

February 27, 2024

SENT VIA EMAIL

Wisconsin DNR
Attn: Wendy Soleska
Municipal Dam Grant Manager
PO Box 7921
101 S. Webster Street
Madison, WI 53707-7921
Wendy.Soleska@wisconsin.gov

RE: Municipal Dam Grant Program Application
Neosho Dam Repair
Neosho, WI 53059
Field File #14.14
Key Sequence 1077

Dear Municipal Dam Grant Manager:

Please see the attached application and supporting materials for the Municipal Dam Grant Program prepared on behalf of the Village of Neosho. Included items:

- Cover Letter (this document)
- Grant Application with cover page and table of contents to include:
 - Grant Application From 3500-088
 - Required Attachments
 - Supplementary Documents

The required and supplemental attachment compilation includes their own title page. The PDF version also includes sidebar bookmarks for easy navigation within the document set.

Thank you for your review and consideration. Please contact us with any questions or if additional information is requested. We look forward to working with you on this potential funding project!

Respectfully,

ROTH PROFESSIONAL SOLUTIONS



Robert J. Roth, PE
Project Engineer

Enclosures: As-Listed

cc: Liz Desmore, Dam Committee Liaison
Deanna Boldrey, Clerk/Treasurer
Will Disser, PE, WDNR, Water Management Engineer

NEOSHO DAM REPAIR
VILLAGE OF NEOSHO
DODGE COUNTY, WI



02-28-24
Submittal

MUNICIPAL DAM GRANT PROGRAM APPLICATION



TABLE OF CONTENTS
MUNICIPAL DAM GRANT PROGRAM APPLICATION
Neosho Dam Repair, Village of Neosho, Wisconsin

GRANT APPLICATION FORM 3500-088

ATTACHMENTS FOR SECTION 3 OF FORM 3500-088

ATTACHMENT 1 – SIGNED RESOLUTION
ATTACHMENT 2 – AERIAL AND PARCEL MAP
ATTACHMENT 3 – DEED AND PLAT MAP
ATTACHMENT 4 – COST ESTIMATE
ATTACHMENT 5 – PROJECT DESCRIPTION & NARRATIVE

ATTACHMENTS FOR SECTION 6 OF FORM 3500-088

SUBSECTION I.C. – LAND USE CONTROL – FLOODPLAIN ZONING ORDINANCE
SUBSECTION III.D. – SUBMITTED IOM AND EAP
SUBSECTION IV.A. – VILLAGE DAM O&M BUDGETS
SUBSECTION V.A. – PUBLIC ACCESS/BOAT LANDING MAP
SUBSECTION VI.B. – OCTOBER 17, 2023 INSPECTION REPORT

GRANT APPLICATION

VILLAGE OF NEOSHO

KEY SEQUENCE 1077

FIELD FILE #14.14

Notice: This form is authorized by ss. 31.385 and 227.11, Wis. Stats. You must fully complete this form in order to be considered for financial assistance under ch. NR 335, Wis. Adm. Code. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Public Records Law [ss. 19.31-19.39, Wis. Stats.].

Section 1: Applicant Information

Applicant: Legal Name of Dam Owner Village of Neosho			Name of Owner's Consultant Roth Professional Solutions		
Address PO Box 178			Address 315 DeWitt Street		
City Neosho	State WI	ZIP Code 53059	City Portage	State WI	ZIP Code 53901
Name of Authorized Representative Liz Desmore			Name of Project Engineer <i>(must be registered in WI)</i> Robert J. Roth		
Title of Authorized Representative Dam Committee Liaison			Engineer Telephone Number (608) 571-3205		
Telephone Number (262) 422-3721	Email Address elizabeth.desmore@gehealthcare.co		Engineer Email Address robert@rpsprofessionalsolutions.com		

Section 2: Dam Information

Name of Dam Neosho Dam	Waterway Impounded Rubicon River	Township 10 N	Range 17 OW	Section 29	County Dodge
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Section 3: Required Attachments and Approvals (s. NR 335.07, Wis. Adm. Code)

Date of Inspection Concurrence letter containing directives or Abandon Dam (mm/dd/yyyy) 10/17/2025

If date entered is more than 6 months prior to application due date, contact Regional WMS for letter confirming eligibility.

- A. Required Attachments for eligible application, please see instructions for more detail:**
- **Resolution #1:** Authorized representative, per s. NR 335.07(2)(a)1., Wis. Adm. Code.
 - **Resolution #2:** Agreement to pay cost share, per s. NR 335.07(2)(a)2., Wis. Adm. Code.
 - **Map:** Showing property lines and owners adjacent to dam.
 - **Downstream Community Notification Letter** (if applicable): Notification of possible change in land use, per s. NR 335.07(2)(b), Wis. Adm. Code.
 - **Deed:** For property on which dam is located. Property tax record will not be acceptable; must attach Deed or, in absence of a deed, a letter opinion from the local title company telling property owner name and if there are any encumbrances.
 - **Cost Estimate**
 - **Project Description**

- B. Required Attachment Based on Project Type:**
- Dams to be Repaired or Modified** - Submit all data and calculations to show that the dam will meet all requirements of ch. NR 333, Wis. Adm. Code, where applicable:
 - Dam failure analysis, per s. NR 335.07(2)(e)1., Wis. Adm. Code
 - or -
 - If analysis has already been submitted, provide submission or approval date: 02/27/2024
 - Dams to be Abandoned and Removed** - All data and calculations to show that the dam will meet the requirements of ch. 31, Wis. Stats.
 - Abandonment permit or application, per s. NR 335.07(2)(f)1., Wis. Adm. Code
 - Hydraulic & hydrologic analysis for regional flood without dam, per s. NR 335.07(2)(f)2., Wis. Adm. Code

C. Required Attachments for Ranking: Provide additional attachments as detailed in Section 6.

Section 4: Estimated Eligible Project Costs

1. CONSULTANT/CONTRACTUAL SERVICES ENGINEERING	
a. Dam Failure/Flood Analysis	\$13,000.00
b. Grant Application	\$5,500.00
c. Plans and Specifications	\$35,200.00
d. Construction-Related Services	\$22,000.00
e. Emergency Action Plan/Inspection, Operation and Maintenance Plan	\$0.00
Subtotal	\$75,700.00
2. CONSTRUCTION	\$516,000.00
3. TOTAL ESTIMATED PROJECT COST	\$591,700.00

Municipal Dam Grant Program Grant Application

Form 3500-088 (R 08/23)

Page 2 of 4

Section 5: Amount of Grant Request (not to exceed \$1,000,000)

DAM ABANDONED AND REMOVED	100% Up to \$1,000,000		
DAM REPAIR OR MODIFY	Tier 1: 50% of first \$1,000,000	DNR Cost Share First Tier	\$295,850
		Sponsor Cost Share First Tier	\$295,850
	Tier 2: 25% of the next \$2,000,000	DNR Cost Share Second Tier	_____
		Sponsor Cost Share Second Tier	_____
TOTAL DNR Cost Share			\$295,850
TOTAL Sponsor Cost Share			\$295,850

Section 6: Criteria For Priority Ranking (s. NR 335.09, Wis. Adm. Code)

INSTRUCTIONS: The Municipal Dam Grant ranking criteria is based on NR 335. The questions below are based on requirements in Wisconsin State Statutes Chapter 30 and 31, Wis. Admin. codes, NR 1, NR 5, NR 102, NR 104, NR 116, and NR 333. Most of the information needed to answer the questions for the ranking criteria should be available in your dam files. Definitions to terms are found in the administrative codes. Detailed instructions on how to complete the ranking criteria worksheet can be found on the DNR grant website: <https://dnr.wi.gov/aid/dammunicipal.html> under the tab labeled applying.

	Answer	Available Points	Generated Points
I. Hazard Potential (maximum points 70)			
A. Hazard potential based on current land use downstream of the dam.			
1. High hazard?	<input type="radio"/> Yes <input checked="" type="radio"/> No	30	0
2. Significant hazard?	<input type="radio"/> Yes <input checked="" type="radio"/> No	20	0
B. Is this a large dam as defined by NR 333?	<input checked="" type="radio"/> Yes <input type="radio"/> No	20	20
C. Land use controls currently in effect downstream of the dam.			
1. Land use controls (zoning) that includes the hydraulic shadow of the dam or a compliant dam as defined by NR 116.08(3)? If yes provide supporting documentation.	<input type="radio"/> Yes <input checked="" type="radio"/> No	20	0
2. Land use controls (zoning) that is based on the effective FIRM (100yr flood event mapping)? If yes provide supporting documentation.	<input checked="" type="radio"/> Yes <input type="radio"/> No	10	10
Part I. Total Points			30
II. Purpose of the Project (maximum points 50)			
A. Is this a dam removal project?	<input type="radio"/> Yes <input checked="" type="radio"/> No	50	0
B. Is this a project to increase spillway capacity to meet NR 333 requirements?	<input type="radio"/> Yes <input checked="" type="radio"/> No	50	0
Part II. Total Points			
III. Proactive Safety Measures (maximum points 50)			
A. Is there a written Emergency Action Plan for the dam on file with the WDNR?	<input checked="" type="radio"/> Yes <input type="radio"/> No	15	15
B. If the EAP noted in (A) has been on file with the WDNR for more than 24 months prior to the due date of this grant, has it been revised, updated or tested in that time? If so, mark "Y" and Identify date of update or test: <u>01/03/2024</u>	<input checked="" type="radio"/> Yes <input type="radio"/> No	10	10
C. Is there a written Inspection, Operation, and Maintenance (IOM) Plan for the dam on file with the WDNR?	<input checked="" type="radio"/> Yes <input type="radio"/> No	15	15
D. Have you implemented the approved IOM? If yes, provide copies of documentation as described in the instructions.	<input checked="" type="radio"/> Yes <input type="radio"/> No	10	10
Part III. Total Points			50
IV. Financial Considerations (maximum points 20)			
A. Do you have a dedicated fund or a special assessment district to cover maintenance and operations? If yes, provide supporting documentation.	<input checked="" type="radio"/> Yes <input type="radio"/> No	20	20
Part IV. Total Points			20

Municipal Dam Grant Program Grant Application

Form 3500-088 (R 08/23)

Page 3 of 4

V. Public Interest (maximum points 60)	Answer	Available Points	Generated Points
<p>The next questions are based on the navigability of the stream, the stream's classification, and the type of the project. Answer 'Y' where applicable in the appropriate project type (A or B). Please reference the DNR Water Condition Viewer website for waterway information. https://dnrmaps.wi.gov/H5/?viewer=Water_Condition_Viewer</p>			
<input checked="" type="radio"/> A. For a dam repair or reconstruction project: on a limited forage fish stream? (LFF) on a limited aquatic life stream? (LAL) on a non-navigable stream? where there is public access to the impoundment? If yes, provide proof of public access where there is a boat landing on the impoundment meeting NR 1.91(4.)? If yes, provide proof of boat landing.	<i>Answer "Yes" where applicable</i>		
	<input type="radio"/> Yes <input checked="" type="radio"/> No	30	0
	<input type="radio"/> Yes <input checked="" type="radio"/> No	40	0
	<input type="radio"/> Yes <input checked="" type="radio"/> No	50	0
	<input checked="" type="radio"/> Yes <input type="radio"/> No	5	5
	<input checked="" type="radio"/> Yes <input type="radio"/> No	5	5
<input type="radio"/> B. For a dam removal project: on an outstanding resource water? (ORW) on an exceptional resource water? (ERW) on a cold or cool water stream? on a warm water sport fish? on any other stream classification or on a non-navigable waterway?	<i>Answer "Yes" where applicable</i>		
	<input type="radio"/> Yes <input type="radio"/> No	50	
	<input type="radio"/> Yes <input type="radio"/> No	50	
	<input type="radio"/> Yes <input type="radio"/> No	50	
	<input type="radio"/> Yes <input type="radio"/> No	40	
	<input type="radio"/> Yes <input type="radio"/> No	30	
Part V. Total Points			10
VI. Inspections and Orders (maximum points 40)	Answer	Available Points	Generated Points
A. Have you met the owner required inspection requirements of ss 31.19 (see application instructions for guidance on how to find records of inspections) If yes, provide date of most recent owner-required inspection report completed by a PE <u>09/14/2021</u> .	<input checked="" type="radio"/> Yes <input type="radio"/> No	15	15
B. Have you completed all past-due directive from prior inspections, concurrence letters and/or Department-issued Orders? See application instructions for guidance on how to look up records on directives.	<input checked="" type="radio"/> Yes <input type="radio"/> No	25	25
Part VI. Total Points			40
VII. Ability to Proceed (maximum points 20)	Answer	Available Points	Generated Points
A. What is the status of your plans and specifications? Have you submitted approvable final plans and specifications for the project to DNR for review via e-permitting? Submit online at https://dnr.wi.gov/topic/Dams/permits.html . Note: Plans and specifications must be submitted at least one month prior to the application deadline and all review comments addressed <u>within 30 days of the application deadline</u> .	<input type="radio"/> Yes <input checked="" type="radio"/> No	20	0
Part VII. Total Points			
VIII. Other Considerations (maximum points 30)	Answer	Available Points	Generated Points
A. This project would represent a first time award of a Municipal Dam Grant for the dam.	<input checked="" type="radio"/> Yes <input type="radio"/> No	10	10
B. Is the total eligible project cost estimated to be greater than \$500,000?	<input checked="" type="radio"/> Yes <input type="radio"/> No	20	20
Part VIII. Total Points			30

Municipal Dam Grant Program Grant Application

Form 3500-088 (R 08/23)

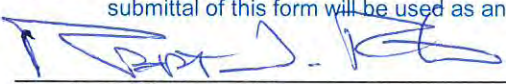
Page 4 of 4

IX. Capita Income Calculation (maximum points 40)	Available Points	Generated Points
DNR will adjust the Grand Total Points Score based on the capita income as a percentage of the State average of the municipality where the dam structure is located using the following ranking:	135% and over	4
	100% to less than 135%	8
	89% to less than 100%	12
	80% to less than 89%	16
	72% to less than 80%	20
	65% to less than 72%	24
	59% to less than 65%	28
	54% to less than 59%	32
	50% to less than 54%	36
Less than 50%	40	
Part IX. Total Points		
X. Point Grand Total		Total Points
Part I - VIII Total Points		180
Part IX Total Points		
GRAND TOTAL POINTS		

Section 7. Certification

By submitting this application electronically, the authorized representative certifies that the information in this application and all uploaded documents are true and correct to the best of their knowledge. It is understood and agreed that any grant funds awarded as a result of this application shall be used in compliance with ss. 31.385 and 227.11, Wis. Stats., and ch. NR 335, Wis. Adm. Code. It is also understood that, by submitting this application, the dam identified in the application will be added to the dam grant inventory and the DNR will only hold a hearing concerning this dam if the dam owner files a request for a hearing with the DNR.

NOTE: Please type your name on the signature line. The email message generated from electronic submittal of this form will be used as an electronic signature.



Signature of Authorized Representative

02/27/24

Date Signed

SECTION 3 – REQUIRED ATTACHMENTS
ATTACHMENT #1
SIGNED RESOLUTION

**Authorizing Resolution for
Participation in the Department of Natural Resources
MUNICIPAL DAM GRANT PROGRAM**

RESOLUTION OF: Village of Neosho
County of Dodge

WHEREAS, the Village of Neosho owns the Neosho Dam and requests financial assistance under s.31.385 and s. 227.11, Wis. Stats., and ch. NR 3335, Wis. Adm. Code, for the purpose of dam repair; and

Neosho/Rubicon River Dam Repair Project - Dam Gate Repair

WHEREAS, the state share for such a project may not exceed 50 percent (50%) of the first \$1,000,000.00 of total eligible project costs nor 25 percent (25%) of the next \$2,000,000.00 of total eligible project costs;

NOW, THEREFORE, BE IT RESOLVED, THAT THE VILLAGE OF NEOSHO HEREBY AUTHORIZES NEOSHO DAM COMMITTEE CHAIR AND TRUSTEE, ELIZABETH DESMORE to:

- Submit an application to the DNR for financial aid under ch. NR 335, Wis. Adm. Code;
- sign grant agreement documents;
- take all necessary action to complete the project associated with any grant agreement; and
- submit reimbursement claims along with necessary supporting documentation.

BE IT FURTHER RESOLVED THAT (insert municipality/lake district name) agrees to pay a share of the eligible costs which is equal to the total project cost minus the state share.

Adopted this day ___ of _____, 20__

By a vote of: ___ in favor ___ against ___ abstain

BY: _____ Clerk/Treasurer

of

NOTE: Section 31.01(4), Wis. Stats., defines a municipality as any town, village, city, or county. Section 20.002(13) allows Tribes to also apply for these grants. Section 31.385(1m) allows public inland lake protection and rehabilitation district formed under ch. 33, Wis. Stats, to also apply.

We recommend that municipalities or lake districts name a position that is either an official or employee of the municipality/lake district. By naming a position instead of a specific person, a new resolution does not have to be submitted to the DNR with future grant applications or personnel changes. Contractors and consultants cannot be designated as an authorized representative. The resolution may not pass on grant responsibility to another group or organization.

SECTION 3 – REQUIRED ATTACHMENTS
ATTACHMENT #2
AERIAL AND PARCEL MAP



ADJACENT PROPERTY OWNERS

Parcel Number	Property Owner	Mailing Address
161-1017-2922-063	Michael and Deborah Wawrzyn	101 S SCHUYLER ST NEOSHO, WI 53059
161-1017-3011-008	Thomas Meuller	31931 PARKWAY ST MAGNOLIA, TX 77354
161-1017-2922-064	Neosho Museum, Inc.	PO BOX 105 NEOSHO, WI 53059

SECTION 3 – REQUIRED ATTACHMENTS
ATTACHMENT #3
DEED AND PLAT MAP

DEMPSEY LAW FIRM, LLP
WWW.DEMPSEYLAW.COM

10 FOREST AVENUE, SUITE 200
FOND DU LAC, WI 54935
920.922.0470 TEL
920.235.2011 FAX

WRITER'S DIRECT
920.922.0470 EXT. 201
MBP@DEMPSEYLAW.COM



February 17, 2024

Village of Neosho
c/o Deanna Braunschweig, Clerk/Treasurer
P.O. Box 178
Neosho, WI 53059

RE: Legal Opinion - Ownership

Dear Ms. Braunschweig:

I understand that the Village of Neosho is applying for grants related to repairs needed on the Mill Pond dam located on Hwy. 67. I also understand that, as part of the grant request process, the Village must obtain a legal opinion showing that the Village does, in fact, own the dam.

To that end, I have worked with Guaranty Title to review the records for the dam property. The title company has located the enclosed Quit Claim Deed from 1948 in which Reuben and Elsie Becker conveyed the property to the Village of Neosho. According to the title company there are no subsequent documents conveying or affecting ownership of the dam. Accordingly, it is my opinion that the Village does own and control the dam and that the project will take place within the boundaries of the land owned and controlled by the Village. It is unnecessary for the Village to obtain or maintain additional easements related to this project.

Respectfully,

DEMPSEY LAW FIRM, LLP

Matthew B. Parmentier

Matthew B. Parmentier

MBP/jaw

SECTION 3 – REQUIRED ATTACHMENTS
ATTACHMENT #4
COST ESTIMATE

ENGINEER'S PRELIMINARY OPINION OF CONSTRUCTION COST
February 2024
NEOSHO DAM - DAM IMPROVEMENT PROJECT 2025-2026



OPTION 2 - GATE REFURBISHMENT/REPLACEMENT

#	Item	Number of Units	Units	Unit Cost	Total Amount	Notes
1	Mobilization & Demobilization, Preparation, Insurance	1	Lump Sum	\$25,000.00	\$25,000	<i>Roughly 10% on a project of this nature</i>
2	Site Preparation, Removals	1	Lump Sum	\$25,000.00	\$25,000	<i>Some Removal of Concrete, Some Concrete Left in Place</i>
3	Site Access Preparation & Maintenance	1	Lump Sum	\$10,000.00	\$10,000	<i>For Contractor Access</i>
4	Coffer Dams for Concrete & Gate Work	1	Lump Sum	\$20,000.00	\$20,000	<i>One Coffer Dam Required for All Work</i>
5	Gate Removal and Disposal	1	Lump Sum	\$7,500.00	\$7,500	<i>Estimate per Contractor Interview</i>
6	Concrete Abutments Removal and Rebuild	35	CY	\$1,500.00	\$52,500	<i>Concrete and/or metal attachments to wingwall, watertight</i>
7	New Gate, Fabrication, Delivery Installation	1	Lump Sum	\$150,000.00	\$150,000	<i>New Gears, Lifting Mechanism, Attachments</i>
8	Various Concrete Repairs, Spillway	1	Lump Sum	\$10,000.00	\$10,000	<i>Weir Repairs, Crock Filling, Shaping</i>
9	Electrical Service, Extension, Cabinet	1	Lump Sum	\$60,000.00	\$60,000	<i>Extend Service to Lift Mechanism at Abutments, Panel, Oper</i>
10	Concrete Repairs to Old Mill Inlet 8' W Box Culvert & Endwal	20	CY	\$2,500.00	\$50,000	<i>Excavation, Demo, Preparation, Reinforcement, Forms, Cas.</i>
11	New Aluminum Stoplog System at Old Mill Inlet Culvert, 8'Wx	64	SF	\$300.00	\$19,200	<i>Metal Guide Rails, Seals, Stoplogs</i>
12	Lockable Winch System for Aluminum Stop Log Removal	1	Lump Sum	\$3,000.00	\$3,000	<i>Lightweight Winch Mounting, Portable Wind-up Winch, Cab</i>
13	RipRap End Treatment, Fabric, Erosion Control	11	CY	\$150.00	\$1,650	<i>North Inlet Apron RipRap</i>
14	Restoration of Easement - Driveway (40 lf)	18	SY	\$250.00	\$4,500	<i>Repairs to Asphalt</i>
15	Restoration of Easement - Turf (60 lf)	133	SY	\$10.00	\$1,400	<i>Easement Repairs, Allowance</i>
16	Construction Subtotal				\$440,000	
17	Geotechnical Investigation	---	---	0%	\$0	<i>Geotechnical Not Required - Base Concrete to Remain</i>
18	Construction Contingencies, 30%	---	---	---	\$0	<i>Contingency Deleted Per Grant Instructions</i>
19	DFA & Grant	---	---	---	\$18,500	<i>RPS 2023 Scope/Fee</i>
20	Design, Permitting, Plans, Specs, Coordination & Construction	---	---	8%	\$35,200	<i>DFA, Grant, plus 8% for WDNR Engineering & Bid Plans/Sj</i>
21	Construction Related Engineering Services	---	---	5%	\$22,000	<i>Nominal 5% Estimate at this Time</i>
22	Estimated Project Total				\$516,000	

SECTION 3 – REQUIRED ATTACHMENTS
ATTACHMENT #5
PROJECT DESCRIPTION & NARRATIVE

SECTION 6 – ATTACHMENTS
SUBSECTION I.C.
LAND USE CONTROL – FLOODPLAIN ZONING
ORDINANCE

ORDINANCE 13-2-2010

ORDINANCE TITLE 13 CHAPTER 2

Floodplain Zoning
As Mandated by DNR 2010

Article A

Introduction

13-2-1	Statutory Authorization
13-2-2	Finding of Fact
13-2-3	Statement of Purpose
13-2-4	Title of Chapter
13-2-5	through
13-2-9	Reserved for Future Use

Article B

General Provisions

13-2-10	Areas to be Regulated
13-2-11	District Boundaries
13-2-12	Locating Floodplain Boundaries
13-2-13	Removal of Lands From Floodplain
13-2-14	Compliance with Chapter
13-2-15	Abrogation and Greater Restrictions; Interpretation of Chapter
13-2-16	Warning and Disclaimer of Liability
13-2-17	Severability
13-2-18	General Standards Applicable to All Floodplain Districts
13-2-19	Reserved for Future Use

Article C

Floodway District (FW)

13-2-20	Applicability
13-2-21	Permitted Uses
13-2-22	Standards for Developments in Floodway Areas
13-2-23	Prohibited Uses
13-2-24	through
13-2-29	Reserved for Future Use

Article D

Flood Fringe District (FF)

13-2-30	Applicability
13-2-31	Permitted Uses
13-2-32	Standards for Development in Flood Fringe Areas
13-2-33	through
13-2-39	Reserved for Future Use

<u>Article E</u>	<u>General Floodplain District (GFP)</u>
13-2-40	Applicability
13-2-41	Permitted loses
13-2-42	Standards for Development in the General Floodplain District
13-2-43	Determining Floodway and Flood Fringe Limits
13-2-44	through
13-2-49	Reserved for Future Use
<u>Article F</u>	<u>Nonconforming Uses</u>
13-2-50	General
13-2-51	Floodway Areas
13-2-52	Flood Fringe Areas
13-2-53	through
13-2-59	Reserved for Future Use
<u>Article G</u>	<u>Administration</u>
13-2-60	Zoning Administrator
13-2-61	Administrative Procedures
13-2-62	Zoning Agency
13-2-63	Board of Appeals
13-2-64	Review Appeals of Permit Denials
13-2-65	Floodproofing
13-2-66	through
13-2-69	Reserved for Future Use
<u>Article H</u>	<u>Amendments</u>
13-2-70	Amendments Generally
13-2-71	Amendment Procedures
13-2-72	through
13-2-79	Reserved for Future Use
<u>Article I</u>	<u>Enforcement and Penalties</u>
13-2-80	Enforcement and Penalties
13-2-81	through
13-2-89	Reserved for Future Use
<u>Article J</u>	<u>Definitions</u>
13-2-90	Definitions

ARTICLE A

Introduction

SEC 13-2-1 STATUTORY AUTHORIZATION, FINDING OF FACT, STATEMENT OF PURPOSE, TITLE AND GENERAL PROVISIONS

STATUTORY AUTHORIZATION

This ordinance is adopted pursuant to the authorization in ss. 61.35 and 62.23, for villages and cities; 59.69, 59.692, and 59.694 for counties; and the requirements in s. 87.30, Stats.

