish, invertebrates, and amphibians throughout the River. Considering the limited scope of the project and the expected long-term ecological benefits of the restored flow, the NPS has determined the project will not invade the area or unreasonably diminish the fish and wildlife values of the River.

FINAL DETERMINATION:

Pursuant to Section 7(a) of the Act, the NPS has determined, on behalf of the Secretary of the Interior, this project will not invade or unreasonably diminish the River's free-flowing condition, water quality, scenic, recreational, or fish and wildlife values. The following required project measures apply.

REQUIRED PROJECT CONDITIONS:

1. All conditions described in this document must be incorporated into project plans. Any changes to project scope or design are subject to further NPS approval in accordance with Section 7(a) of the Act.

2. All appropriate measures must be in place to minimize the discharge of sediments into the River prior to initiating construction. A stormwater pollution prevention plan must be in place before, during, and following construction until disturbed areas have been stabilized.

3. In the event that a hellbender is encountered during the course of this action, Karen Hallberg or Jeromy Applegate in the USFWS Columbus Ohio Field Office should be notified immediately at (614) 416-8993 (extension 23 and 21, respectively).

4. If mussels are encountered within the project area during construction, work must stop immediately. The ODNR Scenic Rivers staff shall be immediately contacted and arrangements made to properly relocate all affected mussels to suitable habitat site within the River.

5. All disturbed areas must be restored to native conditions, consistent with the existing forested condition of the valley at this location. Any forestry or successional plan must result in the reforestation of the area with native mix of tree species common to the corridor.

Construction Equipment/Site:

6. Litter and construction debris shall be contained daily. All construction debris and litter must be completely removed offsite and disposed of properly upon project completion.

7. No wastewater shall be discharged into the River or its tributaries.

Project Coordination:

8. The NPS and the ODNR Scenic Rivers staff must be notified upon project initiation and completion.

9. The NPS will be promptly notified of accidents and/or failures of project features intended to protect the free-flowing condition, water quality, or ORVs during construction activities.

10. A brief completion report must be provided to the NPS within three months of project completion. A brief description of the work performed with pictures is sufficient.

The NPS looks forward to the completion of this dam removal project without harm to the River's free-flowing condition, water quality, and values. Should you have any questions or concerns, please contact Regional Rivers Coordinator Hector Santiago, Planning and Compliance, at (402) 661-1848 or hector_santiago@nps.gov.

APPROVED BY:

Regional Director, Midwest Region

10/26/2016
Date

ATTACHMENT 6

NATIONAL REGISTER ELIGIBILITY REPORT

National Register Eligibility Inventory and Evaluation of Lisbon Dam

Lisbon, Columbiana County, Ohio

Owen & Eastlake Ltd. Columbus, Ohio

Roy Hampton and Rory Krupp
Submitted to: Golder Associates
October 2016

Abstract

Owen & Eastlake Ltd. was contracted by Golder Associates to complete a National Register of Historic Places (NRHP) evaluation of the Lisbon Low Head Dam (COL-01000-01) located in Willow Grove Park in Lisbon, Columbiana County, Ohio. The dam sits in the Middle Fork of Little Beaver Creek (MFLBC).

The surrounding area is a municipal park. The park, which was established around 1900,was privately owned and operated until the mid-1930s, providing a place for local residents to hold events and engage in outdoor recreational activities such as boating, camping, fishing, and ice skating. The park was largely abandoned in the 1930s, when transportation habits changed and the automobile opened a wider variety of recreational activities to area residents. The park owners donated the land to the Village of Lisbon in 1947. The Lisbon Kiwanis Club then revitalized the park by building a new pavilion and making other improvements.

The park originally had a stone and wood dam that was associated with an early mill in Lisbon. The mill was demolished as a result of 1830s canal construction. The stone and wood dam was destroyed by flooding in the 1930s. The local Ohio State House representative, Clarence L. Wetzel, advocated at the state level for a new dam to replace it, which was constructed in 1952 for recreational purposes.

The dam is not located in any historic districts and therefore must be evaluated on its own merits. Although it has a good level of integrity, the dam does not have a high level of historic or engineering significance. Therefore, the dam is not significant under Criterion A. The dam is not associated with any historical persons; therefore, it is not significant under Criterion B. The dam is not indicative of post-war recreation or other themes and patterns associated with the 1950s, such as suburbanization, and the park's design is not significant. Therefore, the dam is not significant under Criterion C. The low-head concrete weir design is common, with no engineering significance. It does not offer an opportunity for future research. Therefore, the dam is not significant under Criterion D.

It is Owen & Eastlake's staff recommendation the Lisbon Dam does not have the necessary historical or engineering significance for NRHP eligibility.

Acknowledgements

Lead Investigator	Roy Hampton
Historian	Rory Krupp

Table of Contents

List of Figures

Project Overview

Scope of Project

Owen & Eastlake Ltd. was contracted in October, 2016, by Golder Associates to complete a National Register of Historic Places (NRHP) evaluation of the Lisbon Dam in the Middle Fork of MFLBC. The dam is located in Willow Grove Park. Willow Grove Park is located in Lisbon, Center Township, Columbiana County, Ohio.

The Lisbon Dam is a low head, poured concrete weir with concrete abutments. The dam is slated for removal in accordance with the *Final Natural Resource Restoration Plan & Environmental Assessment for the Nease Chemical Assessment Area* (US Fish and Wildlife Service and Ohio EPA 2016).

Although it has been determined that permits will not be required for this project due to the permitting exemption under the Comprehensive Environmental Response, Compensation, and Liability Act, the dam is being evaluated for National Register eligibility to meet the technical requirements of applicable laws and regulations.

