

## CONSTRUCTION DOCUMENTS PROJECT MANUAL

DANE COUNTY DEPARTMENT OF PUBLIC WORKS,  
HIGHWAY AND TRANSPORTATION

PUBLIC WORKS  
ENGINEERING DIVISION  
1919 ALLIANT ENERGY CENTER WAY  
MADISON, WISCONSIN 53713

### REQUEST FOR PROPOSALS NO. 108040

## ENGINEERING SERVICES FOR BABCOCK & TENNEY DAM FAILURE ANALYSIS, STABILITY ANALYSIS, PERMANENT BENCHMARKS AND AN EMERGENCY ACTION PLAN

### DANE COUNTY PUBLIC WORKS MADISON, WISCONSIN

Opening Date: **THURSDAY, MARCH 20, 2008**

Bid Bond: **NONE**

Time: **2:00 P.M.**

Performance / Payment Bond: **NONE**

Location: **DANE COUNTY PUBLIC WORKS  
1919 ALLIANT ENERGY CENTER WAY  
MADISON, WI 53713**

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FOR INFORMATION ON THIS REQUEST FOR BIDS, PLEASE CONTACT:

JOHN SCHRAUFNAGEL, PROJECT ENGINEER  
DANE COUNTY DEPARTMENT OF PUBLIC WORKS,  
HIGHWAY & TRANSPORTATION  
1919 ALLIANT ENERGY CENTER WAY  
MADISON, WISCONSIN 53713  
TELEPHONE NO.: 608/266-4798  
FAX NO.: 608/267-1533  
E-MAIL: SCHRAUFNAGEL@CO.DANE.WI.US



County Executive  
Kathleen M. Falk

# DANE COUNTY DEPARTMENT of PUBLIC WORKS, HIGHWAY and TRANSPORTATION

1919 Alliant Energy Center Way ♦ Madison, Wisconsin 53713  
Phone: (608) 266-4018 ♦ Fax: (608) 267-1533

Commissioner / Director  
Gerald J. Mandli

February 25, 2008

## INVITATION FOR PROPOSALS

You are invited to submit a Proposal for RFP No. 108040 to provide professional Engineering Services for Babcock & Tenney Dam Failure Analysis, Stability Analysis, Permanent Benchmarks and an Emergency Action Plan for the Dane County Department of Public Works. The Proposals are due on or before **2:00 PM, Thursday, March 20, 2008**. No proposal bond or performance bond is required for this project.

## SPECIAL INSTRUCTIONS

Please be sure to include three bound copies of your proposal package. To submit your proposal, please follow these instructions:

1. Place Proposal information in order and including all items per section C. Proposal Submission in the Supplemental Conditions.
2. Submit all in 8-1/2" x 11" binder and clearly label your envelope containing your proposal in the lower left-hand corner as follows:  
"Proposal No. 108040  
Engineering Services for Babcock & Tenney Dam Failure Analysis, Stability Analysis,  
Permanent Benchmarks and an Emergency Action Plan  
2:00 PM, Thursday, March 20, 2008"
3. Mail or return to:  
John Schraufnagel, Project Engineer  
Dane County Department of Public Works, Highway & Transportation  
1919 Alliant Energy Center Way  
Madison, Wisconsin 53713

If any additional information about this Request for Proposals is needed, please contact John Schraufnagel at 608/266-4798 or [schraufnagel@co.dane.wi.us](mailto:schraufnagel@co.dane.wi.us).

Sincerely,

*John Schraufnagel*  
Project Engineer

Encl.: Request for Proposals No. 108040 Package

## **DOCUMENT INDEX FOR RFP NO. 108040**

### **PROPOSAL REQUIREMENTS**

- Cover Page
- Cover Letter
- Documents Index and Dane County Vendor Registration Program
- Invitation to Propose (Legal Notice)
- Signature Page
- Requested Services and Business Information
- Sample Agreement for Professional Services
- Supplementary Conditions
  - Qualifications and Eligibility Requirements
  - Pricing
  - Proposal Submission
  - Evaluation Criteria
- Scope of Work
- WI DNR Lake Mendota Dam Safety Inspection Report Field File
- WI DNR Lake Waubesa Dam Hazard Rating Field File

### **DANE COUNTY VENDOR REGISTRATION PROGRAM**

All bidders / proposers wishing to submit a bid / proposal should be registered with Dane County Purchasing before bid / proposal opening & must be registered before award of contract. Complete a Vendor Registration Form at [www.danepurchasing.com](http://www.danepurchasing.com), or obtain one by calling 608/266-4131.