SEC 13-2-2 FINDING OF FACT

Uncontrolled development and use of the floodplains and rivers of this municipality would impair the public health, safety, convenience, general welfare and tax base.

SEC 13-2-3 STATEMENT OF PURPOSE

This ordinance is intended to regulate floodplain development to:

- (1) Protect life, health and property;
- (2) Minimize expenditures of public funds for flood control projects;
- (3) Minimize rescue and relief efforts undertaken at the expense of the taxpayers;
- (4) Minimize business interruptions and other economic disruptions;
- (5) Minimize damage to public facilities in the floodplain;
- (6) Minimize the occurrence of future flood blight areas in the floodplain;
- (7) Discourage the victimization of unwary land and homebuyers;
- (8) Prevent increases in flood heights that could increase flood damage and result in conflicts between property owners; and
- (9) Discourage development in a floodplain if there is any practicable alternative to locate the activity, use or structure outside of the floodplain.

SEC 13-2-4 TITLE

This ordinance shall be known as the Floodplain Zoning Ordinance for the Village of Neosho, Dodge County, Wisconsin.

SEC. 13-2-5 THROUGH SEC 13 2-9 RESERVED FOR FUTURE USE.

ARTICLE B

General Provisions

SEC. 13-2-10 AREAS TO BE REGULATED.

This ordinance regulates all areas that would be covered by the regional flood or base flood.

Note: Base flood elevations are derived from the flood profiles in the Flood Insurance Study. Regional flood elevations may be derived from other studies. Areas covered by the base flood are identified as A-Zones on the Flood Insurance Rate Map.

SEC 13-2-11 DISTRICT BOUNDARIES.

(a) OFFICIAL MAPS & REVISIONS

The boundaries of all floodplain districts are designated as floodplains or A-Zones on the maps listed below and the revisions in the Village of Neosho, Dodge County, Wisconsin Floodplain Appendix. Any change to the base flood elevations (BFE) in the Flood Insurance Study (FIS) or on the Flood Insurance Rate Map (FIRM) must be reviewed and approved by the DNR and FEMA before it is effective. No changes to regional flood elevations (RFE's) on non-FEMA maps shall be effective until approved by the DNR. These maps and revisions are on file in the office of the Village Clerk, in the Village of Neosho. If more than one map or revision is referenced, the most restrictive information shall apply.

OFFICIAL MAPS : Based on the FIS 55027CV000A

(a) Flood Insurance Rate Map (FIRM), panel number 55027C0559F, 55027C0567F, dated **April 19, 2010**; with corresponding profiles that are based on the Flood Insurance Study (FIS) dated 55027CV000A.

Approved by: The DNR and FEMA

(b) Floodplain Study Appendix: All DNR- and FEMA-approved floodplain maps, flood profiles, floodway data tables, regional or base flood elevations and other information located in the appendix of this ordinance. The community shall provide the most up to date appendix to the DNR and FEMA regional offices.

(3) ESTABLISHMENT OF DISTRICTS

The regional floodplain areas are divided into three districts as follows:

(b) **Districts.** The regional floodplain areas within the jurisdiction of this Chapter are hereby divided into three districts: the Floodway District (FW), Flood Fringe District (FF) and General Floodplain District (GFP), defined as follows:

(1) The Floodway District (FW) consists of the channel of a river or stream and those portions of the floodplain adjoining the channel that are required to carry and discharge the regional flood waters.

(2) The Flood Fringe District (FF) consists of that portion of the floodplain between the regional flood limits and the floodway.

(3) The General Floodplain District (GFP) consists of all areas which have been or may be hereafter covered by flood water during the regional flood. It encompasses both the Floodway and Flood Fringe Districts.

SEC. 13-2-12 LOCATING FLOODPLAIN BOUNDARIES.

Discrepancies between boundaries on the official floodplain zoning map and actual field conditions shall be resolved using the criteria in paragraphs (a) or (b) below. If a significant difference exists, the map shall be amended according to s. 8.0. The zoning administrator can rely on a boundary derived from a profile elevation to grant or deny a land use permit, whether or not a map amendment is required. The zoning administrator shall be responsible for documenting actual pre-development field conditions and the basis upon which the district boundary was determined and for initiating any map amendments required under this section. Disputes between the zoning administrator and an applicant over the district boundary line shall be settled according to s. 7.3(3) and the criteria in (a) and (b) below.

(a) If flood profiles exist, the map scale and the profile elevations shall determine the district boundary. The regional or base flood elevations shall govern if there are any discrepancies.

(b) Where flood profiles do not exist, the location of the boundary shall be determined by the map scale, visual on-site inspection and any information provided by the Department.

Note: Where the flood profiles are based on established base flood elevations from a FIRM, FEMA must also approve any map amendment pursuant to s. 8.1 (6).

SEC. 13-2-13 REMOVAL OF LANDS FROM FLOODPLAIN.

Compliance with the provisions of this ordinance shall not be grounds for removing land from the floodplain unless it is filled at least two feet above the regional or base flood elevation, the fill is contiguous to land outside the floodplain, and the map is amended pursuant to s. 8.0.

Note: This procedure does not remove the requirements for the mandatory purchase of flood insurance. The property owner must contact FEMA to request a Letter of Map Change (LOMC).

SEC 13-2-14 COMPLIANCE WITH CHAPTER.

(a) COMPLIANCE

Any development or use within the areas regulated by this ordinance shall be in compliance with the terms of this ordinance, and other applicable local, state, and federal regulations.

(b) MUNICIPALITIES AND STATE AGENCIES REGULATED

Unless specifically exempted by law, all cities, villages, towns, and counties are required to comply with this ordinance and obtain all necessary permits. State agencies are required to comply if s. 13.48(13), Stats., applies. The construction, reconstruction, maintenance and repair of state highways and bridges by the Wisconsin Department of Transportation is exempt when s. 30.2022, Stats., applies.

SEC 13-2-15 ABROGATION AND GREATER RESTRICTIONS; INTERPRETATION OF CHAPTER

(a) **Greater Restrictions.** This ordinance supersedes all the provisions of any municipal zoning ordinance enacted under ss. 59.69, 59.692 or 59.694 for counties; s. 62.23 for cities; s. 61.35 for villages; or s. 87.30, Stats., which relate to floodplains. If another ordinance is more restrictive than this ordinance, that ordinance shall continue in full force and effect to the extent of the greater restrictions, but not otherwise.

(b) **Abrogation.** This ordinance is not intended to repeal, abrogate or impair any existing deed restrictions, covenants or easements. If this ordinance imposes greater restrictions, the provisions of this ordinance shall prevail.

(c) **Interpretation.** In their interpretation and application, the provisions of this ordinance are the minimum requirements liberally construed in favor of the governing body and are not a limitation on or repeal of any other powers granted by the Wisconsin Statutes. If a provision of this ordinance, required by ch. NR 116, Wis. Adm. Code, is unclear, the provision shall be interpreted in light of the standards in effect on the date of the adoption of this ordinance or in effect on the date of the most recent text amendment to this ordinance.

SEC 13-2-16 WARNING AND DISCLAIMER OF LIABILITY.

The flood protection standards in this ordinance are based on engineering experience and scientific research. Larger floods may occur or the flood height may be increased by man-made or natural causes. This ordinance does not imply or guarantee that non-floodplain areas or permitted floodplain uses will be free from flooding and flood damages. Nor does this ordinance create liability on the part of, or a cause of action against, the municipality or any officer or employee thereof for any flood damage that may result from reliance on this ordinance.

SEC 13-2-17 SEVERABILITY.

Should any portion of this ordinance be declared unconstitutional or invalid by a court of competent jurisdiction, the remainder of this ordinance shall not be affected.

(12) ANNEXED AREAS FOR CITIES AND VILLAGES

The Dodge County floodplain zoning provisions in effect on the date of annexation shall remain in effect and shall be enforced by the municipality for all annexed areas until the municipality adopts and enforces an ordinance which meets the requirements of ch. NR 116, Wis. Adm. Code and the National Flood Insurance Program (NFIP). These annexed lands are described on the municipality's official zoning map. County floodplain zoning provisions are incorporated by reference for the purpose of administering this section and are on file in the office of the municipal zoning administrator. All plats or maps of annexation shall show the regional flood elevation and the location of the floodway.

(13) GENERAL DEVELOPMENT STANDARDS

The community shall review all permit applications to determine whether proposed building sites will be reasonably safe from flooding. If a proposed building site is in a flood-prone area, all new construction and substantial improvements shall be designed or modified and adequately anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads; be constructed with materials resistant to flood damage; be constructed by methods and practices that minimize flood damages; and be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding. Subdivisions shall be reviewed for compliance with the above standards. All subdivision proposals (including manufactured home parks) shall include regional flood elevation and floodway data for any development that meets the subdivision definition of this ordinance.

SEC 13-2-18 GENERAL STANDARDS APPLICABLE TO ALL FLOODPLAIN DISTRICTS

(a) (1) Except as provided in Subsection (b), no development shall be allowed in the floodplain which, acting in combination with existing or future similar works, will cause an increase equal to or greater than 0.1 foot (3 cm.) in the height of the regional flood or will adversely affect existing drainage courses or facilities.

(2) Increases equal to or greater than 0.1 foot (3 cm.) may be permitted, but only if amendments are made to this Chapter, the official floodplain zoning maps (including floodway lines) and water surface profiles in accordance with Article H, and only if the total cumulative effect of the proposed development will not increase the height of the regional flood more than 1.0 foot for the affected hydraulic reach of the stream.

(3) For the purpose of this Section, increases in the regional flood elevation shall be calculated:

- a. Based upon an equal degree of hydraulic encroachment from the original hydraulic floodway lines for a hydraulic reach on both sides of the river or stream; and
- b. Based upon an equal degree of hydrologic encroachment throughout a hydrologic reach of a river or stream to determine the volume of storage area which is lost.

(b) Owners or operators of all existing mobile home parks and mobile home subdivisions located in the regional floodplain (in A-zones on flood hazard boundary maps or flood insurance study maps) shall file an evacuation plan, indicating alternate vehicular access and escape routes, including mobile home hauler routes, with the appropriate local disaster preparedness authorities, and shall provide for adequate surface drainage to minimize flood damage.

(c) All mobile homes to be placed on a site located in the regional floodplain (in A-zones on flood hazard boundary maps or flood insurance study maps) shall be anchored so they do not float, collapse or move laterally during a flood. Such mobile homes shall be anchored according to the following specifications:

(1) Over-the-top ties shall be provided at each of the four (4) corners of the mobile home, with two (2) additional ties per side at intermediate locations and mobile homes less than fifty (50) feet long shall require one (1) additional tie per side.

(2) Frame ties shall be provided at each corner of the mobile home with five (5) additional ties per side at intermediate points and mobile homes less than fifty (50) feet long requiring four (4) additional ties per side.

(3) All components of the anchoring system shall be capable of carrying a force of four thousand eight hundred (4,800) pounds.

(4) Any additions to the mobile home shall be similarly anchored.

(5) The placement of all new mobile homes, in addition to the standards listed above, must also meet the residential development standards in the floodfringe as found in Section 13-2-32.

(d) For all subdivision proposals, as "subdivision" is defined in Sec. 236.02(8), Wis. Stats., and other proposed developments exceeding five (5) acres in area or where the estimated cost of the proposed development exceeds Seventy-five Thousand Dollars (\$75,000.00), the applicant shall provide all computations which are required to show the effects of the proposal on flood heights, velocities and floodplain storage. Further, the applicant shall provide within such proposals regional flood elevation data, and the means to provide adequate surface drainage and to minimize flood damage. In those instances where the applicant is not required to provide computations and where inadequate data exists, the available information may be transmitted to the Department of Natural Resources' District office for a determination of the flood protection elevations and for an evaluation of the effects of the proposal on flood heights,

velocities and floodplain storage. Additional information, such as valley cross-sections or survey data may be required by the Department to determine the effects of the proposal. This information shall be obtained from the applicant or the applicant's agent by the Village. The provisions of Section 13-2-43 shall apply hereto. The applicant shall provide all data and calculations for any development which would require an amendment to the district boundaries or regional flood profiles.

(e) Prior to any alteration of relocation of a watercourse and prior to the issuance of any land use permit which may be required for the alteration or relocation of a watercourse, the Zoning Administrator shall notify, in writing, adjacent municipalities, the appropriate district office of the Department of Natural Resources and the appropriate office of FEMA and shall require the applicant to secure all necessary state and federal permits. The flood carrying capacity within the altered or relocated portion of any watercourse shall be maintained.

(f) **Chapters 30, 31, Wis. Stats., Development.** Development which requires a permit from the Department of Natural Resources, under Chapters 30 and 31, Wis. Stats., such as docks, piers, wharves, bridges, culverts, dams and navigational aids may be allowed provided the necessary local permits are obtained and necessary amendments to the official floodway lines, water surface profiles, floodplain zoning maps or floodplain zoning ordinance are made according to Article H.

2.1 HYDRAULIC AND HYDROLOGIC ANALYSES

(1) Except as allowed in par. (3) below, no floodplain development shall:

(a) Obstruct flow, defined as development which blocks the conveyance of floodwaters by itself or with other development, increasing regional flood height; or

(b) Increase regional flood height due to floodplain storage area lost, which equals or exceeds 0.01 foot.

(2) The zoning administrator shall deny permits if it is determined the proposed development will obstruct flow or increase regional flood heights 0.01 foot or more, based on the officially adopted FIRM or other adopted map, unless the provisions of sub. (3) are met.

(3) Obstructions or increases equal to or greater than 0.01 foot may only be permitted if amendments are made to this ordinance, the official floodplain zoning maps, floodway lines and water surface profiles, in accordance with s. 8.0.

Note: This section refers to obstructions or increases in base flood elevations as shown on the officially adopted FIRM or other adopted map. Any such alterations must be reviewed and approved by FEMA and the DNR.

2.2 WATERCOURSE ALTERATIONS

No land use permit to alter or relocate a watercourse in a mapped floodplain shall be issued until the local official has notified in writing all adjacent municipalities, the Department and FEMA regional offices and required the applicant to secure all necessary state and federal permits. The flood carrying capacity of any altered or relocated watercourse shall be maintained.

As soon as is practicable, but not later than six months after the date of the watercourse alteration or relocation, the zoning administrator shall notify FEMA of the changes by submitting appropriate technical or scientific data in accordance with NFIP guidelines that shall be used to revise the FIRM, risk premium rates and floodplain management regulations as required.

2.3 CHAPTER 30, 31, WIS. STATS., DEVELOPMENT

Development which requires a permit from the Department, under chs. 30 and 31, Wis. Stats., such as docks, piers, wharves, bridges, culverts, dams and navigational aids, may be allowed if the necessary permits are obtained and amendments to the floodway lines, water surface profiles, BFE's established in the FIS, or other data from the officially adopted FIRM, or other floodplain zoning maps or the floodplain zoning ordinance are made according to s. 8.0.

2.4 PUBLIC OR PRIVATE CAMPGROUNDS

Public or private campgrounds shall have a low flood damage potential and shall meet the following provisions:

- (1) The campground is approved by the Department of Health Services.
- (2) A land use permit for the campground is issued by the zoning administrator.
- (3) The character of the river system and the elevation of the campground is such that a 72-hour warning of an impending flood can be given to all campground occupants.
- (4) There is an adequate flood warning procedure for the campground that offers the minimum notice required under this section to all persons in the campground. This procedure shall include a written agreement between the campground owner, the municipal emergency government coordinator and the chief law enforcement official which specifies the flood elevation at which evacuation shall occur, personnel responsible for monitoring flood elevations, types of warning systems to be used and the procedures for notifying at-risk parties, and the methods and personnel responsible for conducting the evacuation.
- (5) This agreement shall be for no more than one calendar year, at which time the agreement shall be reviewed and updated - by the officials identified in sub. (4) - to remain in compliance with all applicable regulations, including those of the state Department of Health Services and all other applicable regulations.
- (6) Only camping units are allowed.
- (7) The camping units may not occupy any site in the campground for more than 180 consecutive days, at which time the camping unit must be removed from the floodplain for a minimum of 24 hours.
- (8) All camping units that remain on site for more than 30 days shall be issued a limited authorization by the campground operator, a written copy of which is kept on file at the campground. Such authorization shall allow placement of a camping unit for a period not to exceed 180 days and shall ensure compliance with all the provisions of this section.
- (9) The municipality shall monitor the limited authorizations issued by the campground operator to assure compliance with the terms of this section.
- (10) All camping units that remain in place for more than 180 consecutive days must meet the applicable requirements in either s. 3.0 or s. 4.0 for the floodplain district in which the structure is located.
- (11) The campground shall have signs clearly posted at all entrances warning of the flood hazard and the procedures for evacuation when a flood warning is issued.
- (12) All service facilities, including but not limited to refuse collection, electrical service, natural gas lines, propane tanks, sewage systems and wells shall be properly anchored and placed at or floodproofed to the flood protection elevation.

SEC. 13-2-19 RESERVED FOR FUTURE USE.

ARTICLE C

Floodway District (FW)

SEC. 13-2-20 APPLICABILITY.

This section applies to all floodway areas on the floodplain zoning maps and those identified pursuant to 13-2-43.

SEC. 13-2-21 PERMITTED USES.

The following open space uses are allowed in the floodway district and the floodway areas of the general floodplain district, if

- they are not prohibited by any other ordinance;
 - they meet the standards in section 13-2-22; and
 - all permits or certificates have been issued according to Section G:
- (1) Agricultural uses, such as: farming, outdoor plant nurseries, horticulture, viticulture and wild crop harvesting.
 - (2) Nonstructural industrial and commercial uses, such as loading areas, parking areas and airport landing strips.
 - (3) Nonstructural recreational uses, such as golf courses, tennis courts, archery ranges, picnic grounds, boat ramps, swimming areas, parks, wildlife and nature preserves, game farms, fish hatcheries, shooting, trap and skeet activities, hunting and fishing areas and hiking and horseback riding trails, subject to the fill limitations of 13-2-22.
 - (4) Uses or structures accessory to open space uses, or classified as historic structures that comply with Section 13-2-22 and 13-2-23.
 - (5) Extraction of sand, gravel or other materials that comply with Section 13-2-22.
 - (6) Functionally water-dependent uses, such as docks, piers or wharves, dams, flowage areas, culverts, navigational aids and river crossings of transmission lines, and pipelines that comply with chs. 30 and 31, Stats.
 - (7) Public utilities, streets and bridges that comply with Section 13-2-22.

SEC. 13-2-22 STANDARDS FOR DEVELOPMENTS IN FLOODWAY AREAS.

(1) GENERAL

- (a) Any development in floodway areas shall comply with Section 13-2-18 and have a low flood damage potential.
- (b) Applicants shall provide the following data to determine the effects of the proposal:
 1. A cross-section elevation view of the proposal, perpendicular to the watercourse, showing if the proposed development will obstruct flow; or
 2. An analysis calculating the effects of this proposal on regional flood height.

- (c) The zoning administrator shall deny the permit application if the project will increase flood elevations upstream or downstream 0.01 foot or more, based on the data submitted for par. (b) above.

(2) STRUCTURES

Structures accessory to permanent open space uses or functionally dependent on a waterfront location may be allowed by permit if the structures comply with the following criteria:

- (a) The structure is not designed for human habitation and does not have a high flood damage potential.
- (b) It must be anchored to resist flotation, collapse, and lateral movement;
- (c) Mechanical and utility equipment must be elevated or flood proofed to or above the flood protection elevation; and
- (d) It must not obstruct flow of flood waters or cause any increase in flood levels during the occurrence of the regional flood.

(3) PUBLIC UTILITIES, STREETS AND BRIDGES

Public utilities, streets and bridges may be allowed by permit, if:

- (a) Adequate floodproofing measures are provided to the flood protection elevation; and
- (b) Construction meets the development standards of Section 13-2-71.

(4) FILLS OR DEPOSITION OF MATERIALS

Fills or deposition of materials may be allowed by permit, if:

- (a) The requirements of Section 13-2-22 are met;
- (b) No material is deposited in the navigable channel unless a permit is issued by the Department pursuant to ch. 30, Stats., and a permit pursuant to s. 404 of the Federal Water Pollution Control Act, Amendments of 1972, 33 U.S.C. 1344 has been issued, if applicable, and the other requirements of this section are met;
- (c) The fill or other materials will be protected against erosion by riprap, vegetative cover, sheet piling or bulkheading; and
- (d) The fill is not classified as a solid or hazardous material.

SEC 13-2-23 PROHIBITED USES.

All uses not listed as permitted uses in Section 13-2-18 are prohibited, including the following uses:

- (1) Habitable structures, structures with high flood damage potential, or those not associated with permanent open-space uses;

- (2) Storing materials that are buoyant, flammable, explosive, injurious to property, water quality, or human, animal, plant, fish or other aquatic life;
- (3) Uses not in harmony with or detrimental to uses permitted in the adjoining districts;
- (4) Any private or public sewage systems, except portable latrines that are removed prior to flooding and systems associated with recreational areas and Department-approved campgrounds that meet the applicable provisions of local ordinances and ch. COMM 83, Wis. Adm. Code;
- (5) Any public or private wells which are used to obtain potable water, except those for recreational areas that meet the requirements of local ordinances and chs. NR 811 and NR 812, Wis. Adm. Code;
- (6) Any solid or hazardous waste disposal sites;
- (7) Any wastewater treatment ponds or facilities, except those permitted under s. NR 110.15(3)(b), Wis. Adm. Code;
- (8) Any sanitary sewer or water supply lines, except those to service existing or proposed development located outside the floodway which complies with the regulations for the floodplain area occupied.

SEC 13-2-24 THROUGH SEC 13-2-29

RESERVED FOR FUTURE USE.

ARTICLE D

Flood Fringe District (FF)

SEC. 13-2-30 APPLICABILITY.

This section applies to all floodfringe areas shown on the floodplain zoning maps and those identified pursuant to Section 13-2-64.

SEC. 13-2-31 PERMITTED USES.

Any structure, land use, or development is allowed in the floodfringe district if the standards in Section 13-2-32 are met, the use is not prohibited by this or any other ordinance or regulation and all permits or certificates specified in s. 7.1 have been issued.

SEC. 13-2-32 STANDARDS FOR DEVELOPMENT IN FLOOD FRINGE AREAS.

Section 13-2-18 shall apply in addition to the following requirements according to the use requested.

(1) RESIDENTIAL USES

Any habitable structure, including a manufactured home, which is to be erected, constructed, reconstructed, altered, or moved into the floodfringe area, shall meet or exceed the following standards;

- (a) The elevation of the lowest floor, excluding the basement or crawlway, shall be at or above the flood protection elevation on fill. The fill shall be one foot or more above the regional flood elevation extending at least 15 feet beyond the limits of the structure. The Department may authorize other floodproofing measures if the elevations of existing streets or sewer lines makes compliance with the fill standards impractical;
- (b) The basement or crawlway floor may be placed at the regional flood elevation if it is floodproofed to the flood protection elevation. No basement or crawlway floor is allowed below the regional flood elevation;
- (c) Contiguous dryland access shall be provided from a structure to land outside of the floodplain, except as provided in par. (d).
- (d) In developments where existing street or sewer line elevations make compliance with par. (c) impractical, the municipality may permit new development and substantial improvements where access roads are at or below the regional flood elevation, if:
 1. The municipality has written assurance from police, fire and emergency services that rescue and relief will be provided to the structure(s) by wheeled vehicles during a regional flood event; or
 2. The municipality has a natural disaster plan approved by Wisconsin Emergency Management and the Department.

(2) ACCESSORY STRUCTURES OR USES

- (a) Except as provided in par.(b), an accessory structure which is not connected to a

principal structure may be constructed with its lowest floor at or above the regional flood elevation.

- (b) An accessory structure which is not connected to the principal structure and which is less than 600 square feet in size and valued at less than \$10,000 may be constructed with its lowest floor no more than two feet below the regional flood elevation if it is subject to flood velocities of no more than two feet per second and it meets all of the provisions of Sections 13-2-32 (2) (a),(b),(c) and (d) and 4.3 (5) below.

(3) COMMERCIAL USES

Any commercial structure which is erected, altered or moved into the floodfringe area shall meet the requirements of Section 13-2-32. Subject to the requirements of section 5, storage yards, surface parking lots and other such uses may be placed at lower elevations if an adequate warning system exists to protect life and property.