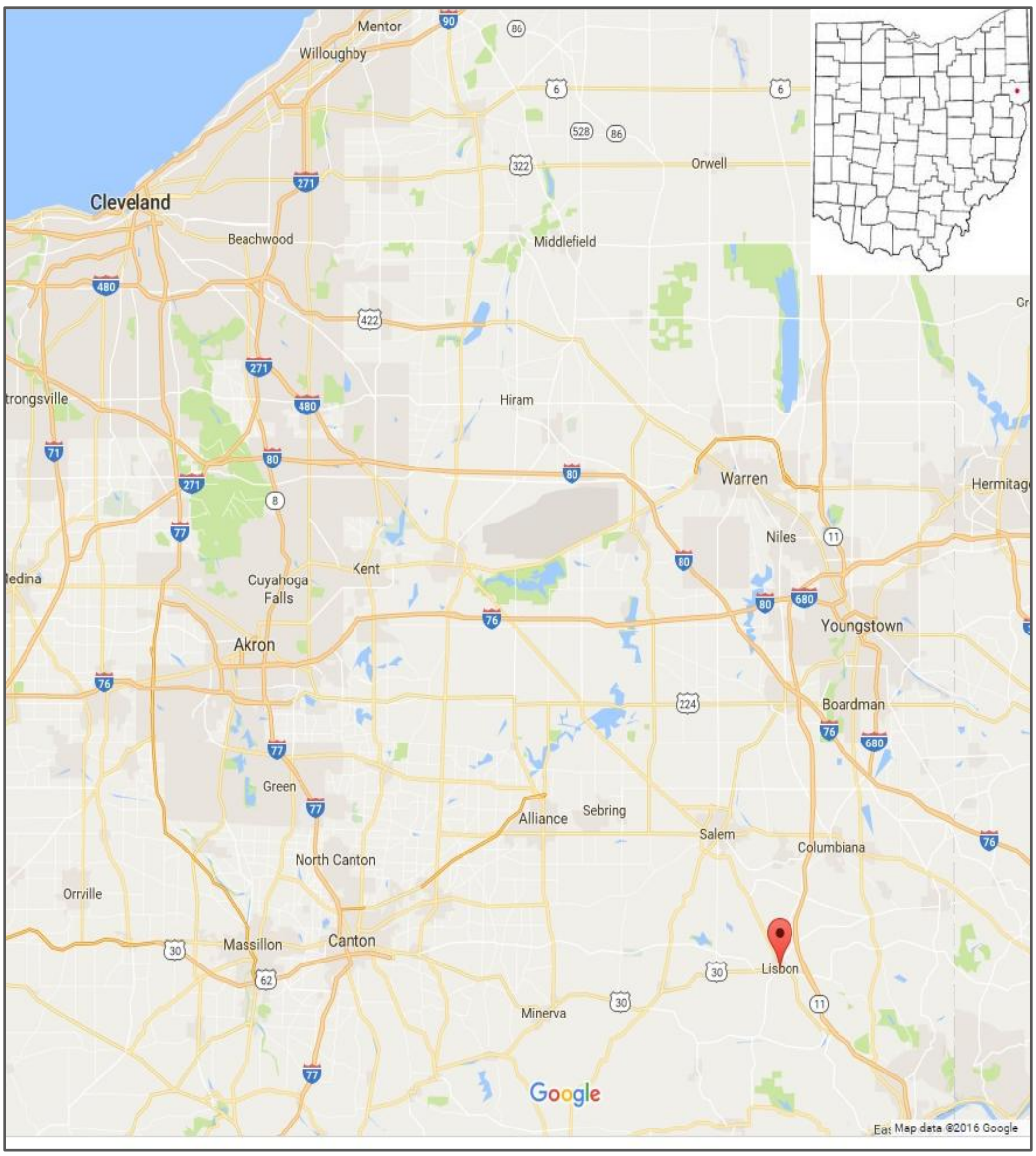


Figure 1. Locator map showing Lisbon and its location within Ohio

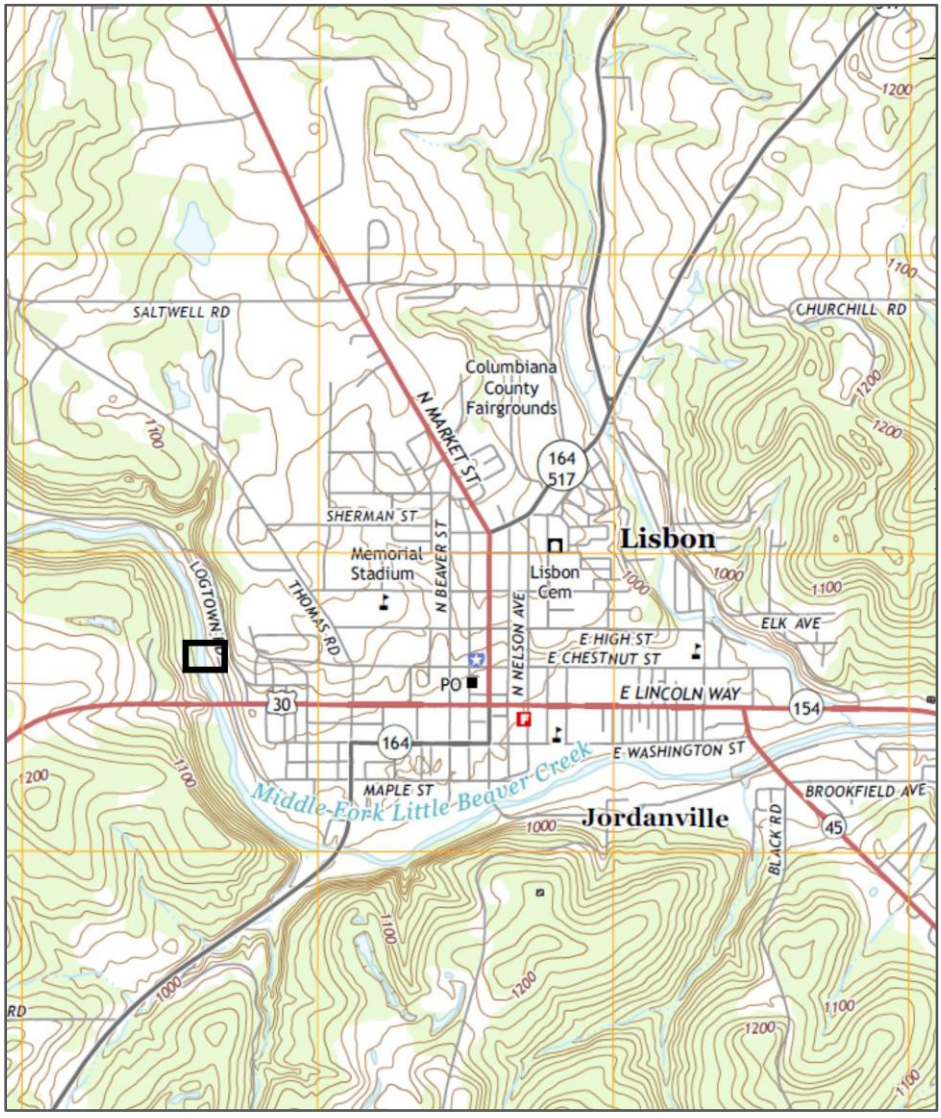


Figure 2. 2013 USGS 7.5 minute quadrangle showing dam location

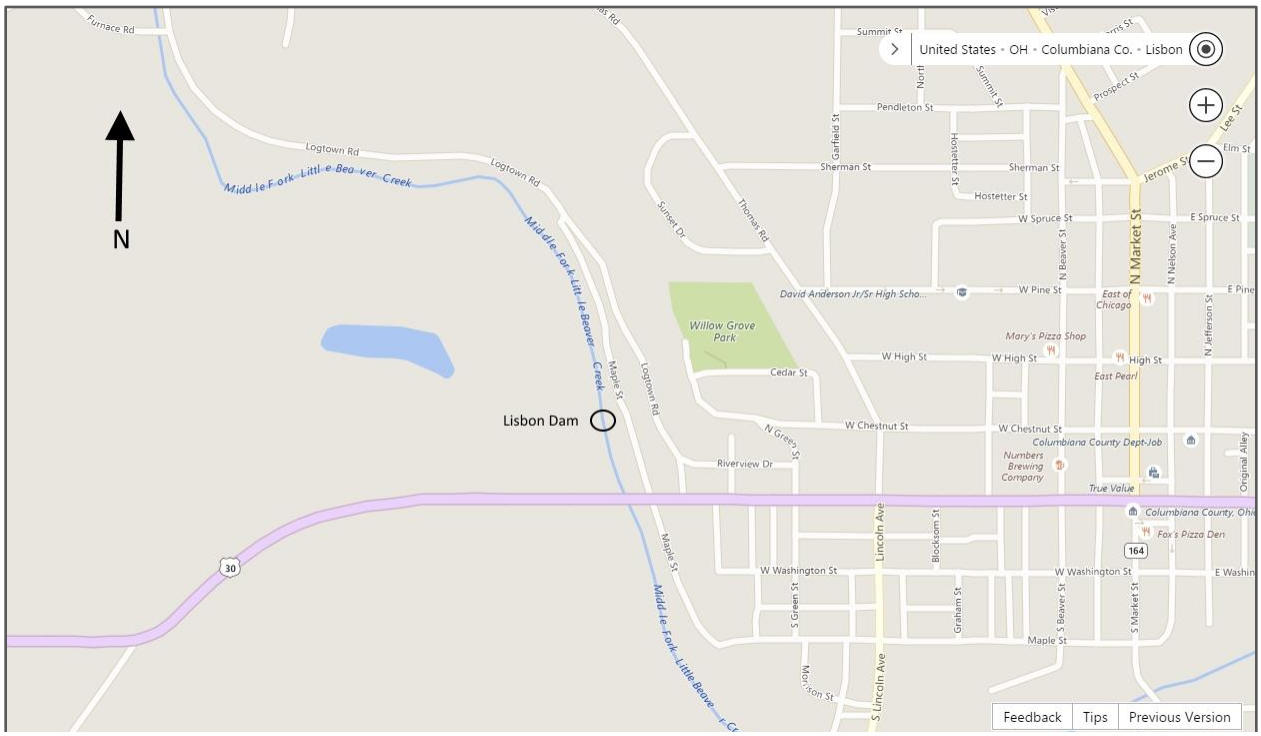


Figure 3. Local road map to Lisbon Dam (Bing maps)

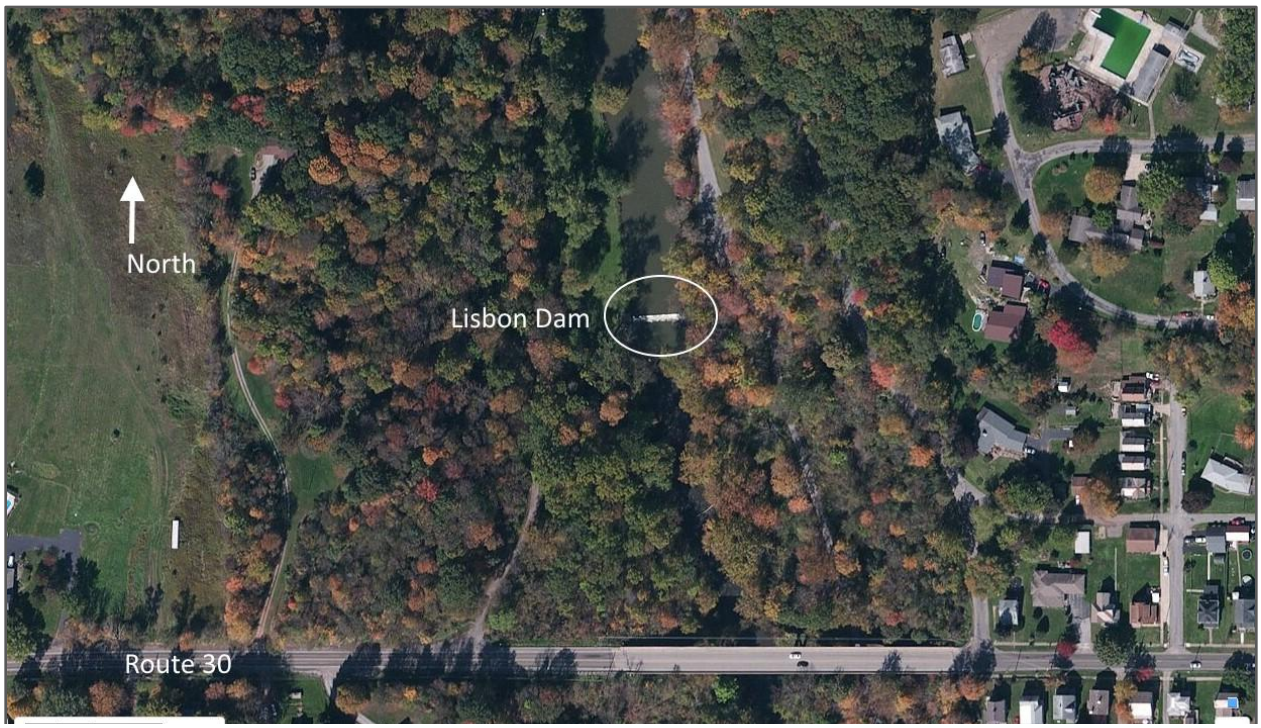


Figure 4. Aerial dam photograph (Bing maps)

Research and Field Methods

Research Methods

Sources Reviewed

Owen & Eastlake Ltd. historians and architectural historians reviewed the following sources for this project report:

- Ohio Historic Preservation Office (OHPO) files
- NRHP files
- Determination of Eligibility files
- Eligibility report files
- Ohio Historic Inventory files
- Local newspaper accounts
- Transcribed oral histories
- Secondary history sources

OHPO files were consulted to ascertain whether the dam was previously evaluated for NRHP eligibility, was individually listed, or was a contributing property in a historic district. The search indicated the dam is not listed in the NRHP individually or as a contributing element in a district. No previous determination of eligibility was located. The dam was not documented in the Ohio Historic Inventory. No previous cultural resource management documents, such as surveys, were located in the OHPO files.

The dam is located 0.2 miles from the Lisbon National Register District. Listed in 1979, the Lisbon Historic District is noted for its Federal style architecture and has a period of significance of 1803-1900.

Field Methods

Owen & Eastlake personnel visited the Lisbon Dam on October 13, 2016. The dam was documented with high-quality digital photographs in .tiff format measuring 4896 x 3672 pixels at 300 DPI. The dam and surrounding area were photographed from all cardinal directions. The dam abutments were measured with measuring tapes, and the dam weir was measured with a laser distance measurer.

NRHP Eligibility Methods

Owen & Eastlake staff evaluated Lisbon Dam for eligibility for listing in the National Register of Historic Places. Eligibility for the National Register requires that the property have integrity of design, location, setting, materials, workmanship, and feeling and association. The property must also meet at least one of four National Register criteria. The criteria are designated with letters A through D and are as follows:

- **Criterion A** requires that a property be associated with important historical events or events that have made a significant contribution to broad patterns of American history.
- **Criterion B** concerns a resource's associations with the lives of persons significant in history.
- **Criterion C** is more concerned with the design or other material attributes of a resource. To meet Criterion C, a resource must have distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction.
- **Criterion D** is concerned with properties that provide, or are likely to provide, information that is important in history or prehistory. This criterion is often cited in connection with archaeological resources, but is also sometimes used in connection with other types of resources that might yield significant information.

Lisbon Dam was evaluated by Owen & Eastlake staff for significance in all four National Register criteria:

- **Criterion A:** Archival research was conducted to provide information for evaluating whether the dam is associated with important historical events or patterns.
- **Criterion B:** The research materials were also analyzed to determine whether the dam was associated with persons significant in history.
- **Criterion C:** The dam was examined to determine whether it had any distinctive use of construction materials, important or innovative design features, or associations with important dam designers, in order to determine whether the dam has any significance in engineering history or the history of dam construction and design.
- **Criterion D:** Archaeological investigation was not part of the scope of this report, but the dam structure itself was considered in terms of whether it had any potential to reveal any important historical information under Criterion D.

Historic Context

Lisbon and Columbiana County, Ohio

Lisbon was founded in 1803 by Lewis Kinney as New Lisbon. New Lisbon was situated at the crossroads of a route that ran east-west to the Ohio River and north-south to Salem, Ohio. Its first major industry was the Rebecca Iron Works, which was founded by Gideon Hughes and located above the project area on Little Beaver Creek. In 1812, a man with the surname of Hollingsworth established a fulling and carding mill in New Lisbon in what is now the southeast corner of Willow Grove Park (Murphy 1978), where the county building now stands. A stone and wood dam was constructed, and a gated millrace provided water to the mill. A stone house was also associated with the mill.

New Lisbon fully embraced the Jacksonian market economy in the 1820s and 1830s. In the early 1830s, the leaders of New Lisbon surmised that the Ohio and Erie Canal would handily replace their wagons for efficiently moving their agricultural crops and iron goods to market. Although a "group of modernists" proposed working with the railroads, local sentiment swung toward canals; railroads were termed "wagons of death" that would almost certainly spew sparks that would burn all crops and barns within a mile of the line (Gard and Vodrey 1952, 22).

New Lisbon's canal contribution, the Sandy and Beaver Canal, was financed by the Ohio Legislature and local subscription. Planning for this feeder canal for the Ohio and Erie Canal began in 1826. Construction began in 1834. The canal entered New Lisbon where the Canton Bridge is now located and followed the route of the Erie Railroad south of town (Lisbon Historical Society 1976).Hollingsworth's 1812 fulling and carding mill and his stone house were removed during the canal's construction.

Construction halted in 1838 when the canal was half completed when funding ran out and the country suffered from the financial Panic of 1837. The Ohio Legislature provided additional monies for continued construction. Construction was arduous. The canal route required two major tunnels, one of which was blasted through solid bedrock. The canal eventually went into service in 1846. Business was initially brisk due to the demand for local goods in the 1848 Mexican War. However, traffic was occasionally halted by rock falls from collapsing tunnel roofs. Winter freezes also halted traffic, and a spotty water supply grounded loaded barges.

In addition, the timing of the canal was not fortuitous for New Lisbon. The canal opened late in the overall canal period. At the time, officials from the Cleveland and Pittsburgh Railroad approached local businessmen about putting the line through New Lisbon. The rail company was rebuffed; the city leaders "literally cussed out" the railroad men (Gard and Vodrey 1952, 157). The local businessmen had no interest in a railroad when they had recently invested in a canal. Increasing competition from the railroad led to burgeoning losses for the canal company. A reservoir break in 1852 closed part of the canal permanently. The canal company closed in 1854 after a dry summer rendered the canal unusable (Van Fossan 1946).

In 1856, the Pennsylvania Company, a railroad concern, approached New Lisbon's business community again with an opportunity to put a rail line through New Lisbon, but was also turned away. Having experienced serious losses from canal investments, New Lisbon's business community had no appetite for another experimental mode of transportation. New Lisbon experienced a period of stagnation after the canal's closing. The collapse of the canal and the rejection of the railroad had a lasting influence on New Lisbon's built environment. The downtown area had experienced a burst of speculative development during the canal's planning period. Real estate investment abruptly ended with the canal's demise. This helped preserve the antebellum architecture, which resulted in the designation of the National Register of Historic Places Lisbon Historic District in 1979 (Klimoski and Simmons 1979).

Civil War

New Lisbon's physical contribution to the Civil War was limited. However, New Lisbon did contribute personalities to the conflict. Notable in Lisbon's Civil War history were the McCook family, the Fighting McCooks, who had 15 family members, fight on the Union side. One of the two elder brothers, Daniel McCook, joined the Union Army at the war's outbreak when he was 63 years old. He was commissioned as a major and became a paymaster

Union Major General William T.H. Brooks also hailed from New Lisbon. Born in 1821, he commanded the Union Army's 1st Division, VI Corps, at Chancellorsville and Fredericksburg, Virginia, Brooks was part of a group of generals who clashed with General Ambrose Burnside, which resulted in his near arrest for subordination and his being demoted to brigadier general. Burnside, who was largely viewed as incompetent, continued to fumble, resulting in heavy losses at Antietam and Fredericksburg Lincoln sent Burnside to Ohio, thinking he could cause little trouble there.

Burnside was quickly vexed by Southern sympathizers, called Copperheads, in the Midwest. He promulgated General Order 38 which mandated a military trial or banishment for expressing sympathy for the Confederacy. Ohio Democrat Clement Vallandigham led the Copperhead movement in Ohio during the Civil War. Born in New Lisbon in 1820, Vallandigham became an attorney and eventually a congressman from Ohio in 1858. His ardent support of state's rights and advocacy of an immediate peace settlement with the Confederacy did not endear him to the federal government. The Federal Writers' project succinctly called Vallandigham "a stormy petrel in Ohio and American politics" (a petrel is a sailor's harbinger of bad weather and certain disaster)(Works Progress Administration, Tour 7, 1940).General Burnside arrested Vallandigham in 1863 for violating General Order 38. Vallandigham was sent through Confederate lines by Lincoln for his unrepentant Southern sympathies, effectively exiled. He escaped from the Confederacy on a blockade-running ship and made his way to Canada. He received the Democratic nomination for Ohio governor while in Windsor, Canada. He eventually made his way to the convention in disguise. Vallandigham did not become governor, although he remained a thorn in the side of Union Republicans for the remainder of the war. He died in Lebanon, Ohio, in 1871.