(4) MANUFACTURING AND INDUSTRIAL USES

Any manufacturing or industrial structure which is erected, altered or moved into the floodfringe area shall be protected to the flood protection elevation using fill, levees, floodwalls, or other flood proofing measures in s. 7.5. Subject to the requirements of s. 4.3(5), storage yards, surface parking lots and other such uses may be placed at lower elevations if an adequate warning system exists to protect life and property.

(5) STORAGE OF MATERIALS

Materials that are buoyant, flammable, explosive, or injurious to property, water quality or human, animal, plant, fish or aquatic life shall be stored at or above the flood protection elevation or floodproofed in compliance with s. 7.5. Adequate measures shall be taken to ensure that such materials will not enter the water body during flooding.

(6) PUBLIC UTILITIES, STREETS AND BRIDGES

All utilities, streets and bridges shall be designed to be compatible with comprehensive floodplain development plans; and

- (a) When failure of public utilities, streets and bridges would endanger public health or safety, or where such facilities are deemed essential, construction of and substantial improvements to such facilities may only be permitted if they are floodproofed in compliance with s. 7.5 to the flood protection elevation;
- (b) Minor roads or non-essential utilities may be constructed at lower elevations if they are designed to withstand flood forces to the regional flood elevation.

(7) SEWAGE SYSTEMS

All on-site sewage disposal systems shall be floodproofed, pursuant to s. 7.5, to the flood protection elevation and shall meet the provisions of all local ordinances and ch. COMM 83, Wis. Adm. Code.

(8) WELLS

All wells shall be floodproofed, pursuant to s. 7.5, to the flood protection elevation and shall meet the provisions of chs. NR 811 and NR 812, Wis. Adm. Code.

(9) SOLID WASTE DISPOSAL SITES

Disposal of solid or hazardous waste is prohibited in floodfringe areas.

(10) DEPOSITION OF MATERIALS

Any deposited material must meet all the provisions of this ordinance.

(11) MANUFACTURED HOMES

- (a) Owners or operators of all manufactured home parks and subdivisions shall provide adequate surface drainage to minimize flood damage, and prepare, secure approval and file an evacuation plan, indicating vehicular access and escape routes, with local emergency management authorities.
- (b) In existing manufactured home parks, all new homes, replacement homes on existing pads, and substantially improved homes shall:
 - 1. have the lowest floor elevated to the flood protection elevation; and
 - 2. be anchored so they do not float, collapse or move laterally during a flood
- (c) Outside of existing manufactured home parks, including new manufactured home parks and all single units outside of existing parks, all new, replacement and substantially improved manufactured homes shall meet the residential development standards for the floodfringe in s. 4.3(1).

(12) MOBILE RECREATIONAL VEHICLES

All mobile recreational vehicles that are on site for 180 consecutive days or more or are not fully licensed and ready for highway use shall meet the elevation and anchoring requirements in s. 4.3 (11)(b) and (c). A mobile recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick-disconnect utilities and security devices and has no permanently attached additions.

SEC. 13-2-33 THROUGH SEC 13-2-39

RESERVED FOR FUTURE USE.

ARTICLE E

General Floodplain District (GFP)

SEC. 13-2-40 APPLICABILITY.

The provisions for this district shall apply to all floodplains for which flood profiles are not available or where flood profiles are available but floodways have not been delineated. Floodway and floodfringe districts shall be delineated when adequate data is available.

SEC. 13-2-41 PERMITTED USES.

Pursuant to s. 5.4, it shall be determined whether the proposed use is located within a floodway or floodfringe area.

Those uses permitted in floodway (s. 3.2) and floodfringe areas (s. 4.2) are allowed within the general floodplain district, according to the standards of s. 5.3, provided that all permits or certificates required under s. 7.1 have been issued.

SEC. 13-2-42 STANDARDS FOR DEVELOPMENT IN THE GENERAL FLOODPLAIN DISTRICT.

S. 3.0 applies to floodway areas, s. 4.0 applies to floodfringe areas. The rest of this ordinance applies to either district.

SEC. 13-2-43 DETERMINING FLOODWAY AND FLOOD FRINGE LIMITS.

Upon receiving an application for development within the general floodplain district, the zoning administrator shall:

- (1) Require the applicant to submit two copies of an aerial photograph or a plan which shows the proposed development with respect to the general floodplain district limits, stream channel, and existing floodplain developments, along with a legal description of the property, fill limits and elevations, building floor elevations and flood proofing measures;
- (2) Require the applicant to furnish any of the following information deemed necessary by the Department to evaluate the effects of the proposal upon flood height and flood flows, regional flood elevation and to determine floodway boundaries:
 - (a) A typical valley cross-section showing the stream channel, the floodplain adjoining each side of the channel, the cross-sectional area to be occupied by the proposed development, and all historic high water information;
 - (b) Plan (surface view) showing elevations or contours of the ground; pertinent structure, fill or storage elevations; size, location and layout of all proposed and existing structures on the site; location and elevations of streets, water supply, and sanitary facilities; soil types and other pertinent information;
 - (c) Profile showing the slope of the bottom of the channel or flow line of the stream;
 - (d) Specifications for building construction and materials, floodproofing, filling, dredging, channel improvement, storage, water supply and sanitary facilities.

- (3) Transmit one copy of the information described in pars. (1) and (2) to the Department Regional office along with a written request for technical assistance to establish regional flood elevations and, where applicable, floodway data. Where the provisions of s. 7.1(2)(c) apply, the applicant shall provide all required information and computations to delineate floodway boundaries and the effects of the project on flood elevations.

ARTICLE F

Nonconforming Uses

SEC. 13-2-50 GENERAL.

- (1) APPLICABILITY

If these standards conform with s. 59.69(10), Stats., for counties or s. 62.23(7)(h), Stats., for cities and villages, they shall apply to all modifications or additions to any nonconforming use or structure and to the use of any structure or premises which was lawful before the passage of this ordinance or any amendment thereto.

- (2) The existing lawful use of a structure or its accessory use which is not in conformity with the provisions of this ordinance may continue subject to the following conditions:
 - (a) No modifications or additions to a nonconforming use or structure shall be permitted unless they comply with this ordinance. The words "modification" and "addition" include, but are not limited to, any alteration, addition, modification, structural repair, rebuilding or replacement of any such existing use, structure or accessory structure or use. Ordinary maintenance repairs are not considered an extension, modification or addition; these include painting, decorating, paneling and the replacement of doors, windows and other nonstructural components and the maintenance, repair or replacement of existing private sewage or water supply systems or connections to public utilities. Ordinary maintenance repairs do not include any costs associated with the repair of a damaged structure.

The construction of a deck that does not exceed 200 square feet and that is adjacent to the exterior wall of a principal structure is not an extension, modification or addition. The roof of the structure may extend over a portion of the deck in order to provide safe ingress and egress to the principal structure.
 - (b) If a nonconforming use or the use of a nonconforming structure is discontinued for 12 consecutive months, it is no longer permitted and any future use of the property, and any structure or building thereon, shall conform to the applicable requirements of this ordinance;
 - (c) The municipality shall keep a record which lists all nonconforming uses and nonconforming structures, their present equalized assessed value, the cost of all modifications or additions which have been permitted, and the percentage of the structure's total current value those modifications represent;
 - (d) No modification or addition to any nonconforming structure or any structure with a nonconforming use, which over the life of the structure would equal or exceed 50% of its present equalized assessed value, shall be allowed unless the entire structure is permanently changed to a conforming structure with a conforming use in compliance with the applicable requirements of this ordinance. Contiguous dry land access must

be provided for residential and commercial uses in compliance with s. 4.3(1). The costs of elevating a nonconforming building or a building with a nonconforming use to the flood protection elevation are excluded from the 50% provisions of this paragraph;

- (e)
 1. Except as provided in subd. 2., if any nonconforming structure or any structure with a nonconforming use is destroyed or is substantially damaged, it cannot be replaced, reconstructed or rebuilt unless the use and the structure meet the current ordinance requirements. A structure is considered substantially damaged if the total cost to restore the structure to its pre-damaged condition equals or exceeds 50% of the structure's present equalized assessed value.
 2. For nonconforming buildings that are damaged or destroyed by a nonflood disaster, the repair or reconstruction of any such nonconforming building may be permitted in order to restore it after the nonflood disaster, provided that the nonconforming building will meet all of the minimum requirements under applicable FEMA regulations (44 CFR Part 60), or the regulations promulgated thereunder.
- (f) A nonconforming historic structure may be altered if the alteration will not preclude the structures continued designation as a historic structure, the alteration will comply with s. 3.3 (1), flood resistant materials are used, and construction practices and floodproofing methods that comply with s. 7.5 are used.

SEC 13-2-51 FLOODWAY AREAS.

- (1) No modification or addition shall be allowed to any nonconforming structure or any structure with a nonconforming use in a floodway area, unless such modification or addition:
 - (a) Has been granted a permit or variance which meets all ordinance requirements;
 - (b) Meets the requirements of s. 6.1;
 - (c) Will not increase the obstruction to flood flows or regional flood height;
 - (d) Any addition to the existing structure shall be floodproofed, pursuant to s. 7.5, by means other than the use of fill, to the flood protection elevation;
 - (e) If any part of the foundation below the flood protection elevation is enclosed, the following standards shall apply:
 1. The enclosed area shall be designed by a registered architect or engineer to allow for the efficient entry and exit of flood waters without human intervention. A minimum of two openings must be provided with a minimum net area of at least one square inch for every one square foot of the enclosed area. The lowest part of the opening can be no more than 12 inches above the adjacent grade;
 2. The parts of the foundation located below the flood protection elevation must be constructed of flood-resistant materials;
 3. Mechanical and utility equipment must be elevated or floodproofed to or above the flood protection elevation; and

4. The use must be limited to parking or limited storage.
- (2) No new on-site sewage disposal system, or addition to an existing on-site sewage disposal system, except where an addition has been ordered by a government agency to correct a hazard to public health, shall be allowed in a floodway area. Any replacement, repair or maintenance of an existing on-site sewage disposal system in a floodway area shall meet the applicable requirements of all municipal ordinances and ch. COMM 83, Wis. Adm. Code.
- (3) No new well or modification to an existing well used to obtain potable water shall be allowed in a floodway area. Any replacement, repair or maintenance of an existing well in a floodway area shall meet the applicable requirements of all municipal ordinances and chs. NR 811 and NR 812, Wis. Adm. Code.

SEC. 13-2-52 FLOOD FRINGE AREAS.

- (1) No modification or addition shall be allowed to any nonconforming structure or any structure with a nonconforming use unless such modification or addition has been granted a permit or variance by the municipality, and the modification or addition shall be placed on fill or floodproofed to the flood protection elevation in compliance with the standards for that particular use in s. 4.3, except where s. 6.3(2) is applicable.
- (2) Where compliance with the provisions of par. (1) would result in unnecessary hardship and only where the structure will not be used for human habitation or be associated with a high flood damage potential, the Board of Adjustment/Appeals, using the procedures established in s. 7.3, may grant a variance from those provisions of par. (1) for modifications or additions, using the criteria listed below. Modifications or additions which are protected to elevations lower than the flood protection elevation may be permitted if:
 - (a) No floor is allowed below the regional flood elevation for residential or commercial structures;
 - (b) Human lives are not endangered;
 - (c) Public facilities, such as water or sewer, will not be installed;
 - (d) Flood depths will not exceed two feet;
 - (e) Flood velocities will not exceed two feet per second; and
 - (f) The structure will not be used for storage of materials as described in s. 4.3(5).
- (3) If neither the provisions of par. (1) or (2) above can be met, one addition to an existing room in a nonconforming building or a building with a nonconforming use may be allowed in the floodfringe, if the addition:
 - (a) Meets all other regulations and will be granted by permit or variance;
 - (b) Does not exceed 60 square feet in area; and
 - (c) In combination with other previous modifications or additions to the building, does not equal or exceed 50% of the present equalized assessed value of the building.
- (4) All new private sewage disposal systems, or addition to, replacement, repair or maintenance of a private sewage disposal system shall meet all the applicable provisions of all local

ordinances and ch. COMM 83, Wis. Adm. Code.

- (5) All new wells, or addition to, replacement, repair or maintenance of a well shall meet the applicable provisions of this ordinance and ch. NR 811 and NR 812, Wis. Adm. Code.

SEC. 13-2-53 THROUGH SEC 13-2-59

RESERVED FOR FUTURE USE.

ARTICLE G

Administration

(NOTE: This Article provides for the appointment of appropriate boards and staff and the development of necessary policies and procedures to administer the floodplain zoning ordinance in accordance with this Article. Where a zoning administrator, planning agency or a board of adjustment/appeals has already been appointed to administer a zoning ordinance adopted under Sec. 62.23(7), Wis. Stats., these officials shall also administer the floodplain zoning ordinance.)

SEC. 13-2-60 ZONING ADMINISTRATOR.

Where a zoning administrator, planning agency or a board of adjustment/appeals has already been appointed to administer a zoning ordinance adopted under ss. 59.69, 59.692 or 62.23(7), Stats., these officials shall also administer this ordinance.

- (1) The zoning administrator is authorized to administer this ordinance and shall have the following duties and powers:
 - (a) Advise applicants of the ordinance provisions, assist in preparing permit applications and appeals, and assure that the regional flood elevation for the proposed development is shown on all permit applications.
 - (b) Issue permits and inspect properties for compliance with provisions of this ordinance, and issue certificates of compliance where appropriate.
 - (bm) Inspect all damaged floodplain structures and perform a substantial damage assessment to determine if substantial damage to the structures has occurred.
 - (c) Keep records of all official actions such as:
 1. All permits issued, inspections made, and work approved;
 2. Documentation of certified lowest floor and regional flood elevations for floodplain development;
 3. Records of water surface profiles, floodplain zoning maps and ordinances, nonconforming uses and structures including changes, appeals, variances and amendments.
 4. All substantial damage assessment reports for floodplain structures.
 - (d) Submit copies of the following items to the Department Regional office:
 1. Within 10 days of the decision, a copy of any decisions on variances, appeals

for map or text interpretations, and map or text amendments;

2. Copies of any case-by-case analyses, and any other information required by the Department including an annual summary of the number and types of floodplain zoning actions taken.
 3. Copies of substantial damage assessments performed and all related correspondence concerning the assessments.
- (e) Investigate, prepare reports, and report violations of this ordinance to the municipal zoning agency and attorney for prosecution. Copies of the reports shall also be sent to the Department Regional office.
- (f) Submit copies of text and map amendments and biennial reports to the FEMA Regional office.

(2) LAND USE PERMIT

A land use permit shall be obtained before any new development or any structural repair or change in the use of a building or structure, including sewer and water facilities, may be initiated. Application to the zoning administrator shall include:

(a) GENERAL INFORMATION

1. Name and address of the applicant, property owner and contractor;
2. Legal description, proposed use, and whether it is new construction or a modification;

(b) SITE DEVELOPMENT PLAN

A site plan drawn to scale shall be submitted with the permit application form and shall contain:

1. Location, dimensions, area and elevation of the lot;
2. Location of the ordinary highwater mark of any abutting navigable waterways;
3. Location of any structures with distances measured from the lot lines and street center lines;
4. Location of any existing or proposed on-site sewage systems or private water supply systems;
5. Location and elevation of existing or future access roads;
6. Location of floodplain and floodway limits as determined from the official floodplain zoning maps;
7. The elevation of the lowest floor of proposed buildings and any fill using the vertical datum from the adopted study – either National Geodetic Vertical Datum (NGVD) or North American Vertical Datum (NAVD);

8. Data sufficient to determine the regional flood elevation in NGVD or NAVD at the location of the development and to determine whether or not the requirements of s. 3.0 or 4.0 are met; and
9. Data to determine if the proposed development will cause an obstruction to flow or an increase in regional flood height or discharge according to s. 2.1. This may include any of the information noted in s. 3.3(1).

(c) DATA REQUIREMENTS TO ANALYZE DEVELOPMENTS

1. The applicant shall provide all survey data and computations required to show the effects of the project on flood heights, velocities and floodplain storage, for all subdivision proposals, as "subdivision" is defined in s. 236, Stats., and other proposed developments exceeding 5 acres in area or where the estimated cost exceeds \$125,000. The applicant shall provide:
 - a. An analysis of the effect of the development on the regional flood profile, velocity of flow and floodplain storage capacity;
 - b. A map showing location and details of vehicular access to lands outside the floodplain; and
 - c. A surface drainage plan showing how flood damage will be minimized.

The estimated cost of the proposal shall include all structural development, landscaping, access and road development, utilities, and other pertinent items, but need not include land costs.

(d) EXPIRATION

All permits issued under the authority of this ordinance shall expire 60 days after issuance.

(3) CERTIFICATE OF COMPLIANCE

No land shall be occupied or used, and no building which is hereafter constructed, altered, added to, modified, repaired, rebuilt or replaced shall be occupied until a certificate of compliance is issued by the zoning administrator, except where no permit is required, subject to the following provisions:

- (a) The certificate of compliance shall show that the building or premises or part thereof, and the proposed use, conform to the provisions of this ordinance;
- (b) Application for such certificate shall be concurrent with the application for a permit;
- (c) If all ordinance provisions are met, the certificate of compliance shall be issued within 10 days after written notification that the permitted work is completed;
- (d) The applicant shall submit a certification signed by a registered professional engineer, architect or land surveyor that the fill, lowest floor and floodproofing elevations are in compliance with the permit issued. Floodproofing measures also require certification by a registered professional engineer or architect that floodproofing measures meet the requirements of s. 7.5.

(4) OTHER PERMITS

The applicant must secure all necessary permits from federal, state, and local agencies, including those required by the U.S. Army Corps of Engineers under s. 404 of the Federal Water Pollution Control Act, Amendments of 1972, 33 U.S.C. 1344.

SEC. 13-2-62 ZONING AGENCY.

(1) The planning committee shall:

- (a) oversee the functions of the office of the zoning administrator; and
- (b) review and advise the Governing body on all proposed amendments to this ordinance, maps and text.

(2) This zoning agency shall not

- (a) grant variances to the terms of the ordinance in place of action by the Board of Adjustment/Appeals; or
- (b) amend the text or zoning maps in place of official action by the Governing body.

SEC. 13-2-63 BOARD OF APPEALS.

The Board of Adjustment/Appeals, created under s. 59.694, Stats., for counties or s. 62.23(7)(e), Stats., for cities or villages, is hereby authorized or shall be appointed to act for the purposes of this ordinance. The Board shall exercise the powers conferred by Wisconsin Statutes and adopt rules for the conduct of business. The zoning administrator may not be the secretary of the Board.

(1) POWERS AND DUTIES

The Board of Adjustment/Appeals shall:

- (a) Appeals - Hear and decide appeals where it is alleged there is an error in any order, requirement, decision or determination made by an administrative official in the enforcement or administration of this ordinance.
- (b) Boundary Disputes - Hear and decide disputes concerning the district boundaries shown on the official floodplain zoning map.
- (c) Variances - Hear and decide, upon appeal, variances from the ordinance standards.

(2) APPEALS TO THE BOARD

- (a) Appeals to the board may be taken by any person aggrieved, or by any officer or department of the municipality affected by any decision of the zoning administrator or other administrative officer. Such appeal shall be taken within 30 days unless otherwise provided by the rules of the board, by filing with the official whose decision is in question, and with the board, a notice of appeal specifying the reasons for the appeal. The official whose decision is in question shall transmit to the board all records regarding the matter appealed.

- (b) NOTICE AND HEARING FOR APPEALS INCLUDING VARIANCES

1. Notice - The board shall:
 - a. Fix a reasonable time for the hearing;
 - b. Publish adequate notice pursuant to Wisconsin Statutes, specifying the date, time, place and subject of the hearing;
 - c. Assure that notice shall be mailed to the parties in interest and the Department Regional office at least 10 days in advance of the hearing.
 2. Hearing - Any party may appear in person or by agent. The board shall:
 - a. Resolve boundary disputes according to s. 7.3(3).
 - b. Decide variance applications according to s. 7.3(4).
 - c. Decide appeals of permit denials according to s. 7.4.
- (c) **DECISION:** The final decision regarding the appeal or variance application shall:
1. Be made within a reasonable time;
 2. Be sent to the Department Regional office within 10 days of the decision;
 3. Be a written determination signed by the chairman or secretary of the Board;
 4. State the specific facts which are the basis for the Board's decision;
 5. Either affirm, reverse, vary or modify the order, requirement, decision or determination appealed, in whole or in part, dismiss the appeal for lack of jurisdiction or grant or deny the variance application;
 6. Include the reasons for granting an appeal, describing the hardship demonstrated by the applicant in the case of a variance, clearly stated in the recorded minutes of the Board proceedings.

(3) BOUNDARY DISPUTES

The following procedure shall be used by the Board in hearing disputes concerning floodplain district boundaries:

- (a) If a floodplain district boundary is established by approximate or detailed floodplain studies, the flood elevations or profiles shall prevail in locating the boundary. If none exist, other evidence may be examined.
- (b) In all cases, the person contesting the boundary location shall be given a reasonable opportunity to present arguments and technical evidence to the Board.
- (c) If the boundary is incorrectly mapped, the Board should inform the zoning committee or the person contesting the boundary location to petition the governing body for a map amendment according to s. 8.0.

(4) VARIANCE

- (a) The Board may, upon appeal, grant a variance from the standards of this ordinance if

- (b) Floodway/floodfringe determination data in s. 5.4.
- (a) Permit application data listed in s. 7.1(2).

(1) The Zoning Agency (s. 7.2) or Board shall review all data related to the appeal. This may include:

SEC. 13-2-64 REVIEW APPEALS OF PERMIT DENIALS.

(d) When a floodplain variance is granted the Board shall notify the applicant in writing that it may increase flood insurance premiums and risks to life and property. A copy shall be maintained with the variance record.

- 6. Allow any alteration of an historic structure, including its use, which would preclude its continued designation as an historic structure.
- 5. Allow actions without the amendments to this ordinance or map(s) required in s. 8.1.
- 4. Damage the rights or property values of other persons in the area.
- 3. Be granted for a hardship which is self-created.
- 2. Be granted for a hardship based solely on an economic gain or loss.
- 1. Grant, extend or increase any use prohibited in the zoning district.

(c) A variance shall not:

- 3. Variances shall only be granted upon a showing of good and sufficient cause, shall be the minimum relief necessary, shall not cause increased risks to public safety or nuisances, shall not increase costs for rescue and relief efforts and shall not be contrary to the purpose of the ordinance.
- 2. Variances can only be granted for lots that are less than one-half acre and are contiguous to existing structures constructed below the RFE;
- 1. The variance may not cause any increase in the regional flood elevation;

(b) In addition to the criteria in par. (a), to qualify for a variance under FEMA regulations, the following criteria must be met:

- 4. The variance is consistent with the purpose of this ordinance in s. 1.3.
- 3. The variance is not contrary to the public interest; and
- 2. The hardship is due to adoption of the floodplain ordinance and unique property conditions, not common to adjacent lots or premises. In such case the ordinance or map must be amended;
- 1. Literal enforcement of the ordinance provisions will cause unnecessary hardship;

an applicant convincingly demonstrates that:

- (c) Data listed in s. 3.3(1)(b) where the applicant has not submitted this information to the zoning administrator.
 - (d) Other data submitted with the application, or submitted to the Board with the appeal.
- (2) For appeals of all denied permits the Board shall:
- (a) Follow the procedures of s. 7.3;
 - (b) Consider zoning agency recommendations; and
 - (c) Either uphold the denial or grant the appeal.
- (3) For appeals concerning increases in regional flood elevation the Board shall:
- (a) Uphold the denial where the Board agrees with the data showing an increase in flood elevation. Increases equal to or greater than 0.01 foot may only be allowed after amending the flood profile and map and all appropriate legal arrangements are made with all adversely affected property owners.
 - (b) Grant the appeal where the Board agrees that the data properly demonstrates that the project does not cause an increase equal to or greater than 0.01 foot provided no other reasons for denial exist.

SEC. 13-2-65 FLOODPROOFING.

- (1) No permit or variance shall be issued until the applicant submits a plan certified by a registered professional engineer or architect that the floodproofing measures will protect the structure or development to the flood protection elevation.
- (2) Floodproofing measures shall be designed to:
 - (a) Withstand flood pressures, depths, velocities, uplift and impact forces and other regional flood factors;
 - (b) Protect structures to the flood protection elevation;
 - (c) Anchor structures to foundations to resist flotation and lateral movement; and
 - (d) Insure that structural walls and floors are watertight to the flood protection elevation, and the interior remains completely dry during flooding without human intervention.
- (3) Floodproofing measures could include:
 - (a) Reinforcing walls and floors to resist rupture or collapse caused by water pressure or
 - (b) Adding mass or weight to prevent flotation.
 - (c) Placing essential utilities above the flood protection elevation.
 - (d) Installing surface or subsurface drainage systems to relieve foundation wall and basement floor pressures.

- (e) Constructing water supply wells and waste treatment systems to prevent the entry of flood waters.
- (f) Putting cutoff valves on sewer lines or eliminating gravity flow basement drains.

7.6 PUBLIC INFORMATION

- (1) Place marks on structures to show the depth of inundation during the regional flood.
- (2) All maps, engineering data and regulations shall be available and widely distributed.
- (3) All real estate transfers should show what floodplain zoning district any real property is in.

SEC. 13-2-66 THROUGH SEC 13-2-69 RESERVED FOR FUTURE USE.