New Lisbon's pinnacle moment in the Civil War was the capture of Morgan's Raiders south of the town. In July, 1863, Confederate Brigadier General John Hunt Morgan ignored his orders not to take his cavalry detachment across the Ohio River by entering Indiana, where they spent five days gathering supplies from the populace. Then the detachment of 1,400 cavalry men raced across southern Ohio. The Ohio governor activated the militia, which was composed largely of those men too old, too young or too infirm to serve in the Union Army. Panic reigned. The Confederates rode fast enough to evade the militia as they skirted the Ohio River looking for a place to cross, all the while chased by federal gunboats steaming up the Ohio. The Union Army and the gunboats found Morgan's men crossing the Ohio River at Buffington Island and a battle ensued. Union Army Major Daniel McCook, one of the Fighting McCooks and a Lisbon native, was killed in the engagement. Most of Morgan's men were captured, but Morgan and a couple hundred cavalrymen wheeled north. An 1863 local, contemporary account lends some color to the oft-told historical episode. As Morgan approached New Lisbon, the people of the nearby town of Salineville exhibited, "the upmost alarm. The houses were closed, doors and windows locked and barred, and women and children stampeding into the country with whatever portable property could be carried along. The men who had weapons and courage turned out to resist the progress of the dreaded rebel, while all the others fled with the women and children" (New York Times 1863). While the residents scattered, Morgan, traveling in a carriage drawn by two white horses and being sustained by "hard boiled eggs, a loaf of bread and a bottle of whiskey," ran into the 9th Michigan Cavalry (New York Times 1863). He eluded immediate capture but was rounded up a short time later, cornered on a bluff while on horseback south of New Lisbon. In a move of particular military chivalry, "Morgan and the prisoners were taken to Wellsville although Morgan retained his side arms, and moved about freely, although, always accompanied by Col. (James) Shackleford" (New York Times 1863).A native of Kentucky, Shackleford appears to have been acquainted with Morgan and called him by his first name. Morgan's men were not as cheerful or free. According the local account, "[h]is men were poorly dressed, ragged, dirty, and very badly used up. Some of them wore remnants of gray uniform, but most of them were attired in spoils gathered during their raid" (New York Times 1863).The next day, Morgan and Shackleford took the regular train to Columbus. Morgan quickly escaped from the Ohio Penitentiary, bought a train ticket to Cincinnati, and escaped across the Ohio River to Kentucky. Morgan's reputation never recovered. His disregard for orders that resulted in the loss of an entire cavalry regiment at a critical time for the Confederacy doomed him to minor commands. He was killed during a raid in September, 1864.

Post-Civil War

In 1866, New Lisbon got a railroad, the Niles and New Lisbon Railroad, which later became part of the Erie Railroad. The railroad changed the area's economy from an agricultural area of yeoman farmers dotted with iron furnaces and craftsmen to extractive industries. New Lisbon began to ship coal to the region's major industrial centers. New Lisbon's Marcus Hanna was an influential figure in the region's industrialization. Working in his father-in-law's businesses, Hanna became an industry and shipping magnate. Born in 1837, Hanna was the son of influential resident Benjamin Hanna. Benjamin Hanna was a major investor in the Sandy and Beaver canal debacle. The family moved to Cleveland after losing a large amount of money in the canal company. Hanna became a political advisor to President McKinley and later a United States senator from Ohio, in addition to his industrial and philanthropic activities.

During the last quarter of the nineteenth century, New Lisbon reached its highest population, approximately 3,400 residents. In 1895, New Lisbon changed its name to Lisbon.

The advent of the railroad in 1866 and the region's industrialization, due in some degree to Hanna, continued to change Lisbon's economy. Extracting coal for steel and coke mills and clay for potteries became major drivers for the area. In 1873, the Richard Thomas Company opened in East Liverpool, producing porcelain electric conductors, and a plant was soon built in New Lisbon. The Wright Manufacturing Company, founded in 1881, produced chain hoists and experienced a period of rapid expansion through the 1920s. During World War II the company participated in defense manufacturing (Firestone 1953).

Coal mining was the major industry after the Civil War. Local coal was suitable for both power generation and coke. Before 1916, all coal mining was done underground. Surface mining began in 1916. The coal was shipped to steel mills in Youngstown. Mining halted during a post-war coal glut in the Lisbon area but recovered in 1931 (Firestone 1953, 150).Truck-mining or surface-mining the coal and shipping it by truck rather than rail became popular after World War II. The Lisbon Dam was constructed in 1952, and was meant to offer recreational opportunities to area residents individually and during events such as reunions and fraternal organization gatherings. Surface coal mining, steel, chemical manufacturing was the major industries during the time the Lisbon Dam was constructed. The current Route 30 bridge, built in 1952, to the south overlooks the dam.

After World War II Lisbon, like the surrounding region, relied on non-diversified economy of steel, coal and manufacturing. Lisbon and Columbiana County had a difficult time recovering from the globalization of these industries. In 1970, manufacturing accounted for 53.4% of job in Columbiana County. In 2006, it accounted for 15.1% of total employment (CAAOFCC 2007).

The post-2008 recession economy was bolstered by Utica shale oil and gas extraction. The unemployment rate in Columbiana County in 2010 was 15%. In 2014, the rate fell to 6.6% largely as money from oil and gas royalties and leases stimulated the local economy (O'Brien 2014)

Willow Grove Park

Willow Grove Park began around 1900 as a private park available for events. The west bank was owned by the Croft family. They rented the east bank from the Maus family. The park had three rental cottages on the west bank and one on the east bank connected by a foot bridge, which was later replaced by a swinging bridge (Figure 5).

Figure 5. Willow Grove Park in a 1909 postcard showing original footbridge, boat docks and wood and stone dam

Later newspaper accounts reported as many as a dozen cabins (Salem News 1949). A shanty was located on the east bank where visitors could rent ice skates in the winter. Lisbon resident Ruth Bye, born in 1909, remembered ice skating on the frozen dam pool as a child and noted a shanty where the Krofts (sic) would sharpen skates and clear the snow from the ice. Bye and other young adults would skate by moonlight (Bye 1988).From newspaper accounts, the park was popular. A group of 50 people from Washingtonville made an outing via the interurban railroad, and cars met them at the Lisbon station for a day outing. "Leave your work and troubles at home and enjoy the day with your friends," read the article (Mahoning Dispatch 1919).

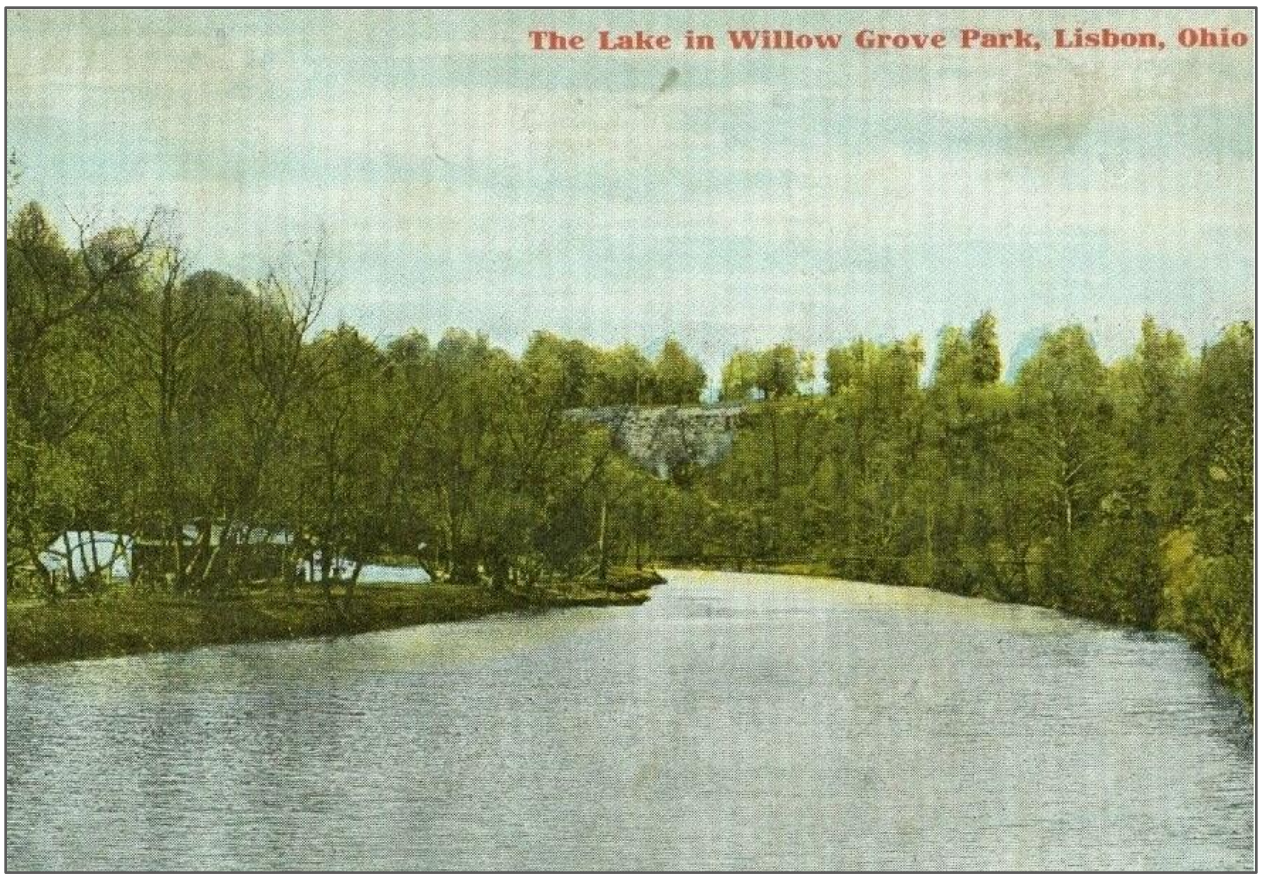


Figure 6. Post card from 1913, view from east bank looking north from area of original dam

Society pages in the newspapers of surrounding towns were populated with accounts of family reunions and visits at the park. A two-week camping trip by six Salineville ladies warranted top billing in their local society column (Evening Review 1925).Sportsmen's events featured trap and rifle shooting, coon hunts, and bait casting contests (Evening Review 1922).