ARTICLE H

Amendments

SEC. 13-2-70 AMENDMENTS GENERALLY.

The governing body may change or supplement the floodplain zoning district boundaries and this ordinance in the manner provided by law. Actions which require an amendment include, but are not limited to, the following:

- (1) Any change to the official floodplain zoning map, including the floodway line or boundary of any floodplain area.
- (2) Correction of discrepancies between the water surface profiles and floodplain zoning maps.
- (3) Any fill in the floodplain which raises the elevation of the filled area to a height at or above the flood protection elevation and is contiguous to land lying outside the floodplain.
- (4) Any fill or floodplain encroachment that obstructs flow, increasing regional flood height 0.01 foot or more.
- (5) Any upgrade to a floodplain zoning ordinance text required by s. NR 116.05, Wis. Adm. Code, or otherwise required by law, or for changes by the municipality.
- (6) All channel relocations and changes to the maps to alter floodway lines or to remove an area from the floodway or the floodfringe that is based on a base flood elevation from a FIRM requires prior approval by FEMA.

Note: Consult the FEMA web site - www.fema.gov - for the map change fee schedule.

SEC. 13-2-71 AMENDMENT PROCEDURES.

Ordinance amendments may be made upon petition of any interested party according to the provisions of s. 62.23, Stats., for cities and villages, or 59.69, Stats., for counties. Such petitions shall include all necessary data required by ss. 5.4 and 7.1(2).

- (1) The proposed amendment shall be referred to the zoning agency for a public hearing and recommendation to the governing body. The amendment and notice of public hearing shall be submitted to the Department Regional office for review prior to the hearing. The amendment procedure shall comply with the provisions of s. 62.23, Stats., for cities and villages or s. 59.69, Stats., for counties.
- (2) No amendments shall become effective until reviewed and approved by the Department.
- (3) All persons petitioning for a map amendment that obstructs flow, increasing regional flood height 0.01 foot or more, shall obtain flooding easements or other appropriate legal arrangements from all adversely affected property owners and notify local units of government before the amendment can be approved by the governing body.
- (4) For amendments in areas with no water surface profiles, the zoning agency or board shall consider data submitted by the Department, the zoning administrator's visual on-site inspections and other available information. (See s. 1.5(4).)

SEC. 13-2-72 THROUGH SEC 13-2-79

RESERVED FOR FUTURE USE.

ARTICLE I

Enforcement and Penalties

SEC. 13-2-80 ENFORCEMENT AND PENALTIES.

Any violation of the provisions of this ordinance by any person shall be unlawful and shall be referred to the municipal attorney who shall expeditiously prosecute all such violators. A violator shall, upon conviction, forfeit to the municipality a penalty of not less than \$ 20.00 and not more than \$ 50.00, together with a taxable cost of such action. Each day of continued violation shall constitute a separate offense. Every violation of this ordinance is a public nuisance and the creation may be enjoined and the maintenance may be abated by action at suit of the municipality, the state, or any citizen thereof pursuant to s. 87.30, Stats.

SEC. 13-2-81 THROUGH SEC. 13-2-89

RESERVED FOR FUTURE USE.

ARTICLE J

Definitions

SEC 13-2-90 DEFINITIONS.

Unless specifically defined, words and phrases in this ordinance shall have their common law meaning and shall be applied in accordance with their common usage. Words used in the present tense include the future, the singular number includes the plural and the plural number includes the singular. The word "may" is permissive, "shall" is mandatory and is not discretionary.

- 1) "A ZONES" - Those areas shown on the Official Floodplain Zoning Map which would be inundated by the regional flood. These areas may be numbered or unnumbered A Zones. The A Zones may or may not be reflective of flood profiles, depending on the availability of data for a given area.

- 2) "ACCESSORY STRUCTURE OR USE" - A facility, structure, building or use which is accessory or incidental to the principal use of a property, structure or building.
- 3) "BASE FLOOD" - Means the flood having a one percent chance of being equaled or exceeded in any given year, as published by FEMA as part of a FIS and depicted on a FIRM.
- 4) "BASEMENT" - Any enclosed area of a building having its floor sub-grade, i.e., below ground level, on all sides.
- 5) "BUILDING" - See STRUCTURE.
- 6) "BULKHEAD LINE" - A geographic line along a reach of navigable water that has been adopted by a municipal ordinance and approved by the Department pursuant to s. 30.11, Stats., and which allows limited filling between this bulkhead line and the original ordinary highwater mark, except where such filling is prohibited by the floodway provisions of this ordinance.
- 7) "CAMPGROUND" - Any parcel of land which is designed, maintained, intended or used for the purpose of providing sites for nonpermanent overnight use by 4 or more camping units, or which is advertised or represented as a camping area.
- 8) "CAMPING UNIT" - Any portable device, no more than 400 square feet in area, used as a temporary shelter, including but not limited to a camping trailer, motor home, bus, van, pick-up truck, tent or other mobile recreational vehicle.
- 9) "CERTIFICATE OF COMPLIANCE" - A certification that the construction and the use of land or a building, the elevation of fill or the lowest floor of a structure is in compliance with all of the provisions of this ordinance.
- 10) "CHANNEL" - A natural or artificial watercourse with definite bed and banks to confine and conduct normal flow of water.
- 11) "CRAWLWAYS" OR "CRAWL SPACE" - An enclosed area below the first usable floor of a building, generally less than five feet in height, used for access to plumbing and electrical utilities.
- 12) "DECK" - An unenclosed exterior structure that has no roof or sides, but has a permeable floor which allows the infiltration of precipitation.
- 13) "DEPARTMENT" - The Wisconsin Department of Natural Resources.
- 14) "DEVELOPMENT" - Any artificial change to improved or unimproved real estate, including, but not limited to, the construction of buildings, structures or accessory structures; the construction of additions or alterations to buildings, structures or accessory structures; the repair of any damaged structure or the improvement or renovation of any structure, regardless of percentage of damage or improvement; the placement of buildings or structures; subdivision layout and site preparation; mining, dredging, filling, grading, paving, excavation or drilling operations; the storage, deposition or extraction of materials or equipment; and the installation, repair or removal of public or private sewage disposal systems or water supply facilities.
- 15) "DRYLAND ACCESS" - A vehicular access route which is above the regional flood elevation and which connects land located in the floodplain to land outside the floodplain, such as a road with its surface above regional flood elevation and wide enough for wheeled rescue and relief vehicles.
- 16) "ENCROACHMENT" - Any fill, structure, equipment, building, use or development in the floodway.

- 17) "EXISTING MANUFACTURED HOME PARK OR SUBDIVISION" - A parcel of land, divided into two or more manufactured home lots for rent or sale, on which the construction of facilities for servicing the lots is completed before the effective date of this ordinance. At a minimum, this would include the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads
- 18) "EXPANSION TO EXISTING MOBILE/MANUFACTURED HOME PARK" - The preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed. This includes installation of utilities, construction of streets and either final site grading, or the pouring of concrete pads.
- 19) "FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)" - The federal agency that administers the National Flood Insurance Program.
- 20) "FLOOD INSURANCE RATE MAP" (FIRM) - A map of a community on which the Federal Insurance Administration has delineated both special flood hazard areas (the floodplain) and the risk premium zones applicable to the community. This map can only be amended by the Federal Emergency Management Agency.
- 21) "FLOOD" or "FLOODING" - A general and temporary condition of partial or complete inundation of normally dry land areas caused by one of the following conditions:
- ✓ The overflow or rise of inland waters,
 - ✓ The rapid accumulation or runoff of surface waters from any source,
 - ✓ The inundation caused by waves or currents of water exceeding anticipated cyclical levels along the shore of Lake Michigan or Lake Superior, or
 - ✓ The sudden increase caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as a seiche, or by some similarly unusual event.
- 22) "FLOOD FREQUENCY" - The probability of a flood occurrence which is determined from statistical analyses. The frequency of a particular flood event is usually expressed as occurring, on the average once in a specified number of years or as a percent (%) chance of occurring in any given year.
- 23) "FLOODFRINGE" - That portion of the floodplain outside of the floodway which is covered by flood waters during the regional flood and associated with standing water rather than flowing water.
- 24) "FLOOD HAZARD BOUNDARY MAP" - A map designating approximate flood hazard areas. Flood hazard areas are designated as unnumbered A-Zones and do not contain floodway lines or regional flood elevations. This map forms the basis for both the regulatory and insurance aspects of the National Flood Insurance Program (NFIP) until superseded by a Flood Insurance Study and a Flood Insurance Rate Map.
- 25) "FLOOD INSURANCE STUDY" - A technical engineering examination, evaluation, and determination of the local flood hazard areas. It provides maps designating those areas affected by the regional flood and provides both flood insurance rate zones and base flood elevations and may provide floodway lines. The flood hazard areas are designated as numbered and unnumbered A-Zones. Flood Insurance Rate Maps, that accompany the Flood Insurance Study, form the basis for both the regulatory and the insurance aspects of the National Flood Insurance Program.

- 26) "FLOODPLAIN" - Land which has been or may be covered by flood water during the regional flood. It includes the floodway and the floodfringe, and may include other designated floodplain areas for regulatory purposes.
- 27) "FLOODPLAIN ISLAND" - A natural geologic land formation within the floodplain that is surrounded, but not covered, by floodwater during the regional flood.
- 28) "FLOODPLAIN MANAGEMENT" - Policy and procedures to insure wise use of floodplains, including mapping and engineering, mitigation, education, and administration and enforcement of floodplain regulations.
- 29) "FLOOD PROFILE" - A graph or a longitudinal profile line showing the relationship of the water surface elevation of a flood event to locations of land surface elevations along a stream or river.
- 30) "FLOODPROOFING" - Any combination of structural provisions, changes or adjustments to properties and structures, water and sanitary facilities and contents of buildings subject to flooding, for the purpose of reducing or eliminating flood damage.
- 31) "FLOOD PROTECTION ELEVATION" - An elevation of two feet of freeboard above the water surface profile elevation designated for the regional flood. (Also see: FREEBOARD.)
- 32) "FLOOD STORAGE" - Those floodplain areas where storage of floodwaters has been taken into account during analysis in reducing the regional flood discharge.
- 33) "FLOODWAY" - The channel of a river or stream and those portions of the floodplain adjoining the channel required to carry the regional flood discharge.
- 34) "FREEBOARD" - A safety factor expressed in terms of a specified number of feet above a calculated flood level. Freeboard compensates for any factors that cause flood heights greater than those calculated, including ice jams, debris accumulation, wave action, obstruction of bridge openings and floodways, the effects of watershed urbanization, loss of flood storage areas due to development and aggregation of the river or stream bed.
- 35) "HABITABLE STRUCTURE" - Any structure or portion thereof used or designed for human habitation.
- 36) "HEARING NOTICE" - Publication or posting meeting the requirements of Ch. 985, Stats. For appeals, a Class 1 notice, published once at least one week (7 days) before the hearing, is required. For all zoning ordinances and amendments, a Class 2 notice, published twice, once each week consecutively, the last at least a week (7 days) before the hearing. Local ordinances or bylaws may require additional notice, exceeding these minimums.
- 37) "HIGH FLOOD DAMAGE POTENTIAL" - Damage that could result from flooding that includes any danger to life or health or any significant economic loss to a structure or building and its contents.
- 38) "HISTORIC STRUCTURE" - Any structure that is either:
- ✓ Listed individually in the National Register of Historic Places or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register,
 - ✓ Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to

- qualify as a registered historic district,
- ✓ Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior, or
 - ✓ Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either by an approved state program, as determined by the Secretary of the Interior; or by the Secretary of the Interior in states without approved programs.
- 39) "INCREASE IN REGIONAL FLOOD HEIGHT" - A calculated upward rise in the regional flood elevation, equal to or greater than 0.01 foot, based on a comparison of existing conditions and proposed conditions which is directly attributable to development in the floodplain but not attributable to manipulation of mathematical variables such as roughness factors, expansion and contraction coefficients and discharge.
- 40) "LAND USE" - Any nonstructural use made of unimproved or improved real estate. (Also see DEVELOPMENT.)
- 41) "MANUFACTURED HOME" - A structure transportable in one or more sections, which is built on a permanent chassis and is designed to be used with or without a permanent foundation when connected to required utilities. The term "manufactured home" includes a mobile home but does not include a "mobile recreational vehicle."
- 42) "MOBILE RECREATIONAL VEHICLE" - A vehicle which is built on a single chassis, 400 square feet or less when measured at the largest horizontal projection, designed to be self-propelled, carried or permanently towable by a licensed, light-duty vehicle, is licensed for highway use if registration is required and is designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel or seasonal use. Manufactured homes that are towed or carried onto a parcel of land, but do not remain capable of being towed or carried, including park model homes, do not fall within the definition of "mobile recreational vehicles."
- 43) "MUNICIPALITY" or "MUNICIPAL" - The county, city or village governmental units enacting, administering and enforcing this zoning ordinance.
- 44) "NAVD" or "NORTH AMERICAN VERTICAL DATUM" - Elevations referenced to mean sea level datum, 1988 adjustment.
- 45) "NGVD" or "NATIONAL GEODETIC VERTICAL DATUM" - Elevations referenced to mean sea level datum, 1929 adjustment.
- 46) "NEW CONSTRUCTION" - For floodplain management purposes, "new construction" means structures for which the start of construction commenced on or after the effective date of floodplain zoning regulations adopted by this community and includes any subsequent improvements to such structures. For the purpose of determining flood insurance rates, it includes any structures for which the "start of construction" commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures.
- 47) "NONCONFORMING STRUCTURE" - An existing lawful structure or building which is not in conformity with the dimensional or structural requirements of this ordinance for the area of the floodplain which it occupies. (For example, an existing residential structure in the floodfringe district is a conforming use. However, if the lowest floor is lower than the flood protection elevation, the structure is nonconforming.)

- 48) "NONCONFORMING USE" - An existing lawful use or accessory use of a structure or building which is not in conformity with the provisions of this ordinance for the area of the floodplain which it occupies. (Such as a residence in the floodway.)
- 49) "OBSTRUCTION TO FLOW" - Any development which blocks the conveyance of floodwaters such that this development alone or together with any future development will cause an increase in regional flood height.
- 50) "OFFICIAL FLOODPLAIN ZONING MAP" - That map, adopted and made part of this ordinance, as described in s. 1.5(2), which has been approved by the Department and FEMA.
- 51) "OPEN SPACE USE" - Those uses having a relatively low flood damage potential and not involving structures.
- 52) "ORDINARY HIGHWATER MARK" - The point on the bank or shore up to which the presence and action of surface water is so continuous as to leave a distinctive mark such as by erosion, destruction or prevention of terrestrial vegetation, predominance of aquatic vegetation, or other easily recognized characteristic.
- 53) "PERSON" - An individual, or group of individuals, corporation, partnership, association, municipality or state agency.
- 54) "PRIVATE SEWAGE SYSTEM" - A sewage treatment and disposal system serving one structure with a septic tank and soil absorption field located on the same parcel as the structure. It also means an alternative sewage system approved by the Department of Commerce, including a substitute for the septic tank or soil absorption field, a holding tank, a system serving more than one structure or a system located on a different parcel than the structure.
- 55) "PUBLIC UTILITIES" - Those utilities using underground or overhead transmission lines such as electric, telephone and telegraph, and distribution and collection systems such as water, sanitary sewer and storm sewer.
- 56) "REASONABLY SAFE FROM FLOODING" - Means base flood waters will not inundate the land or damage structures to be removed from the special flood hazard area and that any subsurface waters related to the base flood will not damage existing or proposed buildings.
- 57) "REGIONAL FLOOD" - A flood determined to be representative of large floods known to have occurred in Wisconsin. A regional flood is a flood with a one percent chance of being equaled or exceeded in any given year, and if depicted on the FIRM, the RFE is equivalent to the BFE.
- 58) "START OF CONSTRUCTION" - The date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond initial excavation, or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling, nor does it include the installation of streets and/or walkways, nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms, nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For an alteration, the actual start of construction means the first alteration of any wall, ceiling, floor or other structural part of a building, whether or not that alteration affects the external dimensions of the building.
- 59) "STRUCTURE" - Any manmade object with form, shape and utility, either permanently or

temporarily attached to, placed upon or set into the ground, stream bed or lake bed, including, but not limited to, roofed and walled buildings, gas or liquid storage tanks, bridges, dams and culverts.

- 60) "SUBDIVISION" - Has the meaning given in s. 236.02(12), Wis. Stats.
- 61) "SUBSTANTIAL DAMAGE" - Damage of any origin sustained by a structure, whereby the cost of restoring the structure to its pre-damaged condition would equal or exceed 50 percent of the equalized assessed value of the structure before the damage occurred.
- 62) "UNNECESSARY HARDSHIP" - Where special conditions affecting a particular property, which were not self-created, have made strict conformity with restrictions governing areas, setbacks, frontage, height or density unnecessarily burdensome or unreasonable in light of the purposes of the ordinance.
- 63) "VARIANCE" - An authorization by the board of adjustment or appeals for the construction or maintenance of a building or structure in a manner which is inconsistent with dimensional standards (not uses) contained in the floodplain zoning ordinance.
- 64) "VIOLATION" - The failure of a structure or other development to be fully compliant with the floodplain zoning ordinance. A structure or other development without required permits, lowest floor elevation documentation, floodproofing certificates or required floodway encroachment calculations is presumed to be in violation until such time as that documentation is provided.
- 65) "WATERSHED" - The entire region contributing runoff or surface water to a watercourse or body of water.
- 66) "WATER SURFACE PROFILE" - A graphical representation showing the elevation of the water surface of a watercourse for each position along a reach of river or stream at a certain flood flow. A water surface profile of the regional flood is used in regulating floodplain areas.
- 67) "WELL" - means an excavation opening in the ground made by digging, boring, drilling, driving or other methods, to obtain groundwater regardless of its intended use.

This Ordinance will go into affect immediately upon passage by the Village of Neosho Board Neosho this 4th day of March, 2010.

Signed:

/s/Jeanne McDermott
Jeanne McDermott, President

Attest:

/s/Deanna Boldrey
Deanna Boldrey, Clerk-Treasurer



Village of Neosho

Current Zoning Map

February 26, 2024

Dodge County Land Resources and Parks
Attn: Joe Giebel, Manager of Code Administration
127 E. Oak St.
Juneau, WI 53039

RE: Notice of Possible Change of Land Use Controls
Village of Neosho Dam
WDNR Grant Application

Dear Joe:

This letter is to inform Dodge County Code Administration that a change in land use controls may be necessary downstream from the Neosho Dam on the Rubicon River to secure the hazard rating for the dam pursuant to Ch. NR 333, Wis. Adm. Code. This information letter is required for the Village of Neosho to apply for a grant from the Department of Natural Resources to address safety deficiencies at the Neosho Dam. If a zoning change is needed, you will be contacted by WDNR staff concerning what information needs to be adopted and a timeframe to complete the adoption process.

Please contact me with any questions.

Sincerely,

ROTH PROFESSIONAL SOLUTIONS



Robert J. Roth, PE
Project Engineer on Behalf of the Village of Neosho

cc: Liz Desmore, Dam Committee Liaison
Uriah Monday, State Dam Safety Engineer

SECTION 6 – ATTACHMENTS
SUBSECTION III.D.
SUMBITTED IOM & EAP

**INSPECTION, OPERATION AND MAINTENANCE PLAN
(IOM)**

NEOSHO DAM

DODGE COUNTY

NEOSHO, WI

(NEOSHO MILL POND)

Dam Key Sequence Number (DKSN) 1077

Field File (FF) Number 14.14



COUNTY: DODGE

OWNER: VILLAGE OF NEOSHO

Dam Owner & Operator	
Name	Village of Neosho
Mailing Address	P.O. Box 178, Neosho, WI 53059
Email Address	neoshovillage@frontier.com
Phone	(920) 625-3054

IOM prepared by:

Robert J Roth (President, Roth Professional Solutions)

Date

TABLE OF CONTENTS

- I. GENERAL INFORMATION 3
 - A. DESCRIPTION OF DAM 3
 - B. KEY PERSONNEL RESPONSIBILITIES 3
- II. INSPECTION 4
 - A. ROUTINE INSPECTIONS 4
 - B. EQUIPMENT 4
 - C. PROCEDURES 4
 - 1) ANNUAL INSPECTION 4
 - 2) WINTER INSPECTIONS 5
- III. OPERATION 6
 - A. WATER LEVELS 6
 - B. COORDINATION OF FLOWS 6
 - C. MECHANICAL EQUIPMENT AND VEHICLES 6
 - D. EMERGENCY CONDITIONS 6
 - 1) EARLY WARNING DETECTION SYSTEM 6
 - 2) IDENTIFICATION OF EMERGENCY 7
- IV. MAINTENANCE 7
 - A. FREQUENCY 8
 - B. FUNDING 8
- V. UPDATING THE IOM 8
 - APPENDIX A: LOCATION MAP 9
 - APPENDIX B: INSPECTION CHECKLIST 10
 - APPENDIX C: DATA SHEETS 13
 - APPENDIX D: GLOSSARY OF TERMS 15

I. GENERAL INFORMATION

This document describes a plan of inspection, operation and maintenance for Neosho Dam. This plan should be periodically reviewed and modified to reflect operational and structural changes. The inspection and maintenance forms and other applicable figures are designed for easy revision.

This plan was prepared to conform to Dam Design and Construction Standards – “Hydraulic Design and Safety Requirements (3) Safety Measures Requirements”, Chapter NR 333.07(3), Wisconsin Administrative Code.

The purpose of the Inspection, Operation and Maintenance (IOM) plan is to provide the owner and operator of the dam and other officials with basic guidelines which assist the operator to:

- Perform routine and recommended professional safety inspections
- Properly document routine inspections using the checklist in the appendix
- Define and document normal operation procedures
- Define operational procedures during emergency events
- Properly document maintenance requirements and activities

Inspection, operation and maintenance procedures are needed to ensure the overall integrity of the dam and the public’s safety.

A. DESCRIPTION OF DAM

The Neosho Village Pond Dam is located in the West edge of Sections 20 and 29. Township 10 North, Range 17 East, on the Rubicon River. The dam lies within village limits lying underneath the Highway 67 bridge. The dam is used for recreational opportunities, aesthetic values and to help govern water level conditions. There is upstream drainage area with a watershed that is comprised of crop and wood lands. A map showing the location of the dam and the access road can be found in Appendix A.

Type of dam	Embankment, Rockfill, Earth
Type of control	Spillway Controlled
Structural height (feet)	12.0
Maximum storage capacity (ac-ft)	650.0
Primary use	Recreation
Hazard rating Drainage	Low
Basin (sq mi)	72.10
Structural type	Rock-Filled Dam with Concrete Weir

Upstream and downstream land use consists of agricultural, rural residential, and open/wooded land with no downstream dam.

Nearby dams include Saylesville Dam located approximately 5.6 miles upstream and no dam is located downstream.

B. KEY PERSONNEL RESPONSIBILITIES

It is the owner’s responsibility to operate, inspect and maintain the dam. The owner is ultimately responsible and liable for any damages should the dam be operated incorrectly or fail.

The owner/operator listed on the title page is the primary operator of the dam. The operator shall notify adjacent downstream riparian owners about flow conditions that are out of the ordinary and the resulting pool level and flow.

The owner/operator has been advised of key hydraulic features of the dam to identify potentially dangerous flow conditions and possible emergency situations. During an emergency, the dam operator will follow the procedures outlined in the Neosho Dam Emergency Action Plan (EAP).

II. INSPECTION

A. ROUTINE INSPECTIONS

Routine inspections are a necessary part of owning and operating a dam. Routine inspections provide a way to monitor a dam's performance and identify changed conditions at the dam.

Early detection of gradual changes can reduce maintenance and repair costs.

All routine inspections shall be performed by the Village of Neosho. A blank inspection check list is located in Appendix C. Records of completed inspections, and associated documentation, will be kept on file at the Village Hall (210 S Schuyler St, Neosho, WI).

Routine inspections include:

- Daily/Weekly/Monthly
 - Observation log in Appendix D
 - River flow observations
 - Precipitation records
 - Water level reading
 - Seepage monitoring and/or level modifications
- Monthly
 - Equipment log in Appendix D
 - Visual observation of spillway and embankment structure
- Annual or post-storm
 - Inspection checklist in Appendix C
 - Verify staff names and phone numbers in IOM and EAP

Required inspections per Ch. 31.19(2)(ag) will be completed by a DNR Water Management Engineer. The frequency of professional inspections is set based on the hazard rating of the dam.

B. EQUIPMENT

The dam owner, operator or qualified staff shall be adequately equipped for inspection. The following items are recommended:

- Camera with flash
- Range pole/rebar
- Ruler with graduations large enough to be identified on photos
- Knives for prying cracks and removing materials
- Copy of site map to note locations of problems and changing conditions
- Life jacket
- Cell phone
- Spray paint or flagging

C. PROCEDURES

1) ANNUAL INSPECTION

1. Print copy of the checklist in Appendix C to bring along to the dam
2. In general, note apparent deficiencies on checklist and mark locations needing attention with spray paint or flagging; photograph deficiencies from several different

- viewpoints, both at a distance and close up
3. View the dam from the bridge deck atop the structure
 - a. Look to see if there are ruts, depressions or uneven locations on the crest
 - b. Look to see if/where there are any abnormalities
 - c. Check the alignment of the weir crest
 - d. Evaluate the location where the abutment meets the natural ground(groin)
 - e. Check gate structure area.
 4. Check upstream groin areas by walking in an up and down or zigzag pattern from abutment to abutment, or side to side
 - a. Look for holes, burrows, slumps, slides, erosion, and settlement
 - b. Evaluate condition of any upstream riprap and signs of wave action erosion
 5. Check downstream slope by walking in an up and down or zigzag pattern from abutment to abutment, or side to side
 - a. Look for holes, burrows, slumps, slides, erosion, and settlement
 - b. Evaluate condition of any downstream riprap
 - c. Look for seepage on the slope and in the area ~10-20 feet downstream of toe
 6. Check tainter gate
 - a. Inspect metal pipes for joint deterioration, rust, holes, misalignment and any deformation in the shape
 - b. Look for debris and blockages
 - c. Look for water flow issues
 - d. Observe if there is any settlement or movement of gate or gate structural
 - e. Check general condition of pinion arms and structural support thereof
 - f. Check seals where visible
 7. Evaluate control structures and primary spillway
 - a. Look for debris and blockages
 - b. Inspect concrete condition, where visible
 - c. Inspect for cracks, misalignments, or unusual water hydraulics like eddy's or vortexing on the U/S side
 - d. Inspect ice or tree/root damage
 - e. Determine if there is a system to handle ice formation, ice blocking, or movement
 - f. Determine the trash and debris removal system is working for its intended purpose
 - g. View dam from D/S side and look for unusual flow patterns, concrete degradation, or seepage on abutments
 8. Evaluate auxiliary spillway
 - a. Visually inspect gate condition and visible concrete wingwalls
 - b. Look for settlement and erosion
 - c. Identify any tree/shrub growth or debris blockage
 - d. Observe signs of inoperation such as failing stoplogs or inability to remove stoplogs
 - e. Inspect downstream condition of auxiliary spillway for blockage
 9. View impoundment from different locations to develop familiarity with normal conditions
 10. Observe downstream channel
 - a. Evaluate extent of scour and any structural (undermining) issues
 - b. Drive to the next downstream bridge/culvert crossing downstream of the dam to maintain familiarity with locations of residences and property which can be affected by operation of the dam or dam failure
 11. Inspect any other appurtenant structures or devices

2) WINTER INSPECTIONS

Ice formation during the winter months can damage gates, spillways, flash boards and any other component of a dam in direct contact with the ice formation. Spring thaws can produce ice jam conditions.

1. Dam structure is relatively accessible in modest snow conditions, or less
2. Inspect ice formation at dam fore slope
3. Inspect ice formation at outlet structure
 - a. Look for signs of movement, shifting
 - b. Look for base flow continuity through outlet structure
 - c. Look for weed, brush or other woody blockage
 - d. Verify trash blockage installation performance
4. Inspect outlet pipe
 - a. Look for flow stream
 - b. Look for other signs of irregularities (blockages, piping, etc.)

III. OPERATION

All Changes, such as raising or lowering of the Dam Gate, shall be logged in the Log Book, located in the Village Hall, with notification to Dodge County Emergency Management when the dam is opened more than six inches or an additional six inches as needed. The adjustment shall be logged in the log book as soon as time allows but not more than four hours after the adjustment is made. The Dam Gate is to be locked at all times except when authorized personnel, or engineers are adjusting the Gate or when imminent failure or danger is present. The Keys to the Dam Gate are located in the Key Box located in the Village Hall. President Oldenhoff & Dam Committee Member Rodriguez are charged with the responsibility of raising and lowering the Dam Gate and are considered authorized personnel. President Oldenhoff has appointed Trustee Rodriguez as the point person for the Neosho Dam Gate with Trustee Weynand as an alternate.

A. WATER LEVELS

Dams are part of a dynamic system composed of the river, the dam and precipitation. The dam operator needs to monitor flow conditions and precipitation rates and adjust the dam as needed. Under certain conditions some dam owners will need to notify downstream dams of changes in operation.

The required pool levels for Neosho Dam per permit/docket order # are:

Maximum	N/A (Winter/Summer)
Minimum	N/A (Winter/Summer)
Normal	N/A (Winter/Summer)

B. COORDINATION OF FLOWS

The flow of water between dams must be coordinated to reduce the risk of damage to the dams as well as nearby structures and property.

C. MECHANICAL EQUIPMENT AND VEHICLES

The Dam Operator and qualified officials should be adequately equipped for inspection. The following are recommended inspection related equipment items:

- Digital camera with flash.
- Ruler with graduations large enough to be identified on photos
- Screwdrivers or knives for prying cracks and removing materials
- Boat with 12 feet graduated rod to Check upstream and downstream depths and scour locations.

D. EMERGENCY CONDITIONS

1) EARLY WARNING DETECTION SYSTEM

The dam does not have an automatic warning device. High water levels or increasing floodwater levels can be monitored by the measuring a strip gage device. Adverse weather conditions may combine to create rising water conditions.

2) IDENTIFICATION OF EMERGENCY

The Neosho Village Pond Dam does not have an automated flood system. The Dam Operator and Village Officials will need to monitor daily to weekly and during seasonal weather conditions to help identify floodwater conditions. Flood conditions are characterized by significant increases in depth over relatively short periods of time.

Depth increases in excess of 2" per hour need to be carefully evaluated. Listed below are important factors which require consideration in light of potential emergency flood situations:

- Initial Water Elevation and Gate Operation
- Previous Weather History (days and weeks) which includes past rainfall
- Predicted Weather

Often emergencies arise due to weather events. Significant predicted weather events may cause the water level above the dam to rise quickly. Dangerous flow conditions at this dam include, but are not limited to:

- Extended periods of greater than average precipitation
- Rapidly increasing headwater levels (greater than 2" increase per hour)
- Melting periods combined with greater than average precipitation
- Debris buildup, beaver dams or ice jams at the dam inlet

The dam is not equipped with lights. Lights adjacent to Highway 67 partially illuminate the dam. The Village Fire Department, County Highway Department and County Sheriff Department have spotlight equipped vehicles if necessary. Hand-held flashlights could also aid night illumination. Extended periods of greater than average precipitation

Other potential emergency situations that may or may not be associated with weather include:

- Slumping or sloughing of the dam's embankment
- Excessive erosion of the embankment below the spillway
- Excessive seepage or cloudy seepage through the embankment
- Settlement or cracking in the embankment
- Piping or boils in the embankment or immediately downstream
- Noticeable movement of any portion of the outlet structure
- Vandalism activity near the dam
- Ice build-up at the dam inlet
- Upstream and Downstream Dam Operation Procedures

If there is an emergency reference the Emergency Action Plan (EAP) for the dam.

IV. MAINTENANCE

The Neosho Pond Dam is constructed of reinforced concrete and steel, fabricated components and earthen embankment materials. The dam has relatively few maintenance items and operating components. The dam has an estimated life of 100 years when properly maintained. Periodic maintenance and item replacement are expected and preventative maintenance activities will increase with time. Maintenance should be regularly performed. Routine, annual, and post storm inspection results will dictate how often and to what degree maintenance is required. Most items can be repaired by the Dam Operator or Village Maintenance personnel. Larger repair items may be required by qualified contractors. Generally, questionable repair items should be inspected by our Village Engineer or a qualified engineer and if required, repaired by contractors.

A. FREQUENCY

Maintenance should be routinely performed. Some items require more frequent attention than others. Waterproof filler materials may be removed from construction joints by flood waters and settling of the structure. Waterproof filler materials should be maintained as outlined by the contractors or product suppliers specifications.

Periodic maintenance and item replacement are expected, and preventative maintenance activities will increase as the dam ages. Maintenance should be routinely performed. Some items require more frequent attention than others.

Annual maintenance items include:

- Mowing embankment crest, mowing/burning upstream side slope down to the edge of the water, mowing/burning downstream side slope to ~10-20 feet downstream of the toe of the slope
- Tree and brush removal from embankment
 - 20 feet beyond right and left embankment groins to prevent encroachment
 - Down to the water's edge on upstream side
 - 20 ft beyond toe of embankment on downstream side to detect seepage
- Filling rodent holes
- Repairing embankment erosion

Higher frequency maintenance includes the following items and is completed by the dam operator:

- Mowing regularly to maintain grass < 6-inch tall
- Removing debris from spillway
- Checking for beaver dams
- Moderating cattail or other weed growth

B. FUNDING

The Neosho Pond Dam is constructed of reinforced concrete and steel, fabricated components, and earthen embankment materials. Periodic maintenance and item replacement are expected. Preventive and regular maintenance items are both to be expected and will increase with time. The dam contractor and component fabricators will be able to provide guidelines for routine maintenance and replacement. The operator should expect to use expendable items as fencing, paint, lubrication, riprap materials, etc. Riprap, geotextile fabric and embankment fill materials should be quickly accessible for both emergency and routine use. Other expendable items should be budgeted based on manufacturer's recommendations and owner's experience. Funds should be allocated for larger overhaul items and repairs even though they may not always be predicted.

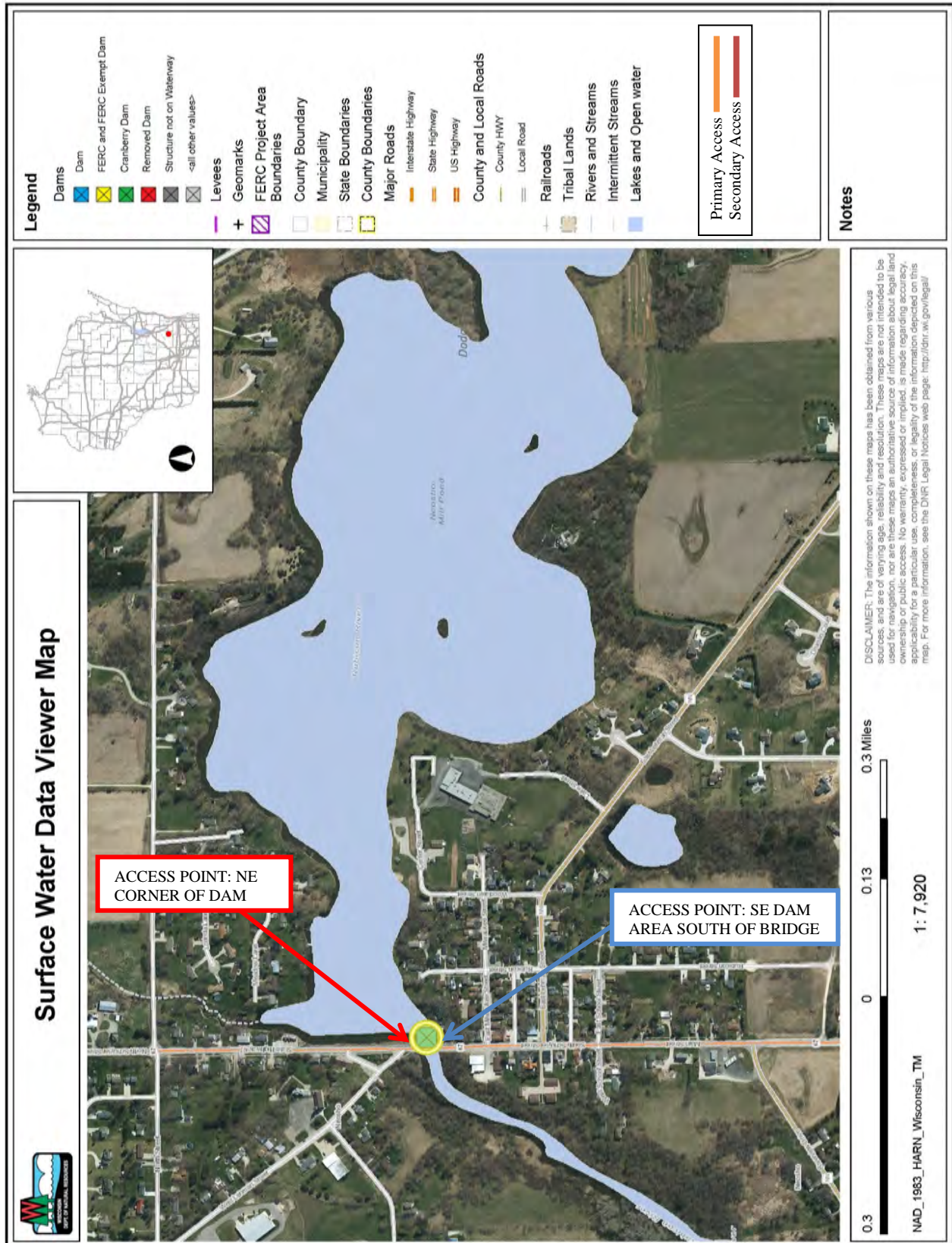
V. UPDATING THE IOM

Review IOM annually for changes in staff or inspection, operation or maintenance needs. If there are changes, update the plan and send it electronically to the DNR Water Management Engineer for review and approval.

If no changes to the IOM are needed, please send an email to the DNR Water Management Engineer indicating that no changes were needed.

Document stored at: Neosho Village Hall (210 S Schuyler St, Neosho, WI).

APPENDIX A: LOCATION MAP



APPENDIX B: INSPECTION CHECKLIST

The inspection procedure can be found in the Inspection Section of the IOM.

A checklist for inspections required under ss. 31.19 (2)(ag) can also be found at:
<http://dnr.wi.gov/topic/dams/documents/DamInspectionChecklist102011.pdf>

NEOSHO DAM INSPECTION CHECKLIST
FIELD FILE NUMBER 14.14

OWNER: Village of Neosho

DATE _____

WEATHER _____

SITE CONDITIONS _____

WATER LEVEL _____

INSPECTOR(S) _____

CHECK ITEM AS INSPECTED	NOTE CONDITIONS AND OBSERVATIONS	NOTE ACTIONS REQUIRED
-------------------------	----------------------------------	-----------------------

___ Pipes (corrugated metal, concrete, clay, PVC)

- Check for blockage and remove if necessary
- Check for improper alignment
- Check for rust, cracks, deformation and deterioration
- Check pipe for joint deterioration
- Check for settlement around the pipe
- Look up pipe from downstream end and see if there is water leaking into pipe or around the outside of the pipe
- Condition: _____
- Action: _____

___ Upstream Riprap

- Check for wave action erosion
- Elevation/location/extent of riprap _____
- Condition: _____
- Action: _____

___ Downstream Riprap

- Check for stream erosion and scour near the outlet
- Use probe to check depth of scour hole and if undermining occurring
- Condition: _____
- Action: _____

____Earth Embankment

- Check vegetative cover; embankment should have a suitable cover of grass (< 6 inches tall) with no brush, shrubs or trees; topsoil and re-seed eroded areas as required
- Check for animal burrows; remove animals and backfill holes with soil
- Check for surface erosion on grassed slopes and at riprap flumes which intercept and direct roadway drainage
- Check riprap placement, replace as required
- Check for slumps, slides or sloughing
- Check for settlement of embankment; settlement indicates loss of material or compression of material and may be uniform or at isolated depressions; note locations and size on sketch and contact DNR Water Management Engineer
- Check for seepage on the downstream slope and toe of slope (junction of embankment with natural ground downstream; if seepage contains soil particles contact with the DNR Water Management Engineer
- Condition: _____
- Action: _____

____Auxiliary Spillway

- Check for evidence of flow through auxiliary spillway, note location of highwater marks on embankment and structure
- Check for displaced riprap and erosion, repair as needed
- Check for woody vegetation such as brush, shrubs and trees within riprap or at edges of riprap; remove as needed
- Check for animal burrows; remove animals and backfill holes with soil
- Condition: _____
- Action: _____

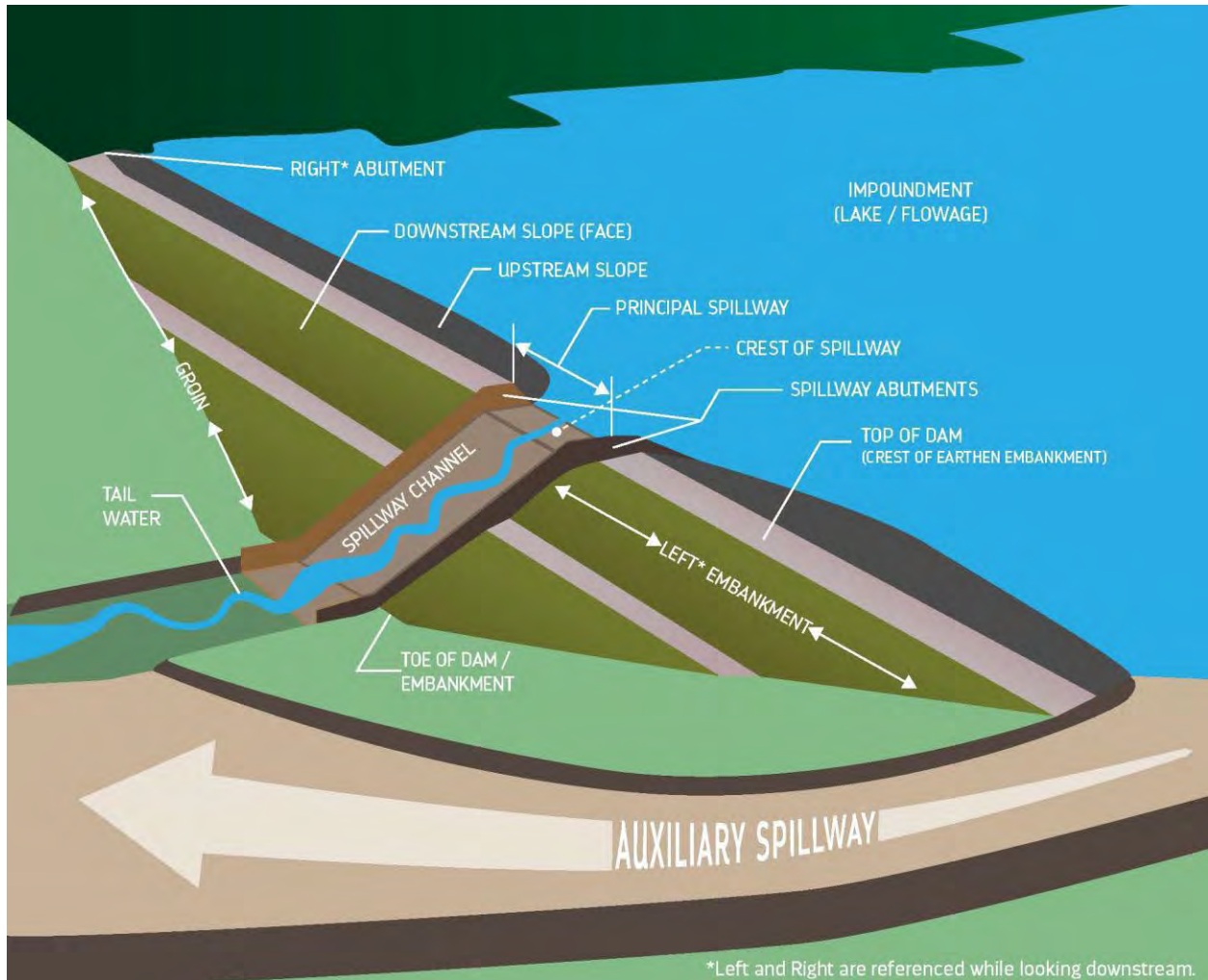
APPENDIX C: DATA SHEETS

Operations Log for Neosho Dam						
Date	Time	Inspector(s)	Water Level	Precipitation	Structure Operation	Observations

Maintenance Log for Neosho Dam

Activity	Date	Completed by	Action Taken	Comments
Mowing				
Woody vegetation removal				
Debris removal				
Embankment repair				
Riprap replacement				
Outlet pipe repair				
Inlet riser repair				
Signage maintenance				

APPENDIX D: GLOSSARY OF TERMS



Abutment – That part of the valley side or concrete walls against which the dam is constructed. An artificial abutment is sometimes constructed where there is no suitable natural abutment. The wall between a spillway or gate structure and the embankment can also be referred to as an abutment. (Also see Spillway Abutment)

Alterations – Changes in the design or configuration of the dam that may affect the integrity or operation of the dam and thereby have a potential to affect the safety of persons, property, or natural resources. (Also see Reconstruction)

Appurtenant Works – Structures or machinery auxiliary to dams which are built for operation and maintenance purposes (e.g., outlet works, spillway, powerhouse, tunnels, etc.).

Auxiliary Spillway (Emergency Spillway) – A secondary spillway designed to operate only during large flood events; an auxiliary gate is a standby or reserve gate only used when the normal means to control water are not available or at capacity.

Boil – An upward disturbance in the surface layer of soil caused by water escaping under pressure from behind or under a dam or a levee. The boil may be accompanied by deposition of soil particles (usually silt) in the form of a ring around the area where the water escapes.

Breach – An opening or a breakthrough of a dam sometimes caused by rapid erosion of a section of earth embankment by water; dams can be breached intentionally to render them incapable of impounding water.

Capacity (Hydraulic Capacity) – Amount of water a dam can convey through designed spillway structures, typically expressed in cubic feet per second (cfs).

Conduit – Closed channel (e.g., pipe) to convey the discharge of water through or under a dam.

Core/Corewall – Vertical zone of material of low permeability (e.g., compacted clay) typically in the center of an embankment dam to prevent seepage.

Crest of Dam (Top of Dam) – The top of the dam not designed to flow water; also known as the top of dam.

Crest of Spillway – The top of the spillway where water flows over.

Cutoff Wall – A wall of impervious material (e.g., concrete, asphaltic concrete, steel sheet piling) built into the foundation to reduce seepage through the dam.

Dam – Artificial barrier built for impounding or diverting the flow of water; see NR 333.03(3).

Dam Failure Analysis (DFA) – Analysis completed by an engineer/consultant to estimate the downstream impact if the dam were to fail during a 100-year event; results of analysis used to assign hazard rating. (Also see Hydraulic Shadow Map)

Design Spillway Capacity – The largest storm event or flowrate that a given dam/project is designed to pass safely. The inflow hydrograph (graph showing how inflow to an impoundment changes over time) is used to estimate the amount of water that the spillway needs to convey and maximum water surface elevation of the impoundment.

Dike (Levee/Berm) – An embankment built to protect land from flooding; no water control structure present.

Drain, Layer, or Filter Blanket – A layer of pervious material in a dam to facilitate controlled drainage and reduce seepage velocities; includes toe drain, weepholes, chimney drains, etc.

Drainage Area – The area that drains naturally to a specified point on a river/stream.

Drawdown – Intentional lowering of water surface level due to a controlled release of water from an impoundment; maximum drawdown rate is typically no more than 6 inches per day.

Embankment – A constructed bank of material, commonly earth or rock, to hold back water.

Embankment Dam (Earth Dam/Earthfill Dam) – Any dam primarily constructed of excavated natural materials, usually earth or rock, with sloping sides and a designated water control structure.

Emergency Action Plan (EAP) – A predetermined plan of action to be taken to reduce the potential for property damage and loss of life associated with a dam emergency or failure; EAP includes details specific to each dam.

Energy Dissipater – Device constructed within or at the outlet of a spillway to reduce energy of fast-flowing water.

Engineer/Consultant – Licensed or registered professional engineer (PE) in a given state; offers experience and expertise in the design and inspection of dams.

Face – Upstream or downstream side slope of dam.

Failure – Incident resulting in an uncontrolled release of water from a dam.

Flashboards – Boards, often constructed of wood or steel, used for increasing the depth of water behind a dam that are designed to deploy (break away) at a designed height of water.

Foundation of Dam – Natural material on which the dam structure is placed.

Freeboard – Vertical distance between the upstream water level (headwater) and the top of a dam.

Gate – Device which can be operated across the waterway to control or stop the flow. Common types of gates include slide (sluice), split-leaf, crest, and tainter (radial).

Gravity Dam – Dam constructed of concrete and/or masonry that relies on its weight for stability.

Groin – Area along the contact (or intersection) of the face of a dam with the abutments.

Headwater – Water surface elevation of the impoundment on the upstream side of the dam.

Height of Dam (Structural Height) – Difference in elevation between the point of lowest elevation on the top of the dam before overtopping and the lowest elevation of the natural stream or lake bed at the downstream toe of the dam; see NR 333.03(24).

Hydraulic Height – Difference in elevation between the headwater and tailwater.

Hydraulic Shadow Map – Map delineating the area that would be inundated due to a dam failure during a 100-year flood event; see NR 333.03(8).

Impoundment (Pool/Lake/Reservoir) – Water held back by a dam; water on the upstream side of the dam.

Intake – Any structure in an impoundment which water can be drawn through the dam.

Maintenance – The upkeep necessary for efficient operation and safety of dam and appurtenance works; involves labor and materials but is not to be confused with alterations or repairs.

Ogee Spillway (Ogee Section) – A weir where the spillway crest, slope, and bottom form an "S" or ogee curve.

One percent (1%)/One Hundred Year (100-year)/Regional Flood The regional flood is based upon a statistical analysis of stream flow records available for the watershed or an analysis of rainfall or runoff characteristics in the watershed or both. In any given year, there is a 1% chance that the regional flood may occur or be exceeded.; see NR 333.03(23).