One of the last publicized events was a "wiener sizzle" hosted by the Yellow Creek Presbyterian Church (Evening Review 1932).The popularity of the automobile and the decline of the interurban railroad opened more possibilities for recreation, and the park fell into decline during the 1930s.

In 1947, the owners donated the park, which had fallen into disrepair, to the city of Lisbon. The Lisbon Kiwanis Club spearheaded an effort to revitalize the park. A swinging bridge replaced the fixed foot bridge (Figure 7). Four stone fireplaces were constructed by local residents. A pavilion was built by subscription. Another, smaller shelter, the Hawk Shelter, appears to have been left over from the previous park iteration. (Salem News 1949) A well, still extant, was constructed. A lighting system was also installed for nighttime summer use. A dam was at the top of the list for future improvements (Salem News 1949).

Few features of the 1947 park remain. Although the millrace from the original stone and wood dam remains downstream from the low head dam, the early twentieth-century park features are

largely lost. No rental cabins or boat docks remain. The ice skating shanty is gone. The building on the west bank that housed the Lion's Club burned down. The fixed foot bridge appears to have been removed or destroyed by the late 1940s, and the swinging bridge that replaced it was lost in a 2004 flash flood (Morning Journal 2016). The four stone furnaces built in the early 1950s are no longer present. One pavilion, the Hawk Shelter, is missing.

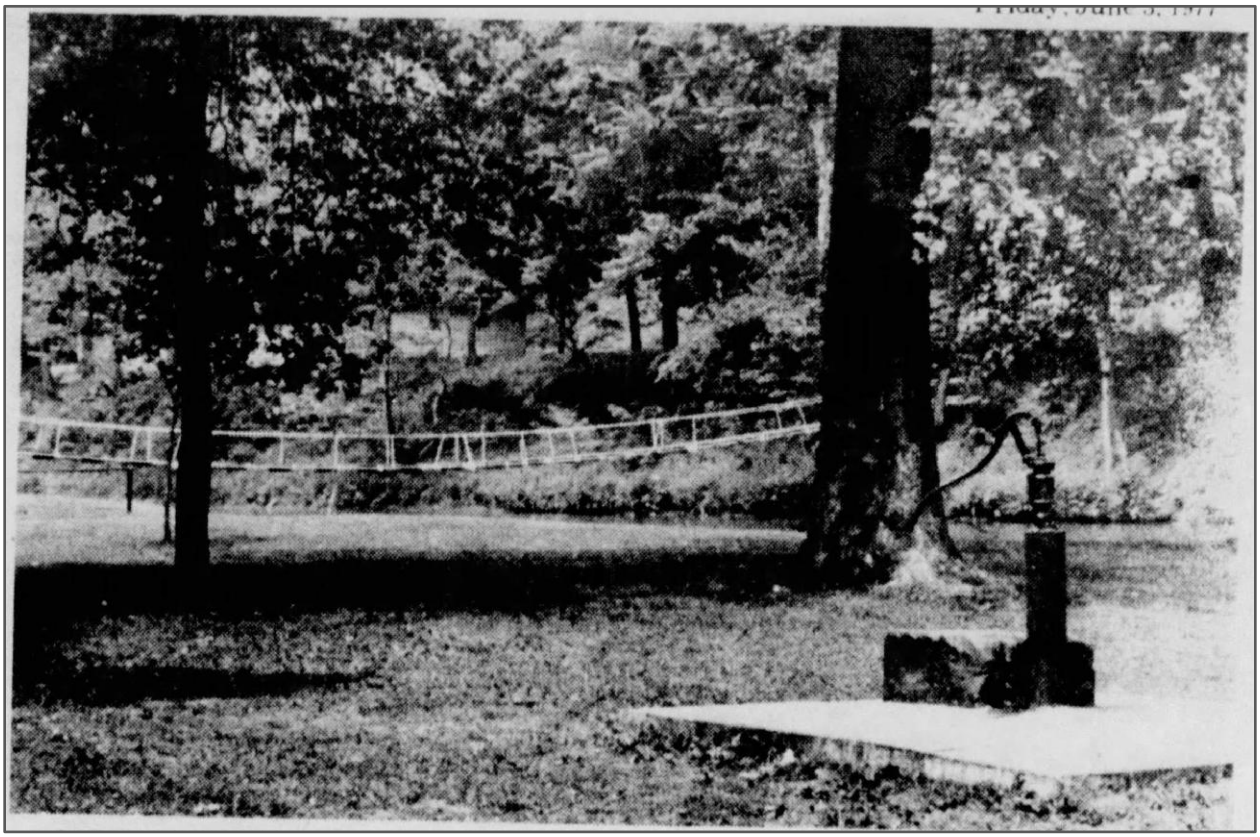


Figure 7. Swinging bridge in Willow Grove Park in 1977, view looking northeast from west bank (Salem News 1977)

Willow Grove Park is also more tranquil now than in the period after the dam was constructed in 1952. The Erie Railroad, which ran on the east side of the MFLBC, and the Lisbon Dam are now a multi-use rails-to-trails route. One pavilion, a well, and the low head dam are the only features remaining from the post-war period.

Lisbon Dam

The Lisbon low head dam replaced the wood and stone dam that was constructed for the Hollingsworth mill established in 1812. The original mill dam, which was repaired many times over the years, was washed out during a flood in the 1930s.Ohio State House of Representatives member Clarence "Dutch" Wetzel was instrumental in the dam's construction. Wetzel, an insurance and coal broker, was the Republican state representative for the 34th District, which included Columbiana County. He served from 1949–1970. An East Liverpool *Evening Review* article noted that Wetzel had been working on the dam project for a year and half by 1951 but that he was sure he could "sell" the idea to the State Conservation Department (Evening Review 1951, 3).This was a period in state government when many House members of both parties were hunting Communists and other "subversives" when they weren't ganging up on the free-spirited governor, Frank Lausche (Usher 1994). Wetzel, however, kept his eye on the prize and brought home the pork for his district. Wetzel touted this attribute in his campaign advertising. A 1962 newspaper advertisement listed the Lisbon dam and stated, "Re-elect a representative who secures for Columbiana County a fair share of public money for improvements" (The Evening Review 1962) (Figure 8).His 1966 campaign advertisement does not mention any major legislation; it too is a list of district infrastructure projects. They are workaday projects; low head dams, traffic signals, park acquisitions, and road improvements (Salem News 1966). It was not an uncommon strategy among some legislators, since the road to reelection relied on not only constituent services but a steady supply of projects for one's district (Usher 1994).Wetzel ran for U.S. Congress in 1952 and was defeated. He was also defeated in the 1970 Ohio State House of Representatives election and gave up public life. He died in 1972.

X RE-ELECT

CLARENCE L.

WETZEL

STATE REPRESENTATIVE

(REPUBLICAN)

* Re-elect a representative who secures for Columbiana County a fair share of public money for improvements.

* Some Major Improvements Secured by Wetzel as State Representative:
  - Highway Patrol Barracks.
  - Heavy Road Building and Maintenance Equipment.
  - Highway Department Building.
  - Highway Safety Flasher Lights.
  - School Children Safety Flasher Lights.

* Some Major Recreational Improvements Secured by Wetzel for Columbiana County:
  - Zeppernick Lake and Public Hunting Ground.
  - Land Acquired for Beaver Creek Park.
  - Land Acquired for Highland Lake and Public Hunting Ground.
  - Upland Lake at West Point.
  - Extensive Improvements at Guilford Lake.
  - Dam at East Liverpool Y.M.C.A. Camp.
  - Dam at Willow Grove Park.

* Courts: • 2nd Common Pleas Court.

FOR A FAIR SHARE FOR COLUMBIANA COUNTY - -

RETAIN–

EXPERIENCE ★ SENIORITY ★ SERVICE

RE-ELECT CLARENCE L. WETZEL

Columbiana County's "SERVICE" Representative.

WETZEL FOR REPRESENTATIVE COMMITTEE
HOWARD M. COLE, Chairman
309 East Chestnut St., Lisbon, Ohio

(Paid Political Advertisement)

Figure 8. A Clarence "Dutch" Wetzel 1962 campaign advertisement mentioning the Lisbon Dam

(*The Salem News,* Oct. 25, 1962)

Dam construction started in early October or 1952. The actual construction cost of $18,361(Salem News 1952) was slightly over the original estimate of $17,500 (Evening Review1952a). The dam was constructed by the G.P. Fleetwood Company, which at the time was located in Perry, Pennsylvania (Salem News 1952). The dam was constructed for recreational purposes, including fishing, boating, and ice skating (Salem News 1949).

The Lisbon Dam was one of two recreational dams constructed through Wetzel's efforts. The dam at the East Liverpool YMCA camp, Camp Pine Ridge is still in place although breached. The weir was cut in the middle but the majority of the dam remains. Like many low head dams

in Ohio, the dam at the former Camp Pine Ridge is not in the Ohio Department of Natural Resources low-head dam inventory. Owen & Eastlake staff located the dam using newspaper accounts and satellite imagery (Figure 9).

Figure 9. East Liverpool YMCA Camp Pine Ridge low-head dam (Bing maps)

Resource Evaluation

Introduction

This section contains a detailed architectural description of the Lisbon Dam, as well as a section evaluating the dam for National Register eligibility under the four National Register criteria (A-D). Owen & Eastlake recommends Lisbon Dam as **not eligible** for the National Register. The dam has a very good level of integrity of materials, design, location, setting, and feeling and association. However, Owen & Eastlake staff recommends that the dam does not meet any of the four National Register eligibility criteria because of the dam's relatively low level of overall historical significance and its low level of engineering significance as a fairly typical small-scale poured-concrete low-head dam.

Description

Lisbon Dam is located in Willow Grove Park on the outskirts of the Village of Lisbon, Ohio, which is the seat of government for Columbiana County. The dam sits on MFLBC, a stream that in this area flows to the south along the village's west boundary. The dam sits within a small wooded corridor along the creek that forms a buffer between residential neighborhoods to the east and a mixture of woods and farmland to the west. U.S. Highway 30 crosses Beaver Creek via a modern concrete girder bridge south of Lisbon Dam. The dam and Willow Grove Park can be accessed via a series of service roads that connect to U.S. 30.Willow Grove Park itself is a mixture of grass lawn with trees and wooded areas, and contains a small gabled picnic shelter on its north end (Figure 10).

Figure 10. Photograph of Willow Grove Park from east bank just below low head dam showing west bank and pavilion, view looking northwest (Jerry Tyson)

Lisbon Dam stretches across MFLBC. It is bordered on the west by a grass lawn with mature trees associated with Willow Grove Park, and on the east side by a wooded area. Water from MFLBC is impounded by the dam's concrete weir, and excess water flows directly over the dam's fixed crest to the lower pool of the creek. The dam contains no spillway other than the weir itself, and does not contain any flashboards, gates, or other movable structures (Figure 11).

Figure 11. Photograph of weir from west bank abutment, view looking east

The upper pool of the creek north of the dam is characterized by earth banks and deeper water. Water that has flowed over the dam's fixed crest lands in a shallow pool below the dam before flowing over a series of shallow rock rapids to the south. The river banks south of the dam widen immediately below the dam but narrow soon after. Both sides of the river below the dam have deposits of broken poured concrete slabs in place for erosion protection (Figure 12).

Figure 12. Riprap on west bank, view looking northeast

Further down the creek, a wall composed of large, roughly finished sandstone blocks sits on the river's east bank. This sandstone structure is associated with a mill that once existed in the vicinity of the current U.S. 30 bridge (Figure 13).

Figure 13. Historic mill race remnant southeast of dam, view looking southeast

Lisbon Dam itself consists of a concrete weir and two nearly identical abutments, one on the west side of the creek and the other on the east. The weir is a concrete wall that stretches across the entire width of MFLBC and is approximately 70 feet long. The upper (north) face of the weir is curved, the top of the weir is slightly domed, and the lower (south) face of the weir has a bell-shaped curve. The weir is composed of poured concrete that has darkened with age and that has a fine gravel aggregate visible at the surface (Figure 14).

Figure 14. View of dam from east bank showing weir and abutments, view looking northwest

The two abutments that form the remainder of the dam are both concrete boxes composed of three walls and a top slab. Each abutment is rectangular and measures 20 feet by 12 feet, with the longer 20-foot side positioned parallel to the weir (i.e., the shorter 12-foot side of the abutment faces the weir). The top slab of each abutment is finished off on all sides at a 45 degree angle, and a fine gravel aggregate is visible in the surface concrete of both abutments. The top of both abutments sits a little under 7 feet above the surface of the lower pool water of MFLBC at the time of fieldwork. The flow of MFLBC was not particularly high at the time of fieldwork.

The dam's west abutment is composed of 1-foot thick poured concrete walls on the north, east, and south sides. These walls are topped with a concrete slab that measures 1 foot thick above the walls, and 2 feet thick in all other areas. The abutment's west side does not have a wall and is now characterized by a void that allows the viewer to see the hollow space below the top slab. On the top portion of this hollow area, large irregular stones are embedded in the lower surface of the top slab. It appears likely that this void was once covered by the river bank, hiding it from view, but water erosion over the years has exposed it (Figure 15).

Figure 15. West abutment showing void and erosion, view looking northeast

The east abutment is a mirror image of the west abutment, and has concrete walls on the north, west, and south sides, and a top slab. A void exists on the east side of the east abutment that is largely identical to the one found on the west abutment's west side. The east abutment's top slab and south wall are somewhat odd in that the south wall starts out at normal height on the west and becomes gradually shorter to the east. Conversely, the abutment's top slab starts out with a 1-foot thickness on its southwest corner, but at the southeast corner, it is about 20 inches thick, to make up for the lower height of the wall. The reason for this construction irregularity is not clear. The upper east portion of the wall may have been structurally weak after pouring, and it may have been better for the construction crew to pour the top slab thicker instead of adding more concrete to the top of the wall (Figure 16).

Figure 16. East abutment showing irregularly poured top slab, view looking northwest

During fieldwork, no evidence of obvious alterations of Lisbon Dam was observed. The dam did not appear to have any scars in the concrete related to removal of concrete features or any equipment, railings, or other features. No concrete of a lighter color or different texture than the rest of the dam was observed during fieldwork. The surface of the concrete appeared to be original; no evidence was seen of any re-surfacing of the concrete. No parts of the dam present today were observed to be obvious additions made after the original 1952 construction episode. The dam appeared to be in good visual condition; a few cracks in the abutment walls and some darkening of the original concrete surfaces were the only obviously visible deterioration observed during fieldwork.

The setting for Lisbon Dam also appears fairly intact. The dam was constructed as part of Willow Grove Park, and the site has remained in use as parkland since the dam was built. Although the construction of the U.S. 30 bridge may have altered the character of the area south of the dam, the area immediately surrounding Lisbon Dam retains its original wooded, park-like character.

NRHP Eligibility

Integrity

Lisbon Dam has no obvious alterations or major damage. The areas on the banks on either side of the abutments have eroded, exposing void areas underneath the abutment slabs that surely would have originally been concealed, but no other major changes were observed. Lisbon Dam therefore has a high level of integrity of design and materials. The overall municipal park setting of the dam, characterized by lawns and wooded areas, has also stayed fairly consistent since the construction of the dam. Some park structures that were present in the early 1950s do not appear to exist today, which has affected the integrity of the park itself as a multi-featured property. However, the park is intact enough that the dam retains a sufficient level of integrity of setting and feeling and association.

Criterion A Significance

News articles at the time of the dam's construction indicate that it was built for recreational purposes (Evening Review 1952). Although one article on the dam's construction reports State of Ohio Conservation Department engineers making a comment on the dam's "possibilities for flood control and recreation" (Evening Review 1951), all other news sources list the dam's purpose as recreational. In reality, Lisbon Dam is not capable of contributing to flood control in any meaningful way, as water runs freely over the fairly low fixed crest during high water conditions. There is no way to control water flow through the dam and no way to raise the height of the crest to impound more water during flood conditions, due to the dam's lack of movable gates. Also, it is not likely that the dam could impound enough water to stop major flooding downstream. Therefore, flood control does not appear to be a major historical theme for Lisbon Dam. Also, no evidence exists that the dam was ever used for hydropower or to provide water for any industrial purpose. Therefore, the dam is not significant for associations with industry or hydropower.

Lisbon Dam was built in 1952 to promote recreational activities, including swimming, fishing, and ice skating, at Lisbon's Willow Grove Park (Evening Review, "Lisbon Dam Bidder Awarded Contract," 1952, 6). Therefore, recreation is the appropriate historical theme for the dam under Criterion A. The dam was also part of a revitalization effort during the post-World War II years to make Willow Grove Park usable again, since the park had fallen into disrepair during the Great Depression and World War II (Salem News 1949). The recent guideline report for evaluation of low-head dams in Ohio indicates that dams associated with recreation and the development of public parks have more potential for National Register eligibility than dams built for purposes like utility infrastructure, especially in association with a historically significant public park (Hampton and Burkett 2011, 25).