Operator – The owner, designated agent, or employee of the owner charged with overseeing and physically operating the dam.

Outlet – An opening through which water discharges from an impoundment.

Overtopping – Uncontrolled release of water over parts of the dam that are not designed to pass flow; overtopping does not necessarily mean that the dam has failed.

Owner – A person, or group of people (e.g., Lake District), utility, corporation who is responsible for operating, maintaining, and managing a dam.

Phreatic Surface – Upper surface of saturation in an embankment.

Piping – The progressive development of internal erosion by seepage; appears on the downstream side of the dam as a hole or seam where water containing soil particles is discharged.

Plunge Pool (Stilling Basin) – A natural or sometimes artificially created pool that dissipates the energy of free-flowing water.

Primary Spillway (Principal Spillway) – Main spillway designed to convey water during normal flows; see NR 333.03(16).

Reconstruction – Altering an existing dam in a way that affects its hydraulic capacity or structural integrity; see NR 333.03(22).

Repair – Activity to restore a dam to its approved design condition.

Riprap – Large stones placed to protect against wave action, ice action and scour.

Scarp – Nearly vertical, exposed earth surface created at the upper edge of a slide or a breach.

Seepage – Movement of water through the dam foundation, abutments, or embankment.

Slide – Movement of a mass of earth fill down a slope along the failure plane for a considerable distance. In embankments and abutments, this involves a surficial separation of a portion of the slope from the surrounding material.

Slump – A portion of earth embankment which moves downslope, often along a curved surface; sometimes happens suddenly, often with cracks developing.

Spillway – Structure over or through which flows are discharged. If the flow and level are controlled by gates it is considered a controlled spillway, but if the spillway crest is at a fixed elevation (and cannot be changed) it is considered an uncontrolled spillway.

Spillway Abutment – Wall between a spillway or gate structure and the embankment.

Spillway Channel – Channel conveying water from the impoundment to the river downstream.

Stop Log – Logs, timbers, steel beams, or concrete beams placed on top of each other with their ends held in channels/guides/brackets on each side of a channel or conduit; stop logs may be added or removed to raise or lower the impoundment water level.

Storage – Volume of water held behind a dam, typically expressed in units of acre-feet. Maximum storage capacity means the volume of water stored before overtopping occurs; see NR 333.03(11).

Tailwater – The level of water in the discharge channel immediately downstream of the dam.

Toe Drain – Drains installed at the toe of the dam to collect and convey seepage that occurs through embankment.

Toe of Dam (Toe of Embankment) – The junction of the downstream face of a dam with the ground surface, also referred to as the downstream toe. For an embankment dam, the junction of the upstream face with the ground surface is called the upstream toe.

Trash Rack –Metal or concrete bars located in the waterway across the upstream end of a conduit or spillway channel to prevent the entry of floating or submerged debris.

Valve – Device fitted to a conduit in which the closure member is either rotated or moved transversely or longitudinally in the waterway to control or stop the flow.

Weir –A barrier built across the width of a stream to raise the upstream water level; called a fixed-crest weir; when top is at a permanent elevation and cannot be moved up or down. Weirs can also be built across a stream, channel or discharge point to measure or gauge flow. Types of weirs include broad crested, sharp crested, ogee, and V-notched weirs.

EMERGENCY ACTION PLAN (EAP)

NEOSHO DAM

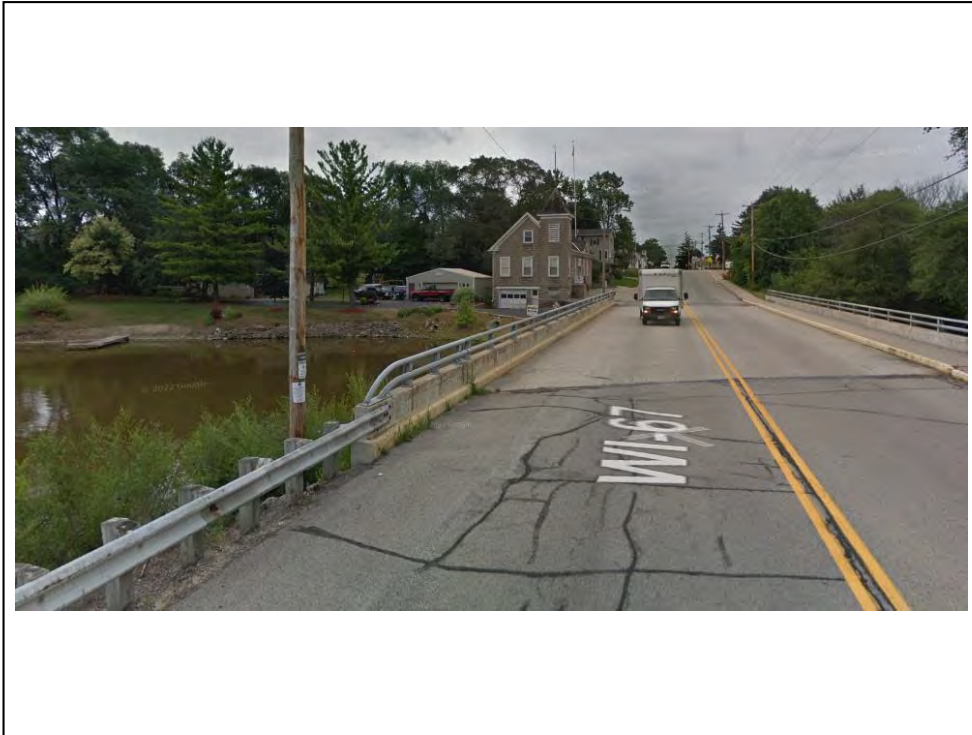
DODGE COUNTY

NEOSHO, WI

(NEOSHO MILL POND)

Dam Key Sequence Number (DKSN) 1077

Field File (FF) Number 14.14



Dam Owner & Operator	
Name	Village of Neosho
Mailing Address	P.O. Box 178, Neosho, WI 53059
Email Address	neoshovillage@frontier.com
Phone	(920) 625-3054

EAP prepared by:

Robert J Roth (President, Roth Professional Solutions)

Date

TABLE OF CONTENTS

I. LOCATION MAP 3

II. CONCURRENCE..... 4

III. PURPOSE AND INTENT 5

IV. DESCRIPTION OF DAM 5

 HYDRAULIC SHADOW MAP..... 6

V. EMERGENCY LEVEL 6

 A. LEVEL 1: FAILURE IMMINENT OR HAS HAPPENED 6

 B. LEVEL 2: POTENTIAL FAILURE 6

 C. LEVEL 3: UNUSUAL INCIDENT 6

 D. NOTIFICATION LISTS and FLOWCHARTS 10

VI. DURING THE INCIDENT 11

 A. ACCESS POINTS 11

 B. AVAILABLE RESOURCES..... 11

VII. AFTER THE INCIDENT 11

 A. REENTRY AND RECOVERY 11

 B. AFTER ACTION REVIEW 11

VIII. UPDATING THE EAP..... 12

 A. EMERGENCY MANAGEMENT 12

APPENDIX A: DNR WME STAFF..... 13

APPENDIX B: NOTIFICATION LISTS AND FLOWCHARTS 14

APPENDIX C: HYDRAULIC SHADOW MAP 19

APPENDIX D: COMMUNICATION DOCUMENTATION CHART..... 20

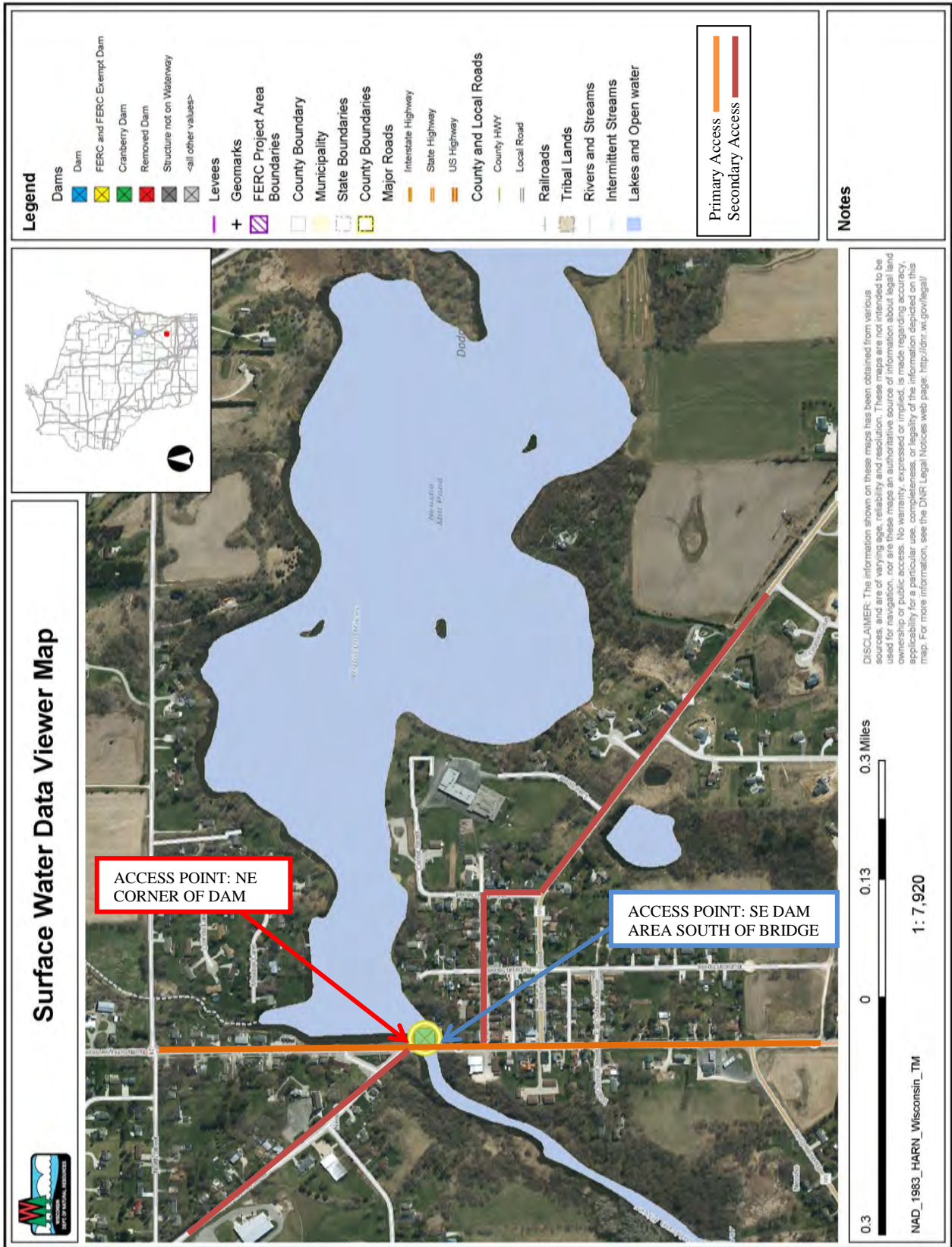
APPENDIX E: AVAILABLE RESOURCES..... 21

APPENDIX F: LIST OF EAP HOLDERS 24

APPENDIX G: EAP UPDATE CHART 25

APPENDIX H: GLOSSARY OF TERMS 26

I. LOCATION MAP



II. CONCURRENCE

By my signature, I acknowledge that I, or my representative, have reviewed this plan for Neosho Dam and concur with the tasks and responsibilities assigned herein for me and my organization.

1. _____
Uriah Monday, P.E. (State Dam Safety Engineer, DNR) Date

2. _____
Clerk, Village of Neosho (Dam Owner & Operator) Date

3. _____
Dale J. Schmidt (Sheriff, Dodge County) Date

4. _____
Joseph M. Meagher (Director of Emergency Management, Dodge County) Date

5. _____
Neosho Fire & Rescue (Fire Chief, Dodge County) Date

6. _____
Brian R. Field (Highway Commissioner, Dodge County) Date

7. _____
Chris Oldenhoff (President, Village of Neosho) Date

8. _____
Cameron Clapper (Administrator, Dodge County) Date

III. PURPOSE AND INTENT

The purpose of this Emergency Action Plan (EAP) is to provide the owner and operator of the dam with a clear plan of action when a dam emergency arises. An emergency is identified as any condition which:

- develops unexpectedly;
- endangers the structural integrity of the dam; and
- could result in failure of the dam producing downstream flooding.

Having and implementing an EAP the can reduce the risk of human life loss or injury and minimize property damage during an emergency incident. The EAP provides a description of the dam and the area at risk as well as contact information for all parties involved in responding to or affected by an emergency at the dam. The EAP outlines what actions are required in the event of an emergency.

A copy of the EAP is located at Neosho Village Hall (210 S. Schuyler, Neosho, WI, 53059), filled with the WDNR, and a copy retained at the office of the dam consulting engineer (Roth Professional Solutions, 315 De Witt Street, Portage, WI).

Definitions of commonly used dam terms are in Appendix H.

IV. DESCRIPTION OF DAM

Neosho Dam is located on Neosho Mill Pond in the NW 1/4 of the NW 1/4 of Section 29, Township 10 North, Range 17 East. The dam is accessed via S Schuyler Street.

Type of dam	Embankment, Rockfill, Earth
Structural height (feet)	12.0
Maximum storage capacity (ac-ft)	650.0
Surface area of impoundment (ac)	187.0
Primary use	Recreation
Hazard rating	Low

Upstream and downstream land use consists of agricultural, rural residential, and open/wooded land with no downstream dam.

Nearby dams include Saylesville Dam located approximately 5.6 miles upstream and no dam is located downstream.

	Upstream Dam	Downstream Dam
Name	Saylesville Dam	N/A
Field File Number	14.12	
Location	Sec 25 T10N R17E	
Owner Name	Melius, Philip	
Contact Information	N/A	

A. HYDRAULIC SHADOW MAP

A hydraulic shadow map provides a picture of the area that would be inundated by a complete failure of the dam. This map helps inform who must be notified and/or evacuated in an emergency.

Critical downstream facilities include:

1. Residential Homes – Ronald & Susan Henrichs, 123 Hale Rd (1,070' downstream)
2. Neosho Fire Department (320' downstream)
3. Neosho Police Department (420' downstream)

The above listed critical facilities are included in the notification list in Appendix B.

A hydraulic shadow map is unavailable for this dam.

V. EMERGENCY LEVEL

It is important to determine the severity of the emergency when responding to an unusual event at a dam. The Guidance for Determining the Emergency Level chart can be used as a tool to guide the dam owner's actions during an emergency response.

Emergency levels may change based on site-specific circumstances.

A. LEVEL 1: FAILURE IMMINENT OR HAS HAPPENED

Urgent situation where the dam failure appears to be imminent, in progress or has already happened. Example for this dam would be a structural failure of the tainter gate or concrete abutments, sidestream erosion occurring around the main dam facility, a concrete weir failure such as significant cracking and deformation.

B. LEVEL 2: POTENTIAL FAILURE

Situation that is developing rapidly where there is a high likelihood of potential failure.

The following criteria would cause a shift from a Level 2 emergency to a Level 1 emergency:

- Advancing erosion that is threatening the control section, such as a concrete weir crack, a metal gate deterioration or erosion.
- Seepage rate increasing on both concrete weirs.
- Rapidly enlarging sinkhole in the area of both concrete weirs or in areas adjoining the weirs. A sinkhole may be visible only due to eddying or vortexing formations of upstream water condition.

C. LEVEL 3: UNUSUAL INCIDENT

Unusual incident that is developing slowly and may or is not be associated with a high flow event. Examples include obstruction of the spillway due to debris that will cause embankment to overtop if not removed, floating bog movement toward the spillway, add or remove based on traits or situations unique to your dam. The following criteria would cause a shift from a Level 3 emergency to a Level 2 emergency:

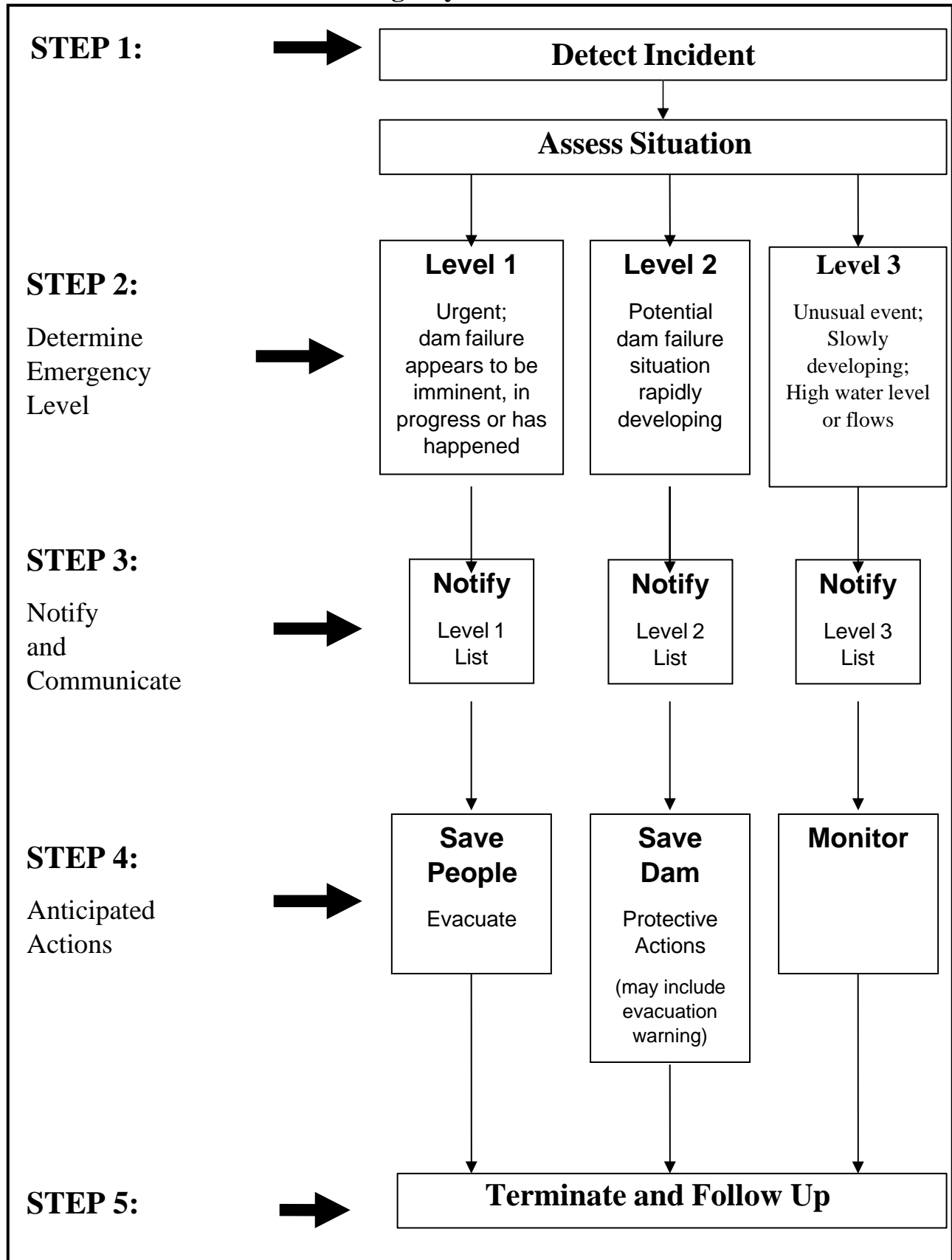
- Active erosion beginning to occur; soil is beginning to be transported
- Seepage water is no longer clear; sediment particles observed
- Gate inoperable with quickly rising water levels

Guidance for Determining the Emergency Level

Observation	Situation	Level
High Flow	Impoundment water level at auxiliary spillway crest or auxiliary spillway is flowing with no active erosion	3
	Auxiliary spillway flowing with active gully erosion	2
	Primary and/or auxiliary spillway flow that could result in flooding of people downstream if the reservoir level continues to rise	2
	Auxiliary spillway flowing with advancing erosion that is threatening the embankment and/or control section	1
	Primary and/or auxiliary spillway flow that is flooding people downstream	1
Embankment Overtopping	Impoundment water level is 1 foot below the top of the dam	2
	Water from the impoundment is flowing over the top of the dam	1
Seepage	New seepage areas on or near the dam	3
	New seepage areas with cloudy discharge	2
	Seepage with cloudy discharge; increasing flow rate	1
Sinkholes	Observation of new sinkhole in impoundment area or on embankment	2
	Rapidly enlarging sinkhole	1
Movement of Embankment or Other Structural Component	Visual movement of the embankment slope or other structural component	2
	Sudden or rapidly proceeding slides of the embankment slopes or other structural component	1
Instruments	Instrumentation readings beyond predetermined or normal values	3
Security Threat	Verified bomb threat that, if carried out, could result in damage to the dam	2
	Detonated bomb that has resulted in damage to the dam or appurtenances	1
Sabotage/Vandalism	Damage to dam with no impacts to the functioning of the dam	3

Sabotage/Vandalism	Modification to the dam that could adversely impact the function or operation of the dam	2
	Damage to dam that has resulted in seepage flow	2
	Damage to dam that has resulted in uncontrolled water release	1

Level of Emergency Determination Chart



D. NOTIFICATION LISTS AND FLOWCHARTS

Notification lists identify the names and contact information for individuals involved in an emergency incident at the dam. Appendix B includes the notification lists that are associated with the notification flowcharts. Lists of upstream/downstream residents/businesses and/or dam owners potentially impacted by an incident, businesses storing hazardous materials, as well as special evacuation needs are also included in Appendix B.

Notification flowcharts provide a visual map of who is responsible for notifying various individuals, who to notify, and the order of notification for each emergency level.

Notification flowcharts are found in Appendix B.

Notification flowcharts will be activated with a telephone call to the dam owner or operator, Town/Village/City, County Sheriff's Office, or 911. Contact will be maintained by cell phone throughout an emergency and communications can be tracked using the chart in Appendix C.

VI. DURING THE INCIDENT

A. ACCESS POINTS

During an incident, unsafe conditions may develop on the impoundment upstream of the dam. During spring, summer and fall there may be people on the impoundment boating, swimming, fishing, hunting, or recreating that are unaware of the potential loss of water. During the winter, there may be people on the impoundment ice fishing, snowmobiling or recreating that are unaware of potential ice movement or breakup. Given the remote and private nature of this waterbody, the owner has full control over the limited use during open water or ice conditions.

See access points noted on the Location Map in Section I.

During an incident, State Highway 67, where the dam is located beneath, will be barricaded with road closed signs.

B. AVAILABLE RESOURCES

During an emergency, dam owners may need to bring in outside resources such as heavy equipment, sandbags, pumps, siphons, or divers.

A listing of the resources including provider names, addresses and telephone numbers are in Appendix E. Appendix E also includes a map of the available resources that can be referenced to determine routes if roads have been closed due to high water or other obstructions to traffic.

VII. AFTER THE INCIDENT

A. REENTRY AND RECOVERY

The emergency is not considered over until inspected by the dam owner's engineer for any damage and local Emergency Management and Sheriff have been consulted.

Contact the DNR Water Management Engineer for technical assistance, if needed.

Evacuated residents will be allowed to return based on the plan developed by the local Emergency Management and Sheriff.

A post-disaster review of the inspection will be held with the dam owner, dam owner's engineer, and DNR Water Management Engineer to determine what actions are needed to ensure that the dam is in compliance with state standards. The review may result in formal orders issued to the dam owner and may require the submittal of plans and specifications for repair.

B. AFTER ACTION REVIEW

After a dam emergency is over, a review of the event should take place as soon as practicable (within 45-60 days). The review will help all parties identify what was done correctly during the EAP activation, what was done incorrectly, and what could be improved. Any needed changes to the EAP will be submitted to the DNR Water Management Engineer for review and approval.

VIII. UPDATING THE EAP

The EAP will be reviewed every February by the dam owner to ensure that:

- All contact information listed in the document is correct; consider calling each contact to determine or confirm the contact information. Contact information is located on the:
 1. Concurrence signature page
 2. Notification lists and flowcharts (Appendix B)
 3. Available resources chart (Appendix E)
- Any physical changes to the dam are added to the description of the dam
- New or updated information about the dam is incorporated (e.g., hydraulic shadow map)
- Dam personnel understand their role in responding to a dam emergency

If there are changes to the contact information, the document will be updated and provided to the DNR Water Management Engineer for review and approval. A general description of the change(s) will be tracked using the chart in Appendix G. Copies of the updated EAP will be provided to all EAP holders (Appendix F).

New signatures are required on the Concurrence page when an existing role is assumed by a new individual, changes occur to the dam or downstream of the dam that would change emergency response, or new individuals are added to the Concurrence page. These individuals can include those who:

- play a role in the emergency response or
- are requested by the dam owner or operator to sign the document

If no updates to the document are needed, the dam owner will send an email to the DNR Water Management Engineer indicating no changes were necessary.

This EAP document is stored at: Owner Residence (Neosho Village Hall 210 S. Schuyler Street).

A. EMERGENCY MANAGEMENT

At least every five (5) years, the dam owner will meet with Emergency Management to discuss what changes have been made at the dam and to determine what opportunities exist to conduct or participate in dam-related for table top exercises.