As a small concrete low-head structure, Lisbon Dam does not appear to be a sufficiently important reflection of post-World War II recreation to warrant National Register eligibility as

an individual property. As a minor structure built to impound water for fishing, swimming, boating, and ice skating in a small community, it does not have a high level of historical importance and is not an important representation of historical themes and patterns of the 1950s, such as suburbanization. Therefore Own & Eastlake recommends that Lisbon Dam is not eligible for the National Register as an individual property under Criterion A.

The dam is part of Willow Grove Park, but as a municipal park in a small northeastern Ohio community, Willow Grove Park does not appear to have a high enough level of historical significance to be eligible for the National Register as a reflection of 1950s recreation development. The park was initially developed around 1900, was neglected during the Great Depression and World War II, and was renovated in the years following World War II (Salem News 1949). At the time of the construction of Lisbon Dam in 1952, the park's features would have been a mixture of features remaining from the original ca. 1900 park development and post-World War II renovations. Since the park is a mixture of features from different time periods, it is not a particularly representative reflection of 1950s park design and development.

Also, news articles of the early 1950s mention a number of park features that appear to no longer be present, most notably a distinctive suspension footbridge over MFLBC (Ibid). Park features observed during fieldwork mainly consisted of wooded areas, grass lawn, and a picnic shelter that appears to have been recently built or heavily renovated during the last 30 years. Therefore, it is not clear that the park retains enough of its post-World War II features to have a strong sense of integrity of feeling and association for the postwar era that would make it a strong enough example to be eligible as a multi-feature historic property. Overall, the park does not have the integrity or historical significance under Criterion A to be eligible for the National Register, so Lisbon Dam is recommended as not eligible for the National Register under Criterion A in association with Willow Grove Park.

Criterion B Significance

No evidence was found linking Lisbon Dam in a significant way to the lives of any individuals important enough in history to warrant National Register eligibility. The dam was associated with Clarence L. Wetzel, who was a member of the Ohio House of Representatives from 1949 into the 1960s, since he was instrumental in facilitating the dam's construction. Wetzel was a member of the Ohio House, but did hold any higher office in the State of Ohio. Therefore Owen & Eastlake recommends that although Lisbon Dam is associated with Wetzel, he is not enough of a significant figure in state or local history to warrant the National Register eligibility of this dam based on that association. Lisbon Dam is recommended as not eligible under Criterion B.

Criterion C Significance

Lisbon Dam is a common low-head fixed-crest dam of fairly standard design. This type of dam is small in scale and was not on the forefront of any type of engineering technology of the 1950s.

There is no evidence that the dam was a major work of any important dam designer; it was designed by engineering staff in the state's Conservation Department. Lisbon Dam also shows no indication of any engineering significance in terms of advancement of concrete technology or dam design in the 1950s. The design of the dam is utilitarian in nature and does not exhibit features of aesthetic movements or styles of its era, such as Streamline Modern or High Modernism.

The low-head fixed-crest dam type itself is a very common resource type in Ohio. Despite the removal of many of these structures to improve environmental quality of rivers and streams across the state, as many as 300 inventoried dams still remain across Ohio, many of them dating to the post-World War II era. However, the Ohio Department of Natural Resources (ODNR) does not maintain a comprehensive low-head dam inventory so the actual number of extant low-head dams is much larger than reported (Personal Communication, Kathleen McDonald, ODNR)

In northeastern Ohio, a few of these dams have been removed in recent years, but several inventoried examples still exist in the industrial area north of Lisbon, along the Mahoning River in Youngstown and its surrounding suburbs. Newspaper articles mention planning a sister dam to the Lisbon Dam at the YMCA Pine Ridge Camp on the West Fork of Little Beaver Creek (Evening Review 1952:41). This dam was built in 1955 (Evening Review 1955). This uninventoried dam, although breached, is still extant. Therefore, there is at least one other identically designed dam built by the same contractor. As an example of a common resource type that does not have any outstanding or unusual engineering features, Lisbon Dam is recommended as not eligible for the National Register under Criterion C.

Criterion D Significance

Archaeological investigation was not part of this project. The dam itself did not appear in its construction and physical features to be able to yield any significant information on the culture or history of the early 1950s. The conventional poured concrete construction of the dam seems unlikely to yield any information that might be valuable to future researchers interested in this time period. Lisbon Dam is not recommended as eligible for the National Register under Criterion D.

Summary of NRHP Eligibility

- **Recommendation:** Lisbon Dam is recommended as **not eligible** for the National Register

- **Integrity:** The dam itself has a high level of integrity and appears to have undergone few, if any, alterations. The dam's physical setting has remained in use as a public park. Although some features of the park that existed in the early 1950s appear to be missing today, the park retains enough integrity to provide the dam with an overall sense of integrity of setting. However, due to the loss of important features, it is unlikely that the park retains enough integrity to be eligible for the National Register as a multi-feature property.

- **Criterion A:** The dam has a low level of significance as a small recreational structure of the early 1950s located in a municipal park in a small community. Willow Grove Park also does not appear to have the integrity or significance to be eligible under Criterion A as a representation of 1950s park design and development. The dam is not significant in association with the themes of industry, hydropower, or flood control. Lisbon Dam is recommended as not eligible for the National Register under Criterion A, as an individual property and in association with Willow Grove Park.

- **Criterion B:** The only figure in history found to be associated with the dam was Clarence L. Wetzel, a member of the Ohio House of Representatives from the late 1940s through the 1960s. As a state representative, Wetzel is not sufficiently important in state and local history to warrant National Register eligibility for this dam.

- **Criterion C:** As a common low-head dam of the early 1950s, the structure has a low level of engineering significance. Low head dams are a common property type in Ohio and several examples exist in northeast Ohio. The dam does not have any unusual or innovative engineering features. Lisbon Dam is recommended as not eligible under Criterion C.

- **Criterion D:** The dam does not have the potential to yield significant historical information. Archaeological survey and testing were not within the scope of this report. Lisbon Dam is recommended as not eligible under Criterion D.

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1952b "Lisbon Dam Builder Awarded Contract," August 13, 1952, p. 6.

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Appendix A. Ohio Historic Inventory Form

Ohio Historic Preservation Office
800 E. 17th Avenue
Columbus, OH 43211
614/298-2000

OHIO HISTORIC INVENTORY

Section 106/RPR Review: RPR Number:

1. No. COL0100009 **NEW**
2. County: **Columbiana**
4. Present Name(s): **Lisbon Dam**
5. Historic or Other Name(s): **Lisbon Dam**

6. Specific Address or Location: 38133 Lincoln Highway
6a. Lot, Section or VMD Number:
7. City or Village: Lisbon
9. U.T.M. Reference
Quadrangle Name: Lisbon
Zone: 17 Easting: 518592 Northing: 4513437
10. Classification: Structure
11. On National Register? NO
13. Part of Established Hist. Dist? YES
15. Other Designation (NR or Local)
16. Thematic Associations:
ARTS AND RECREATION
Sports
Boating
17. Date(s) or Period: 1952
17b. Alteration Date(s):
18. Style Class and Design:
None — No academic style - Vernacular
18a. Style of Addition or Elements(s):
19. Architect or Engineer: N/A

19a. Design Sources: N/A
20. Contractor or Builder: G.P. Fleetwood Company
21. Building Type or Plan: OTHER BUILDING TYPES
22. Original Use, if apparent: Outdoor Entertainment/Recreation
23. Present Use: Outdoor Entertainment/Recreation
24. Ownership: Public
25. Owner's Name & Address, if known: Village of Lisbon, 203 N. Market St., Lisbon. Ohio 44432
26. Property Acreage: .01
27. Other Surveys:
28. No. of Stories: One story
29. Basement? No
30. Foundation Material: Concrete slab
31. Wall Construction: Reinforced concrete
32. Roof Type: Other
Roof Material: Other
33. No. of Bays: 0 Side Bays: 0
34. Exterior Wall Material(s): Concrete

35. Plan Shape: Other
36. Changes associated with 17/17b Dates:
17. Original/Most significant construction
17b.
37. Window Type(s): Other
38. Building Dimensions: 110 width (with abutments) 5 ft. high
39. Endangered? YES
By What? dam removal
40. Chimney Placement: Other
41. Distance from & Frontage on Road: .09 from road/.02 frontage
51. Condition of Property: Good/Fair
52. Historic Outbuildings & Dependencies
Structure Type(s): Other Building Type
OTHER BUILDING TYPES
Date(s): 1949 1812
Associated Activity:
Original/Most significant construction
Original/Most significant construction
53. Affiliated Inventory Number(s):
Historic (OHI):
Archaeological (OAI):