The owner will also review the hydraulic shadow map and/or downstream land use prior to Rubicon River confluence to identify if any significant land use changes have occurred in the hazard area. If changes have occurred, the dam owner should notify the DNR Water Management Engineer.

APPENDIX A: DNR WME STAFF

For most current DNR Water Management Engineer staff list, check here:

<https://dnr.wi.gov/topic/dams/regionalcontacts.html>

If the DNR Water Management Engineer for the county that your dam is located is not available, contact an engineer assigned to a county adjacent to the county your dam is in.

Wisconsin Department of Natural Resources			
Water Management Engineer Will Disser Also see Appendix A	DNR Service Center 3911 Fish Hatchery Rd Fitchburg, WI 53711	(608) 622-6780	william.disser@wisconsin.gov
State Dam Safety Engineer Uriah Monday	101 S. Webster St. PO Box 7921 Madison, WI 53707	(608) 225-6716	uriah.monday@wisconsin.gov

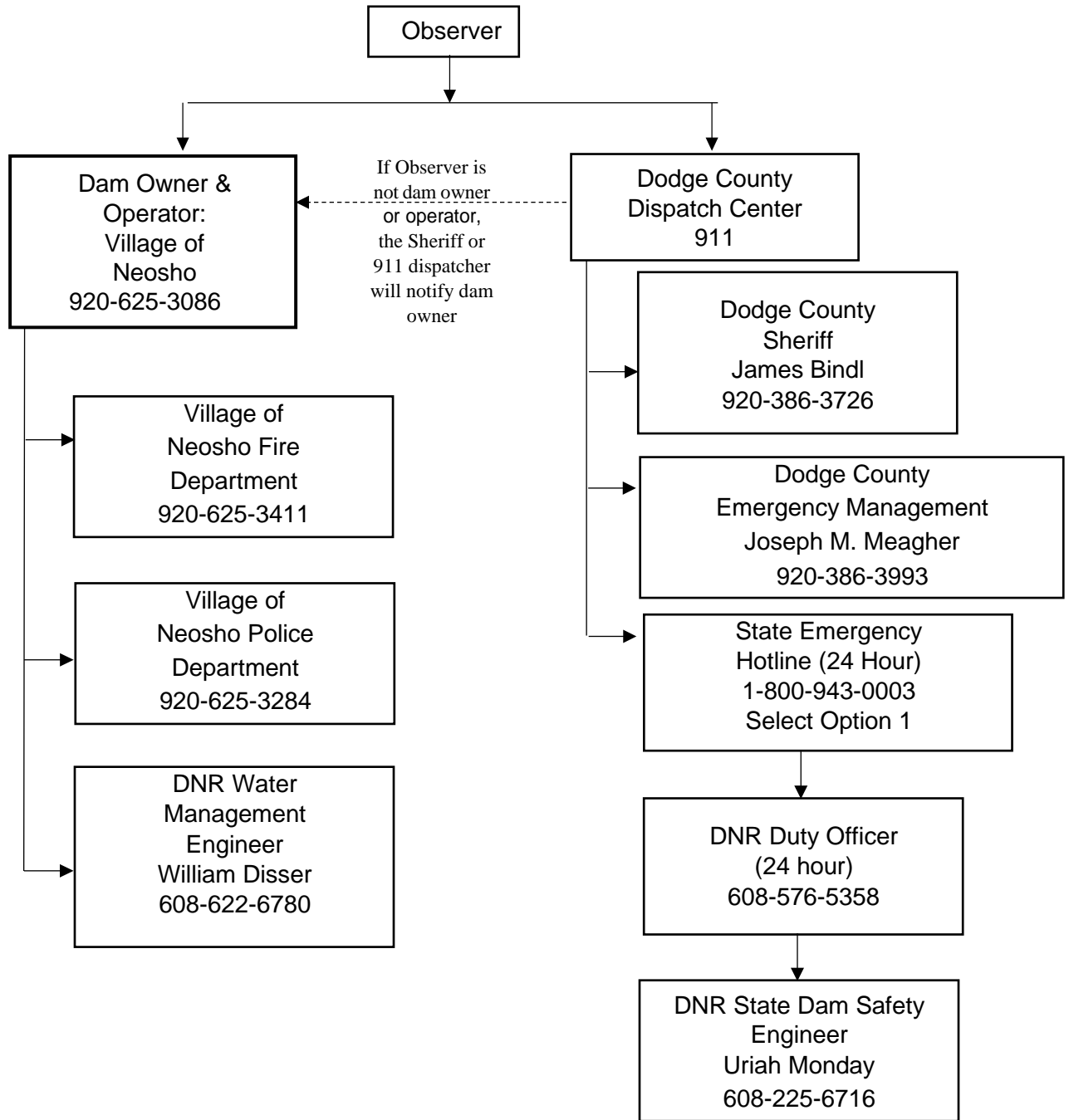
APPENDIX B: NOTIFICATION LISTS AND FLOWCHARTS

Contact Name	Address	Phone	Email
Dam Owner & Operator Village of Neosho	210 S. Schuyler Street Neosho, WI 53059	(920) 625-3086	neoshovillage@frontier.com
Dodge County			
Emergency Management Joseph M. Meagher, Director	124 West St. Juneau, WI 53039	(920) 386-3993	N/A
Sheriff James Bindl	124 West Street Juneau, WI 53039	(920) 386-3726	N/A
Highway Commission Brian R. Field, Commissioner	211 E. Center Street Juneau, WI 53039	(920) 386-3650	N/A
County Administrator Clint Langreck	124 West St. Juneau, WI 53039	(920) 386-4251	N/A
Village of Neosho			
President Chris Oldenhoff	210 S. Schuyler Street Neosho, WI 53059	(262) 709-6920	N/A
Village Clerk Deanna L. Boldrey	210 S. Schuyler Street Neosho, WI 53059	(920) 625-3086	N/A
Wisconsin Department of Natural Resources			
Water Management Engineer Will Disser Also see Appendix A	DNR Service Center 3911 Fish Hatchery Rd Fitchburg, WI 53711	(608) 622-6780	william.disser@wisconsin.gov
State Dam Safety Engineer Uriah Monday	101 S. Webster St. PO Box 7921 Madison, WI 53707	(608) 225-6716	uriah.monday@wisconsin.gov
State Warning Center(24hr)		(800) 943-0003 Select option 1	
National Weather Service	N2788 County Rd FA La Crosse, WI 54601	(608) 784-7294	w-arx.webmaster@noaa.gov

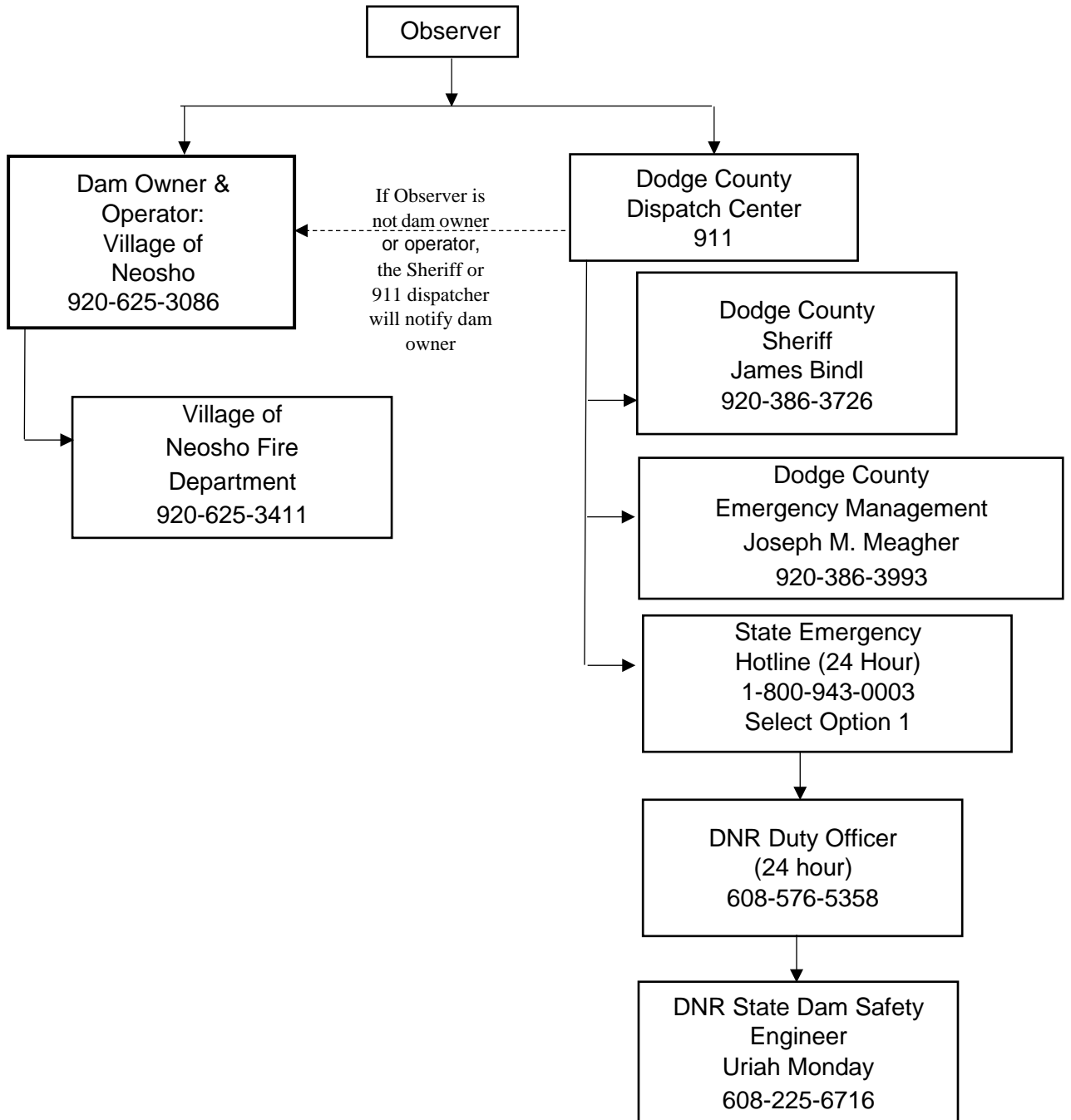
DOWNSTREAM/UPSTREAM RESIDENTIAL/BUSINESS CONTACT INFORMATION

Name	Physical Address Parcel ID	Contact Information	Critical Facility (Y/N)
Resident 1: NEOSHO FIRE DEPARTMENT	126 S SCHUYLER ST NEOSHO, WI 53059 PID: 161-1017-3011-010	126 S SCHUYLER ST NEOSHO, WI 53059 (920) 625-3411	Y
Resident 2: NEOSHO POLICE DEPARTMENT	210 S SCHUYLER ST NEOSHO, WI 53059 PID: 161-1017-3011-004	210 S SCHUYLER ST NEOSHO, WI 53059 (920) 625-3284	Y
Resident 3: CHRISTINE A ADAMS	247 MEADOW LN NEOSHO, WI 53059 PID: 161-1017-2033-009	247 MEADOW LN NEOSHO, WI 53059	N
Resident 4: BOEHNEN LAND LLC	211 N SCHUYLER ST NEOSHO, WI 53059 PID: 161-1017-2033-007	211 N SCHUYLER ST NEOSHO, WI 53059	N
Resident 5: NEOSHO MUSEUM INC	115 S SCHUYLER ST NEOSHO, WI 53059 PID: 161-1017-2922-064	115 S SCHUYLER ST NEOSHO, WI 53059	N
Resident 6: PATRICK T WHITE JUDITH WHITE	113 RUBICON ST NEOSHO, WI 53059 PID: 161-1017-2922-062	113 RUBICON ST NEOSHO, WI 53059	N
Resident 7: DAVID J & SUSAN J WERNER IRREVOC	225 MEADOW LN NEOSHO, WI 53059 PID: 161-1017-2033-016	225 MEADOW LN NEOSHO, WI 53059	N
Resident 8: JAMES R LOCK	219 N SCHUYLER ST NEOSHO, WI 53059 PID: 161-1017-2033-006	219 N SCHUYLER ST NEOSHO, WI 53059	N
Resident 9: MARK T SCHULTZ RONI L KLEIST	121 HALE RD NEOSHO, WI 53059 PID: 161-1017-3011-015	121 HALE RD NEOSHO, WI 53059	N

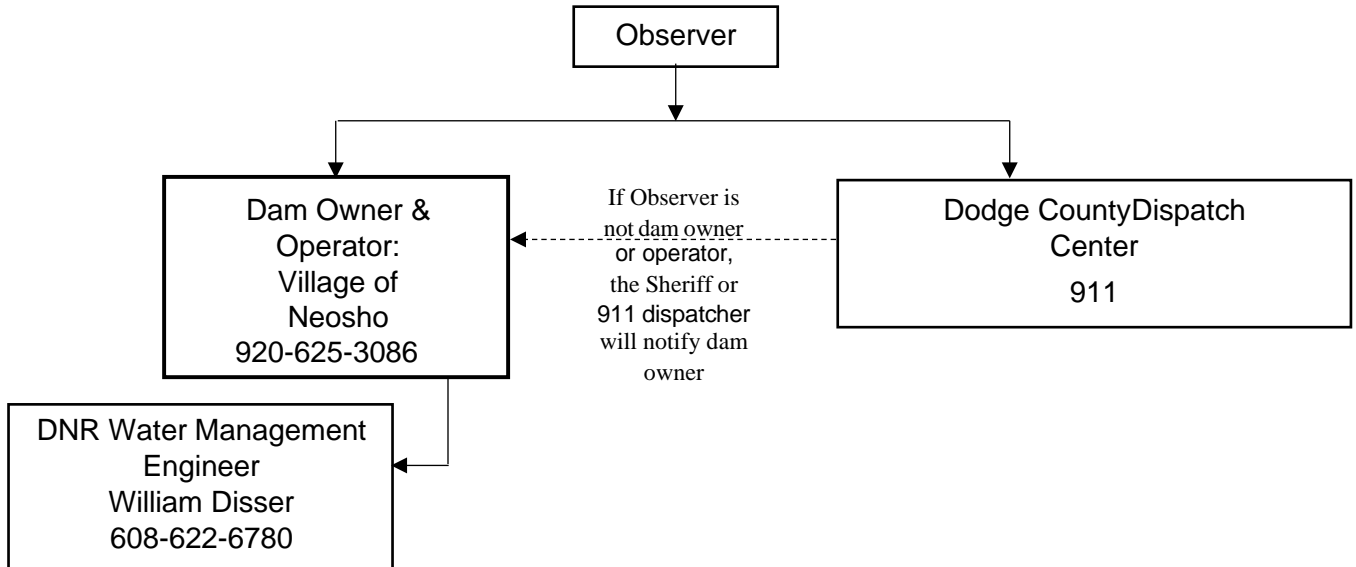
EMERGENCY LEVEL 1: FAILURE IMMINENT



EMERGENCY LEVEL 2: POTENTIAL FAILURE



EMERGENCY LEVEL 3: UNUSUAL INCIDENT



APPENDIX C: HYDRAULIC SHADOW MAP

DFA NOT COMPLETED AT THIS TIME

APPENDIX D: COMMUNICATION DOCUMENTATION CHART

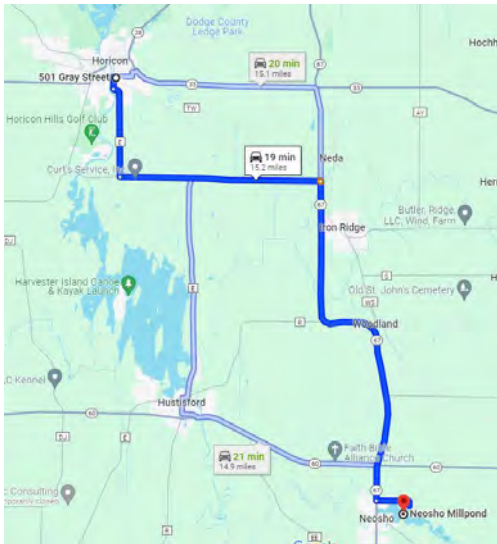
Date	Time	Person Contacted	Method of Contact	Reason for Contact

APPENDIX E: AVAILABLE RESOURCES

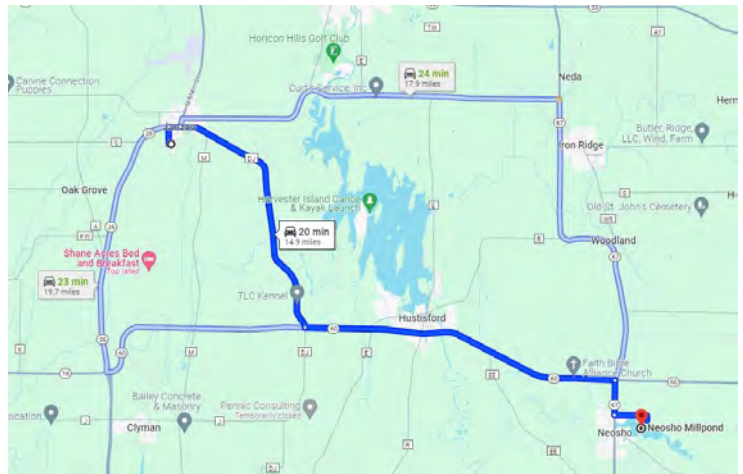
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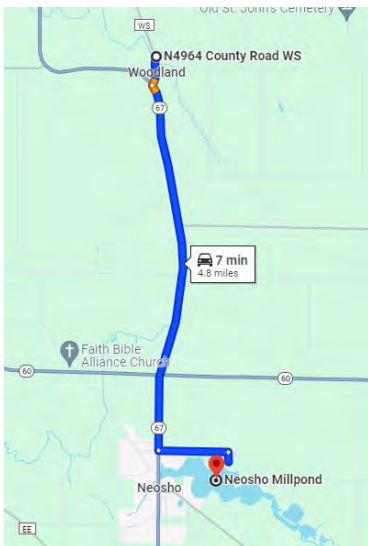
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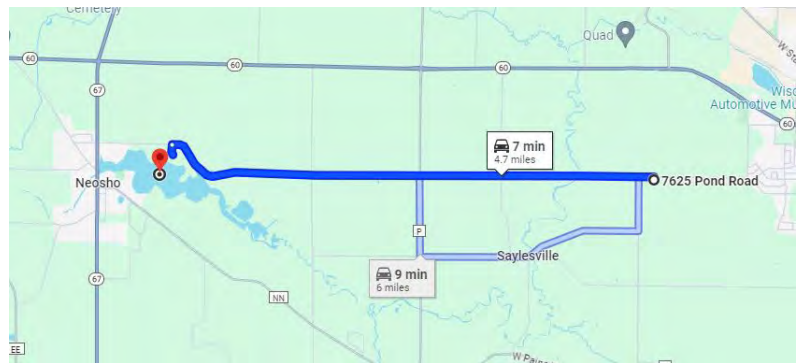
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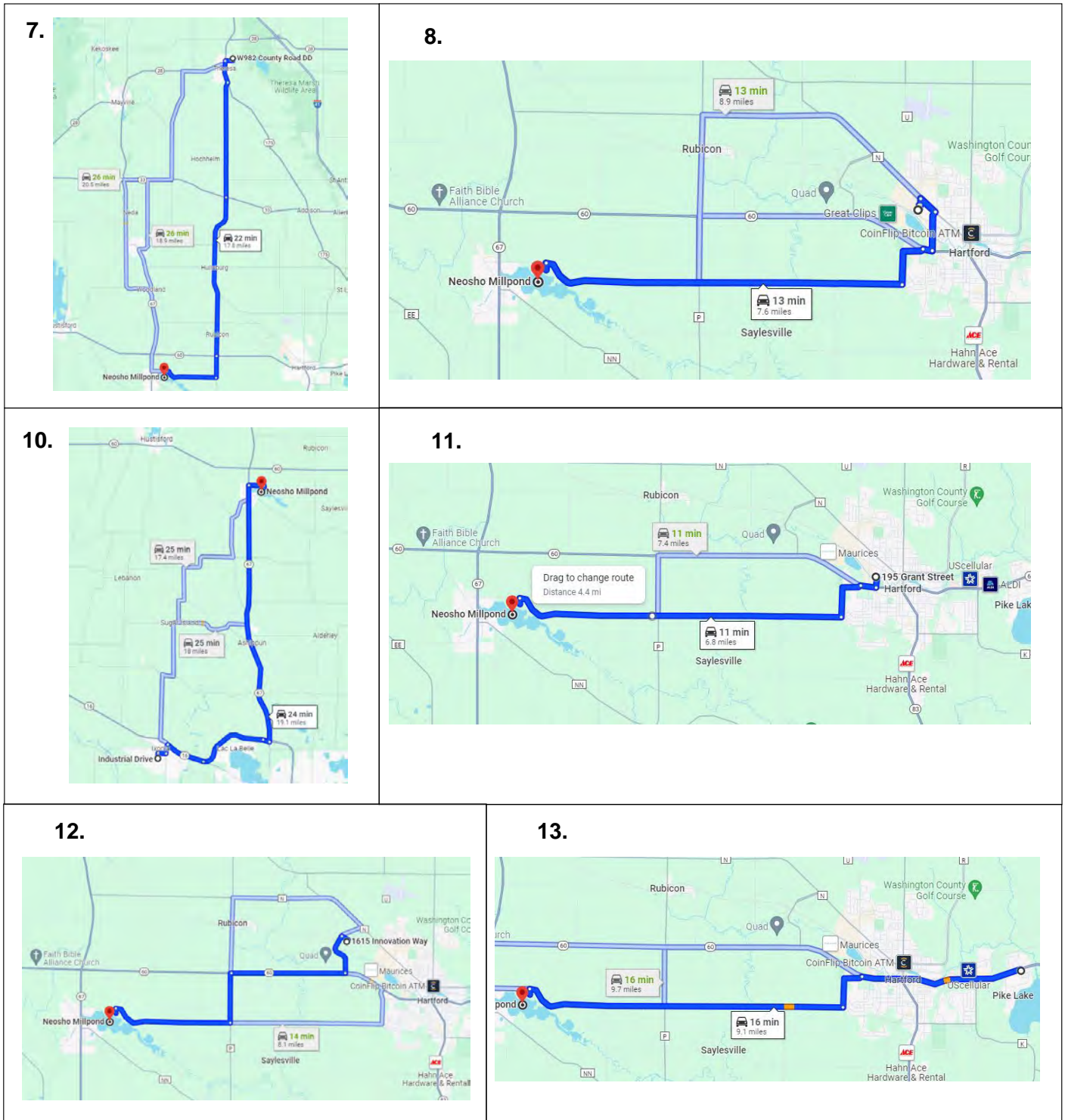
5.



6.