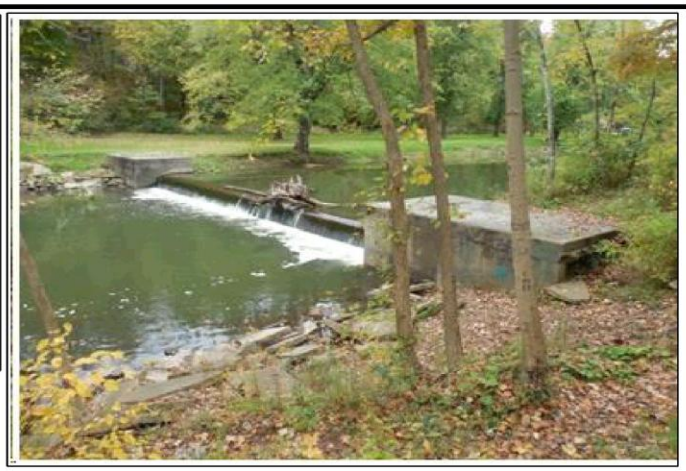
2. County: Columbiana
4. Present or Historic Name(s): **Lisbon Dam**
6. Specific Address or Location: **38133 Lincoln Highway**

8. Site Plan (location map) with North Arrow

46. Prepared By: **Rory Krupp**
47. Organization: **Owen & Eastlake Ltd**
48. Date Recorded: **10/28/2016**
49. PIR Reviewer:
50. PIR Review Date:

1. No. COL0100009 | 4. Present Name(s): Lisbon Dam

2. County Columbiana | 5. Historic or Other Name(s): Lisbon Dam



Door Selection: Other
Door Position: Unknown
Orientation: Other
Symmetry: Other

Report Associated With Project:

Primary Author	Secondary Author(s)	Year	Title
Roy Hampton	Rory Krupp		National Register Inventory and Evaluation of the Lisbon Dam

42. Further Description of Important Interior and Exterior Features

The Lisbon Dam is located in the Middle Fork of Little Beaver Creek in Willow Grove Park. It is a poured concrete, steel-reinforced, low-head dam with a fixed weir. The dam is oriented E-W. The dam has rectangular steel-reinforced concrete slab abutments that measure 20 ft. E-W and 11 ft. N-S. Originally buried, the slab abutments are partially exposed due to erosion. The dam is in good condition.

43. History and Significance

The Lisbon Dam was constructed in October, 1952, by the G.P. Fleetwood Company of Perry, Pennsylvania. The dam was constructed for a total cost of $18,361. The dam is associated with the revitalization of Willow Grove Park by the Lisbon Kiwanis in the late 1940s and early 1950s. The park, established as a private park c. 1900, was abandoned in the 1930s. It was donated to the Village of Lisbon in 1947. The dam was constructed to replace an earlier dam that was destroyed by flooding in the 1930s. Ohio House representative Clarence L. Wetzel championed the dam's construction and obtained funding for it through the Ohio Department of Naural Resouces. The dam was constructed for recreational purposes, specifically, boating, fishing and ice skating.

44. Description of Environment and Outbuildings (See #52)

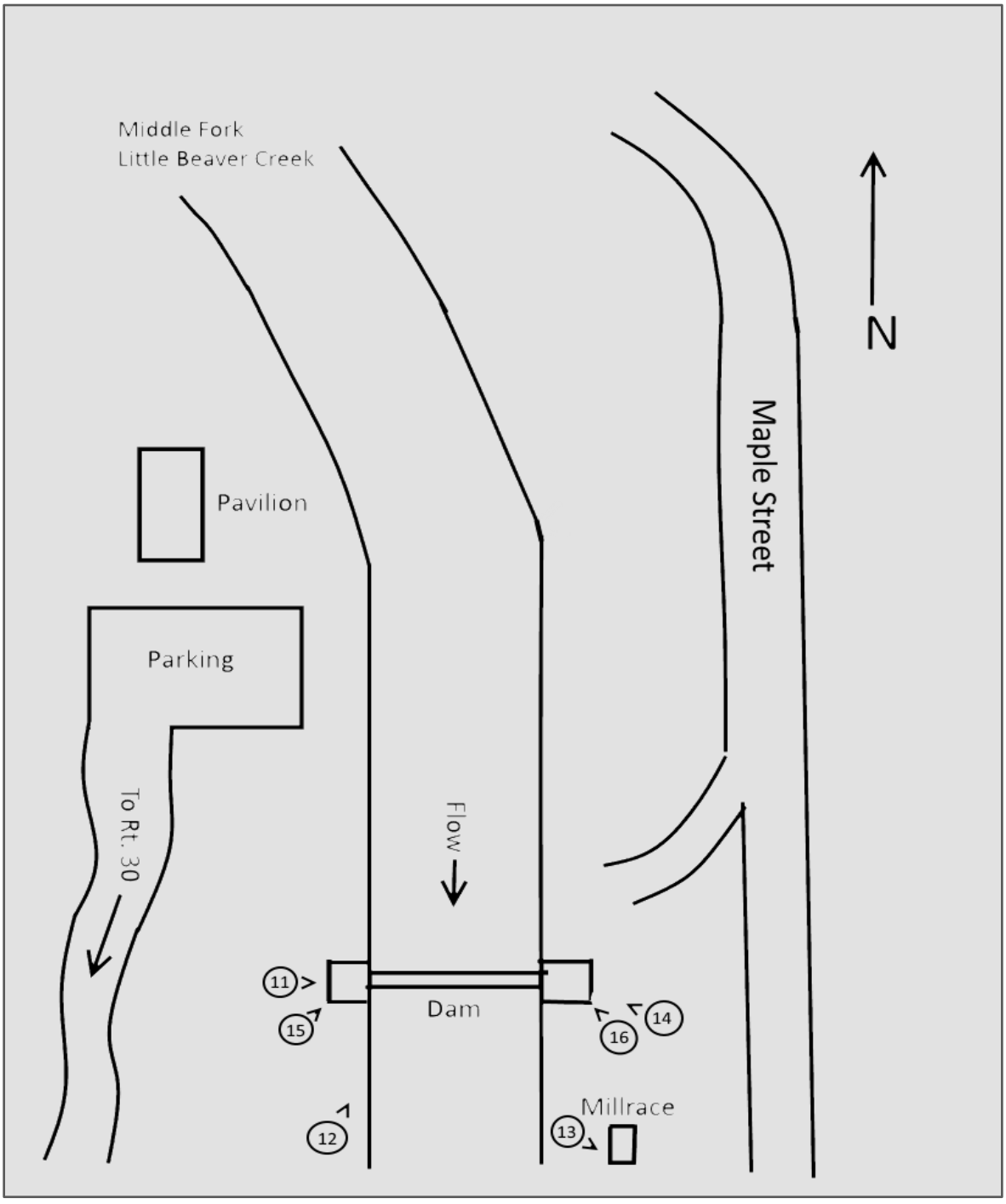
The dam is located in the Middle Fork, Little Beaver Creek in Willow Grove Park. The west bank is park land. It is a flood plain with grass and mature deciduous trees. The east bank is largely sloped and covered in mature deciduous trees and thick secondary growth. The east bank also has a railroad cut that was converted to a rails-to-trails multi-use path. It a parallels the stream. A park pavilion is located c. 500 ft upstream on the west bank. A 1812 mill race is located c. 70 ft downstream on the east bank. The Route 30 bridge is located farther downstream.

45. Sources of Information

Evening Review (East Liverpool, Ohio)

"Lisbon Dam Builder Awarded Contract" August 13, 1952

Appendix B. Field Photo Key



ATTACHMENT 7

VILLAGE OF LISBON RESOLUTION #1940

BARRET BROTHERS, PUBLISHERS, SPRINGFIELD, OHIO Form 6220

Ordinance No. _____ *Passed* _____, _____

RESOLUTION NO. 1940

RESOLUTION TO SUPPORT AND APPROVE REMOVAL OF THE LOWHEAD DAM IN WILLOW GROVE PARK

Be it resolved by the Council of the Village of Lisbon, Ohio that:

Section 1: The Village of Lisbon understands that the State of Ohio, through Ohio EPA and the U.S. Department of the Interior, through the U. S. Fish and Wildlife Service (the "Trustees") are in discussions with Rutgers Organics Corporation ("ROC") regarding certain natural resource restoration projects in the Little Beaver Creek watershed. One of these proposed projects is the removal of the low head dam across Middle Fork Little Beaver Creek in Willow Grove Park in the Village of Lisbon. The Village of Lisbon hereby supports the removal of the low head dam across the Middle Fork Little Beaver Creek in Willow Grove Park in the Village and conditionally approves the removal, subject to Section 2 of this resolution. In the event that ROC and the Trustees fail to reach an agreement on the removal of the dam, neither ROC, the Trustees, nor the Village would have any responsibility to remove the dam.

Section 2: The Village of Lisbon understands that if the dam removal project moves forward, the Trustees will develop a plan to remove the dam and will solicit public review and comment, before the low head dam is removed, in accordance with state and federal law. The plan will be included in a consent decree between the Trustees and ROC.

Section 3: The Fiscal Officer for the Village of Lisbon is not authorized by this Resolution to spend any of the Village's funds to perform removal of the low head dam across the Middle Fork Little Beaver Creek in Willow Grove Park in the Village.

Section 4: This resolution shall be in effect on and after the earliest period allowed by law.

ATTEST:

Mayor Daniel T. Bing

Tracey Wonner, Fiscal Officer

Passed: June 28, 2013

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