APPENDIX E: AVAILABLE RESOURCES MAP



APPENDIX E: AVAILABLE RESOURCES CHART

Available Resources Chart				
Resource	Provider/ Supplier Name	Address	Phone Number Email Address	Notes (e.g., equipment, estimated quantity)
1. Heavy equipment service and rental	Hahn Ace Hardware & Rental	2945 WI-83, Hartford, WI 53027	(262) 673-4225	
2. Transportation	Johnson School Bus Service	501 Gray Street, Horicon, WI 53032	(920) 485-2223	
3. Transportation	Lamers Bus Lines	548 South Fairfield Avenue Juneau, WI 53039	(920) 386-2200	
4. Transportation	Schulz Bus Services	700 Industrial Drive Juneau, WI 53039	(920) 349-8191	
5. Tree Service	Strobel's Tree Service	N4964 county Road WS Iron Ridge, WI 53035	(920) 625-3976	
6. Tree Service	Allar Unlimited	7625 Pond Road Hartford, WI 53027	(262) 673-6009	
7. Trucking & Hauling	Lackas Trucking	W982 Cty. Rd. DD Theresa, WI 53091	(920) 488-6632	
8. Trucking & Hauling	Laufer Trucking	955 Western Drive Hartford, WI 53027	(262) 673-6810	
9. Trucking & Hauling	Schultz Trucking	700 Industrial Road Hustford, WI 53034	(920) 349-8191	
10. Trucking	Spoerl Trucking	WI 307 Industrial Drive Ixonnia, WI 53036	(262) 560-0938	
11. Trucking	Time Trucking	195 Grant St Hartford, WI 53027	(262) 673-7876	
12. Trucking	Zeller Transportation & Logistics LLC	1615 Innovation Drive Hartford, WI 53027	(262) 673-5689	
13. Wrecker Towing	ASAP Towing	6119 State Road 60 Hartford, WI 53027	(262) 673-3351	

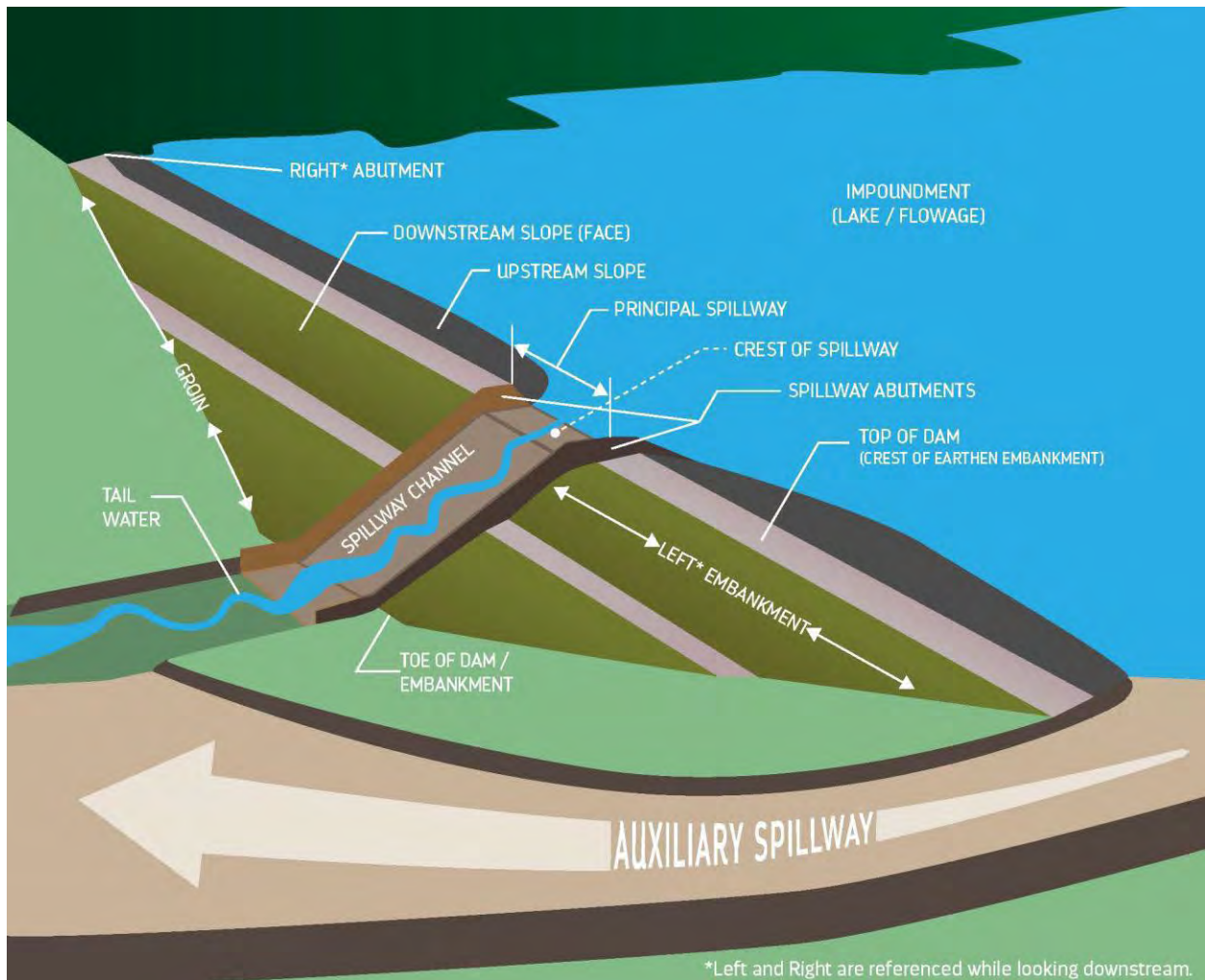
APPENDIX F: LIST OF EAP HOLDERS

Name	Address	Telephone Number Email Address
Robert J Roth, President	315 De Witt Street Portage, WI 53901	(608)697-5857 robert@rpsprofessionalsolutions.com

APPENDIX G: EAP UPDATE CHART

Date of Update	General Description of Update	Date Sent to EAP Holders

APPENDIX H: GLOSSARY OF TERMS



Abutment – That part of the valley side or concrete walls against which the dam is constructed. An artificial abutment is sometimes constructed where there is no suitable natural abutment. The wall between a spillway or gate structure and the embankment can also be referred to as an abutment. (Also see Spillway Abutment)

Alterations – Changes in the design or configuration of the dam that may affect the integrity or operation of the dam and thereby have a potential to affect the safety of persons, property, or natural resources. (Also see Reconstruction)

Appurtenant Works – Structures or machinery auxiliary to dams which are built for operation and maintenance purposes (e.g., outlet works, spillway, powerhouse, tunnels, etc.).

Auxiliary Spillway (Emergency Spillway) – A secondary spillway designed to operate only during large flood events; an auxiliary gate is a standby or reserve gate only used when the normal means to control water are not available or at capacity.

Boil – An upward disturbance in the surface layer of soil caused by water escaping under pressure from behind or under a dam or a levee. The boil may be accompanied by deposition of soil particles (usually silt) in the form of a ring around the area where the water escapes.

Breach – An opening or a breakthrough of a dam sometimes caused by rapid erosion of a section of earth embankment by water; dams can be breached intentionally to render them incapable of impounding water.

Capacity (Hydraulic Capacity) – Amount of water a dam can convey through designed spillway structures, typically expressed in cubic feet per second (cfs).

Conduit – Closed channel (e.g., pipe) to convey the discharge of water through or under a dam.

Core/Corewall – Vertical zone of material of low permeability (e.g., compacted clay) typically in the center of an embankment dam to prevent seepage.

Crest of Dam (Top of Dam) – The top of the dam not designed to flow water; also known as the top of dam.

Crest of Spillway – The top of the spillway where water flows over.

Cutoff Wall – A wall of impervious material (e.g., concrete, asphaltic concrete, steel sheet piling) built into the foundation to reduce seepage through the dam.

Dam – Artificial barrier built for impounding or diverting the flow of water; see NR 333.03(3).

Dam Failure Analysis (DFA) – Analysis completed by an engineer/consultant to estimate the downstream impact if the dam were to fail during a 100-year event; results of analysis used to assign hazard rating. (Also see Hydraulic Shadow Map)

Design Spillway Capacity – The largest storm event or flowrate that a given dam/project is designed to pass safely. The inflow hydrograph (graph showing how inflow to an impoundment changes over time) is used to estimate the amount of water that the spillway needs to convey and maximum water surface elevation of the impoundment.

Dike (Levee/Berm) – An embankment built to protect land from flooding; no water control structure present.

Drain, Layer, or Filter Blanket – A layer of pervious material in a dam to facilitate controlled drainage and reduce seepage velocities; includes toe drain, weepholes, chimney drains, etc.

Drainage Area – The area that drains naturally to a specified point on a river/stream.

Drawdown – Intentional lowering of water surface level due to a controlled release of water from an impoundment; maximum drawdown rate is typically no more than 6 inches per day.

Embankment – A constructed bank of material, commonly earth or rock, to hold back water.

Embankment Dam (Earth Dam/Earthfill Dam) – Any dam primarily constructed of excavated natural materials, usually earth or rock, with sloping sides and a designated water control structure.

Emergency Action Plan (EAP) – A predetermined plan of action to be taken to reduce the potential for property damage and loss of life associated with a dam emergency or failure; EAP includes details specific to each dam.

Energy Dissipater – Device constructed within or at the outlet of a spillway to reduce energy of fast-flowing water.

Engineer/Consultant – Licensed or registered professional engineer (PE) in a given state; offers experience and expertise in the design and inspection of dams.

Face – Upstream or downstream side slope of dam.

Failure – Incident resulting in an uncontrolled release of water from a dam.

Flashboards – Boards, often constructed of wood or steel, used for increasing the depth of water behind a dam that are designed to deploy (break away) at a designed height of water.

Foundation of Dam – Natural material on which the dam structure is placed.

Freeboard – Vertical distance between the upstream water level (headwater) and the top of a dam.

Gate – Device which can be operated across the waterway to control or stop the flow. Common types of gates include slide (sluice), split-leaf, crest, and tainter (radial).

Gravity Dam – Dam constructed of concrete and/or masonry that relies on its weight for stability.

Groin – Area along the contact (or intersection) of the face of a dam with the abutments.

Headwater – Water surface elevation of the impoundment on the upstream side of the dam.

Height of Dam (Structural Height) – Difference in elevation between the point of lowest elevation on the top of the dam before overtopping and the lowest elevation of the natural stream or lake bed at the downstream toe of the dam; see NR 333.03(24).

Hydraulic Height – Difference in elevation between the headwater and tailwater.

Hydraulic Shadow Map – Map delineating the area that would be inundated due to a dam failure during a 100-year flood event; see NR 333.03(8).

Impoundment (Pool/Lake/Reservoir) – Water held back by a dam; water on the upstream side of the dam.

Intake – Any structure in an impoundment which water can be drawn through the dam.

Maintenance – The upkeep necessary for efficient operation and safety of dam and appurtenance works; involves labor and materials but is not to be confused with alterations or repairs.

Ogee Spillway (Ogee Section) – A weir where the spillway crest, slope, and bottom form an "S" or ogee curve.

One percent (1%)/One Hundred Year (100-year)/Regional Flood The regional flood is based upon a statistical analysis of stream flow records available for the watershed or an analysis of rainfall or runoff characteristics in the watershed or both. In any given year, there is a 1% chance that the regional flood may occur or be exceeded.; see NR 333.03(23).

Operator – The owner, designated agent, or employee of the owner charged with overseeing and physically operating the dam.

Outlet – An opening through which water discharges from an impoundment.

Overtopping – Uncontrolled release of water over parts of the dam that are not designed to pass flow; overtopping does not necessarily mean that the dam has failed.

Owner – A person, or group of people (e.g., Lake District), utility, corporation who is responsible for operating, maintaining, and managing a dam.

Phreatic Surface – Upper surface of saturation in an embankment.

Piping – The progressive development of internal erosion by seepage; appears on the downstream side of the dam as a hole or seam where water containing soil particles is discharged.

Plunge Pool (Stilling Basin) – A natural or sometimes artificially created pool that dissipates the energy of free-flowing water.

Primary Spillway (Principal Spillway) – Main spillway designed to convey water during normal flows; see NR 333.03(16).

Reconstruction – Altering an existing dam in a way that affects its hydraulic capacity or structural integrity; see NR 333.03(22).

Repair – Activity to restore a dam to its approved design condition.

Riprap – Large stones placed to protect against wave action, ice action and scour.

Scarp – Nearly vertical, exposed earth surface created at the upper edge of a slide or a breach.

Seepage – Movement of water through the dam foundation, abutments, or embankment.

Slide – Movement of a mass of earth fill down a slope along the failure plane for a considerable distance. In embankments and abutments, this involves a surficial separation of a portion of the slope from the surrounding material.

Slump – A portion of earth embankment which moves downslope, often along a curved surface; sometimes happens suddenly, often with cracks developing.

Spillway – Structure over or through which flows are discharged. If the flow and level are controlled by gates it is considered a controlled spillway, but if the spillway crest is at a fixed elevation (and cannot be changed) it is considered an uncontrolled spillway.

Spillway Abutment – Wall between a spillway or gate structure and the embankment.

Spillway Channel – Channel conveying water from the impoundment to the river downstream.

Stop Log – Logs, timbers, steel beams, or concrete beams placed on top of each other with their ends held in channels/guides/brackets on each side of a channel or conduit; stop logs may be added or removed to raise or lower the impoundment water level.

Storage – Volume of water held behind a dam, typically expressed in units of acre-feet. Maximum storage capacity means the volume of water stored before overtopping occurs; see NR 333.03(11).

Tailwater – The level of water in the discharge channel immediately downstream of the dam.

Toe Drain – Drains installed at the toe of the dam to collect and convey seepage that occurs through embankment.

Toe of Dam (Toe of Embankment) – The junction of the downstream face of a dam with the ground surface, also referred to as the downstream toe. For an embankment dam, the junction of the upstream face with the ground surface is called the upstream toe.

Trash Rack –Metal or concrete bars located in the waterway across the upstream end of a conduit or spillway channel to prevent the entry of floating or submerged debris.

Valve – Device fitted to a conduit in which the closure member is either rotated or moved transversely or longitudinally in the waterway to control or stop the flow.

Weir –A barrier built across the width of a stream to raise the upstream water level; called a fixed-crest weir; when top is at a permanent elevation and cannot be moved up or down. Weirs can also be built across a stream, channel or discharge point to measure or gauge flow. Types of weirs include broad crested, sharp crested, ogee, and V-notched weirs.

2014

Neosho Village Dam Operation

Date: Time: Operator/s: Adjustment: Reason: Contacted Dodge County?
 (Inches - Up/Down) 920-386-3993 (Yes/No)

Date	Time	Operator/s	Adjustment (Inches - Up/Down)	Reason	Contacted Dodge County? 920-386-3993 (Yes/No)
4-14	11 AM	Mike D	↑ 2"		
4-15	11 AM	Mike D	↑ 2"		
4-16	16:00	Tom	CLOSED		
5-12	9:00 AM	OK Mike D	OK		
5-12	2:50 PM	Mike D	↑ 2"		
5-13	9:40 AM	Mike Duernbergh	↑ 2"		
5-16	8:10 AM	Mike D.	OK		
5-16	2:48 PM	Mike P	OK		
6-17	1:40 PM	Mike D	↑ 2"		
6-18	11:20 AM	Mike D	↑ 2"		
6-18	PM	Tom H.	↓		
6-18		Tom	↑		
6-19	10:00 A	Mike D.	CLOSED	Per Tom Held, phone conversation	
6-19	12:39 P	Mike D	↑	RAISE TO HIGHEST level	
6-19	1:45 P	Mike W.	—	Advised Amy @ Dodge Co. Emergency Mgmt. That dam was partially open	
6-19	3:15 P	Mike W.	—	Advised Tom of Lebanon That over-dam was partially open and water flow above normal.	

Neosho Village Dam Operation

Date: Time: Operator/s: Adjustment: Reason: Contacted Dodge County?
 (Inches - Up/Down) (Yes/No)

↓ ↑

Date	Time	Operator/s	Adjustment	Reason	Contacted Dodge County?
6-3-13	7:30 A	C. Mintzloff	↓ 2"	Water level to normal	No
6-4-13	6:00 A	C. Mintzloff	↓ 1" about	Water level drop 1/2" in 22h	N
6-4-13	1:30 PM	DUERNBERGER	2" ↓	Check Water Level	NO
6-13-13	7:15 PM	C. Mintzloff	↑ 6	recent rain level up 2"	N
6-15-13	8:00 AM	T. HELP	Closed	Level Leveling	N
6-16-13	10:50	C. Mintzloff	↑ 5"	water level rising 5" above normal	N
6-16-13	10:50	C. Mintzloff	N/A	Tried to grease bearings was unable to grease top bearing due to rust	N
6-16-13	↓	↓	↓	May need to replace ^{also clean} bearings that were hanging on top of dam gate from water passing over the top	
6-17-13	7:15	C. Mintzloff	↑ 2"	water level came up 2" over night	N
6-18-13	8:00	C. Mintzloff	↓ 5"	water after closing. closed to 1/2" of water just cresting over dam gate	N
6-18-13	8:35	C. Mintzloff	↑ 1 1/2	water level ↑ 1 1/2 from Am inspect	N
6-19-13	8:30	C. Mintzloff	↓ 2" from close	water level dropped 1" - 1/2 today	N
6-22-13	9:25	C. Mintzloff	↑ 5"	rain the before 24" water level up 4"	N
6-23-13	11:25	C. Mintzloff	↓ 5"	Level dropped down to normal	N
6-26-13	5:40	C. Mintzloff	↑ 2"	rain last 2 days level ↑ 3"	N
6-29-13	3:45	C. Mintzloff	↑ 3"	water level rising 5" above normal	N
6-30-13	8:00 PM	TOM HELP	Closed	Low water	
7-1-13	9:30 A	C. Mintzloff	↑ 3"	water level above normal 2"	N
7-1-13	3:30 PM	TOM HELP	Closed	Until Further Notice	

Level still up about

Neosho Village Dam Operation

~~Should~~ **Should have #**
(920) -
Contacted Dodge County?

Date: Time: Operator/s: Adjustment: Reason: Contacted Dodge County?
 (Inches - Up/Down) (Yes/No)



Date	Time	Operator/s	Adjustment	Reason	Contacted Dodge County?
4/9/2013	7:00 P.M.	M. Weynand	Approx. 6" ↑	Spring Thaw, Previous Rain/Upcoming Rain	Yes
4/10/2013	5:30 P.M.	M. Weynand	Gate Approx. 3/4 open	Previous + Upcoming Rain	Yes
4/11/2013	9:00 A.M.	M. Weynand	Gate 100% Open	Previous + Upcoming Rain	No
4-13-13	9:30 A	C. Mintzloff	↓ Approx. 3"	slow slowing drop rate	NO
4-17-13	4:50 P	C. Mintzloff	↑ Approx. 2"	already 2" high plus high rain fall	NO
4-19-13	7:15 A	C. Mintzloff	↑ Approx 3"	water level rising	NO
4-21-13	9:00 A	C. Mintzloff	↓ Approx 8"	water level dropping	NO
5-11-13	6:00 A	C. Mintzloff	↑ Approx 6"	rising water level due to rain	NO
5-12	7:00 A	C. Mintzloff	↓ Approx 6"	level lowering	✓
5-16	1:00 P	C. Mintzloff	closed	dam was stuck able to free closed completely and painted line (Red)	✓
5-19	6:00 P	C. Mintzloff	↑ 4"	water rising	✓
5-23	7:35 A	C. Mintzloff	↑ 6"	rain fall level rising	✓
5-23	6:15 P	C. Mintzloff	↑ 4"	rising level	✓
5-27	1:30 P	C. Mintzloff	↓ closed	low water level	✓
5-28	2:45 P	C. Mintzloff	↑ 4"	rain coming and rained today	✓
5-28	20:30	T. HELO	↓ 3"	Water leveling	✓
5-30	8:00 P	C. Mintzloff	↑ 5"	heaver rain fall and more coming	✓
5-31	12:30 P	C. Mintzloff	↓ 4"	water level coming down to normal	✓
6-1	15:00	T. HELO	close GATE	spillway getting low	✓
6-2	4:00 P	C. Mintzloff	↑ 4"	water level high closed to much	✓

due to run off from rain Fri pm to Sat AM

SECTION 6 – ATTACHMENTS
SUBSECTION IV.A.
VILLAGE DAM O&M BUDGETS

SUPPLEMENTARY DOCUMENT

SECTION 6 ATTACHMENT

ITEM IV.A - VILLAGE DAM, O&M BUDGET

IV.A. Do you have a dedicated fund or a special assessment district to cover maintenance and operations? If yes, provide supporting documentation.

This item has been checked [YES] in that the dam's maintenance and repair has been continuously funded in the Village's General Fund as evidenced in the Village's Budget Excerpts. We feel this meets the requirement in that the required maintenance and minor repairs called for in prior inspections, have all been completed with the exception of the subject repair/improvement as requested herein.

Referenced Document:

- 2024 Village Budget Excerpt Showing Dam Repair & Maintenance (Attached)

ROTH PROFESSIONAL SOLUTIONS



Robert J. Roth, PE

Licensed Civil Engineer, Municipal Engineer, Dam Engineer

2024 BUDGET			
Account Numbers	EXPENDITURES	2023 Budget	2024 Budget
	General Government & Admin.		
51100	Legislative		
52900	Other Public Safety		
52900-240	Dam Repair/Maintenance/Inspe	7,000.00	22,500.00
52900-340	Civil Defense Sirens	0.00	0.00
	Total	7,000.00	22,500.00



SECTION 6 – ATTACHMENTS
SUBSECTION V.A.
PUBLIC ACCESS/BOAT LANDING MAP

Woodlawn Park Pier

Woodlawn Park, Neosho



LEGEND:

-  = Pier
-  = Neosho Dam

SECTION 6 – ATTACHMENTS
SUBSECTION VI.B.
OCTOBER 17, 2023 INSPECTION REPORT

October 31, 2023

Village of Neosho
PO Box 178
Neosho, WI 53059

Re: Assessment of Recommended or Required Actions
Neosho Dam, Rubicon River

Dear Village of Neosho:

We completed our visual inspection/assessment of the dam facility as directed by the Village per our signed scope of work dated October 5, 2023. This inspection was completed on October 17, 2023.

Prior to that inspection, we requested WDNR information that was available on the dam. What was provided was a 1954 remodel plan (1 sheet), the 1994 dam repair plans (2 sheets) and the latest filed inspection report from 2021/2022. We reviewed this information.

We are aware a contractor was also asked to view the dam and assess the condition for the purpose of providing a repair estimate. They obtained pictures of which we also reviewed thoroughly before our inspection.

The dam is a multi-faceted hydraulic facility including a rock dam integrated with concrete, a radial (tainter) gate with operability from the bridge deck, a broad-crested weir and an overflow stop-log bypass into a concrete box culvert. The dam is positioned below a highway bridge. The majority of the dam is structurally disconnected from the bridge, except for the southern outward bridge abutment is also the constraint of the southern flow-way of the main dam. The northern bridge abutment is slightly offset north of the flow-way via an annular rip rap channel of approximately 15'.

The following is our short-form assessment:

Critical Item: Vibration. We witnessed continuous vibration emanating from the radial gate and extending around the gate into the supporting concrete constraints. This vibration is believed to be, in our opinion, created from the weir flow hydraulics of the radial gate. That is, the water being allowed to overflow the radial gate is weir flow that drops 6-7' to the concrete flume, but in the majority of flow conditions, it is cascading along the back girders of the gate, creating a water force upon the center of the girders. This force is believed to be creating a vibration on the radial pinned structure in suspension. The vibration is a major problem for older concrete, as evidenced from the excessive surficial spalling around the entire gate structure. This condition can be immediately remediated by raising the gate to cut-off the upper weir flow. High flows will require extensive monitoring to try to manage a potentially catastrophic situation upon the

gate, although it is likely that higher flows will not cascade downward as much as low flows. Alternate solutions include installing an upper metal plate attachment on the gate to disallow high flows over the gate, or installing a weir flow attachment to extend over the gate to preclude the possibility of water cascading downward onto the girders. All temporary options mentioned herein will alter the hydraulics that were likely included in the design and could potentially alter downstream expectations for the operation of the dam.

Critical Item: Structural Deficiencies Evident in Gate Supporting Concrete. The inspection revealed key structural deficiencies in the supporting concrete at the trunnion. See below pictures:



North Trunnion Condition, Delamination & Structural Deficiencies



South Trunnion and Structural Deficiencies



South Trunnion Structural / Radial Cracking

The conditions shown above are of a nature that, when combined with the vibrations and continued advanced state of concrete disrepair, conditions will advance rapidly and place the structure in a watch condition. For example, the cracking shown above



does not appear and is not mentioned in the prior 2021 inspection report. In just 2 years, we have seen substantial deterioration. This is a certainty to continue, but at more advanced rates due to the delamination of the concrete surface even if the vibration addressed.

Critical Item: Radial (Tainter) Gate Metal Condition. The surface condition of the gate is substantially deteriorated and placing the metal in a further exposed situation. With all things considered, it is likely necessary for the gate to be evaluated in a hydraulic review to confirm sizing and structural configuration. If after this evaluation, the gate can be kept in its current sizing, it is our belief that the gate can still be salvaged but it will be required to be taken offline and fully inspected for further direction on the most appropriate metal and structural repairs.

Item(s): Various Concrete Cracking. We observed several minor concrete deficiencies in various areas including on both concrete broad-crested weirs, corner or edge concrete erosion at the roller block, and corner or edge concrete erosion at the south vertical terminus of the south weir which is also the south bridge abutment. These can likely be repaired using traditional concrete repair methods. We also consider the surficial concrete delamination and spalling at the surface near the radial gate supports to be of a lesser nature than the critical areas mentioned above, but this condition may be integrated with more elaborate structural repairs for a more full-featured repair effort.

Item: Add a Radial Gate Opening Measurement Gauge. This can help with more precise gate operations, moreso for low-flow control. It is typically installed above the gate on the concrete wall on at least one side of the gate. It may help to find a recordable “sweet spot” in a gate level that doesn’t produce ordinary vibrations. It may also help to defend dam gate operations where downstream concerns are present.

Item: Bypass Stop Log & Inlet Condition. Although not integral to the main dam components, the bypass may function to lower water level and to provide secondary outlet flow. However, the inlet area of the stoplog system is substantially deteriorated. See below photos:





The stop logs are significantly bowed and the entrance concrete is deteriorated, possibly beyond repair. There are many areas of exposed rebar wherever there is an exposed concrete surface. From a visual inspection, the extent of the repair is limited to the inlet area, but the condition is advancing to become a structural roadway issue. A loss of the stoplog system would likely drain the lake at least in part.

Actions: The assessment and scope of work identified herein are recommended with priority importance. Short-term modifications to the radial gate, perhaps in only operations/settings, are recommended to occur as immediate as possible given all rules and regulations including notifications, if required. Gate refurbishment and concrete repair/replacement are the major work-scope items for the main dam and possibly the bypass facility. All modifications need to be done in accordance with the appropriate rules and regulations, and we also add the caveat that all capital improvements should be completed in accordance with possible WDNR Municipal Dam Grant Funding should that funding and this potential application be considered. Timing on grant matters is also of immediate importance if the work is to be funded in this biennium (March 2024 application deadline). Given the outstanding condition of the DFA (dam failure analysis) for this dam, it is also recommended that this item be completed along the earliest allowable timeframe as it will be a key feature of any dam improvement plan.

Respectfully Submitted,

ROTH PROFESSIONAL SOLUTIONS

Robert J. Roth, PE, President
Dam Engineer, Municipal Engineer, Civil Engineer

cc: Liz Desmore, Dam Committee Liaison