**LEGAL NOTICE**

**REQUEST FOR PROPOSAL**

Dane County Public Works, Highway & Transportation Dept., 1919 Alliant Energy Center Way, Madison, WI 53713, will receive sealed Proposals until:

**2:00 P.M., THURSDAY, MARCH 20, 2008**

**REQUEST FOR PROPOSALS NO. 108040**

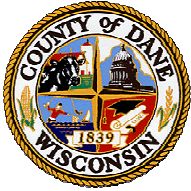
**ENGINEERING SERVICES FOR BABCOCK & TENNEY DAM FAILURE ANALYSIS,  
STABILITY ANALYSIS, PERMANENT BENCHMARKS AND AN EMERGENCY  
ACTION PLAN**

Dane County is inviting Proposals for engineering services. Only firms with capabilities, experience & expertise with similar projects should request this packet & submit Proposals.

Request for Proposals package may be obtained after **2:00 p.m. on Monday, February 25, 2008** at Dane County Public Works, Highway & Transportation Dept., 1919 Alliant Energy Center Way, Madison, WI 53713, by calling 608-266-4018, or downloading it from [www.countyofdane.com/pwht/bid](http://www.countyofdane.com/pwht/bid). Please call John Schraufnagel, Project Engineer, at 608-266-4798, for any questions or additional information.

All Proposers wishing to submit Proposals should be registered with Dane County Purchasing before proposal opening & must be registered before award of contract. Complete Vendor Registration Form at [www.danepurchasing.com](http://www.danepurchasing.com) or obtain one by calling 608/266-4131.

**PUBLISH: FEBRUARY 25 & MARCH 3, 2008 - WISCONSIN STATE JOURNAL  
FEBRUARY 25 & MARCH 3, 2008 - WESTERN BUILDER**



**SIGNATURE PAGE**

**County of Dane**  
 DEPARTMENT OF ADMINISTRATION  
**PURCHASING DIVISION**  
 Room 425, City-County Building  
 210 Martin Luther King, Jr. Blvd.  
 Madison, Wisconsin 53703  
 (608) 266-4131

<b>COMMODITY / SERVICE: Engineering Services for Babcock &amp; Tenney Dam Failure Analysis, Stability Analysis, Permanent Benchmarks and an Emergency Action Plan</b>			
REQUEST FOR PROPOSAL NO.: 108040	PROPOSAL OPENING DATE: 3/20/08	BID BOND: N/A	PERFORMANCE BOND: N/A
<b>PROPOSAL INVALID WITHOUT SIGNATURE</b>			
THE UNDERSIGNED, SUBMITTING THIS PROPOSAL, HEREBY AGREES WITH ALL TERMS, CONDITIONS AND REQUIREMENTS OF THE ABOVE REFERENCED REQUEST FOR PROPOSAL, AND DECLARES THAT THE ATTACHED PROPOSAL AND PRICING ARE IN CONFORMITY THEREWITH.			
SIGNATURE OF PROPOSER REQUIRED: (Do Not Type or Print)		DATE:	
SUBMITTED BY: (Typed Name)		TELEPHONE: (Include Area Code)	
COMPANY NAME:			
ADDRESS: (Street, City, State, Zip Code)			

**CONTRACT COMPLIANCE PROGRAM WORKSHEET**

- A. Dane County has an established Contract Compliance Program that encourages targeted groups identified below to do business with Dane County, and requires Dane County to actively solicit bids from these businesses.
- B. Information from your response to this worksheet will be entered in the Purchasing Division's Advanced Procurement Systems database to provide data that will be valuable to Dane County's Contract Compliance Program as well as establishing computerized bidder lists for future solicitations. All vendors will be added to the database whether or not they qualify as a targeted business.
- C. **Contract Compliance Program:** Following are abbreviated definitions of ethnic and group codes used by Contract Compliance Program. See reverse side for full definitions:
  - 1. DBE Disadvantaged Business Enterprise
  - 2. MBE Minority Business Enterprise
  - 3. WBE Women Business Enterprise
  - 4. ESB Emerging Small Business
- D. Please select category / categories that best describe your business by marking letter for each column in box provided at bottom of column:

<b>D</b>	DBE	<b>B</b>	African American	<b>L</b>	Male	<b>E</b>	ESB
<b>M</b>	MBE	<b>H</b>	Hispanic American	<b>F</b>	Female		
<b>W</b>	WBE	<b>N</b>	Native American / American Indian				
		<b>A</b>	Asian Pacific American				
		<b>I</b>	Asian-Indian American				
↓		↓		↓		↓	
<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	

- E. I hereby certify that all of the above information given is true. If no category / categories are marked, I do not meet the requirements for any of the targeted groups.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## DANE COUNTY CONTRACT COMPLIANCE PROGRAM DEFINITIONS

- A. **Disadvantaged Business Enterprise (DBE):** A small business concern:
1. Which is at least fifty-one percent (51%) owned by one or more socially and economically disadvantaged individuals, or in the case of any publicly owned business, at least fifty-one percent (51%) of the stock of which is owned by one or more socially and economically disadvantaged individuals; and
  2. Whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.
  3. Socially and Economically Disadvantaged Individuals:
    - a) Any person having a current Section 8 (a) Certification from the Small Business Administration is considered socially and economically disadvantaged.
    - b) Individuals who are citizens of the United States (of lawfully permanent residents) are socially and economically disadvantaged:
      - 1) Women;
      - 2) Black Americans, which includes persons having origins in any of the black racial groups of Africa;
      - 3) Hispanic Americans, which includes persons of Mexican, Puerto Rican, Cuban, Central, or South American, or other Spanish or Portuguese culture or origin, regardless of race;
      - 4) Native Americans, which includes persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians;
      - 5) Asian-Pacific Americans, which includes persons whose origins are from Burma, Thailand, Malaysian, Indonesia, Singapore, Brunei, Japan, China, Taiwan, Laos, Cambodia, the Philippines, Samoa, Guam, the U.S. Trust territories of the Pacific Islands (Republic of Palau), Republic of the Marshall Islands, Federated States of Micronesia, or the Commonwealth of the Northern Mariana Islands; and
      - 6) Asian-Indian Americans, which includes persons whose origins are from India, Pakistan, Bangladesh, Sri Lanka, Bhutan, the Maldives Islands, or Nepal.
- B. **Minority Business Enterprise (MBE):** A minority person(s) owned and controlled independent and valid business concern. A minority person(s) must own fifty-one percent (51%) of the business and must control the management daily operation of the business.
- C. **Women Owned Enterprise (WBE):** A woman or women owned and controlled independent and valid business concern. A woman or women must own fifty-one percent (51%) of the business and must control the management daily operation of the business.
- D. **Emerging Small Business (ESB):**
1. An independent business concern that has been in business for at least one (1) year.
  2. Business is located in the State of Wisconsin.
  3. Business is comprised of less than twenty-five (25) employees.
  4. Business must not have gross sales in excess of three million over the past three (3) years.
  5. Business does not have a history of failing to complete projects.

**REQUESTED SERVICES AND BUSINESS INFORMATION**

- A. Dane County is inviting proposals for professional Engineering Services for Babcock & Tenney Dam Failure Analysis, Stability Analysis, Permanent Benchmarks and an Emergency Action Plan.
- B. Services that will be included in a Professional Services Agreement are as follows:
  - 1. Detailed cost estimates.
  - 2. Preparation of final analysis for Dane County review, input and changes.
  - 3. Preparation of Construction Documents for bidding (including working drawings and specifications of all building site, architectural, structural, mechanical, electrical, controls, and security).
  - 4. Construction inspection and administration and construction meetings (two/month) including construction meeting minutes.
  - 5. Process construction documents such as pay requests, change orders and shop drawings.
  - 6. Approve material submittals.
  - 7. Coordinate Work with Dane County Public Works Project Engineer.
  - 8. Estimates, specifications, design, locating, bidding and construction management of the site utilities and other services as may be needed.
  - 9. Obtain all necessary registrations, licenses, occupancy permits, certificates of inspection reports, or other administrative work from any governmental or organizational agency, in order to enable full performance of the terms of this Agreement.
- C. Listed below are specific and estimated dates and times of events related to this RFP. The events with specific dates must be completed as indicated unless otherwise changed by Dane County. In the event that Dane County finds it necessary to change any of the specific dates and times in the calendar of events listed below, it will do so by issuing an addendum to this RFP. There may or may not be a formal notification issued for changes in the estimated dates and times.

<u>DATE</u>	<u>EVENT</u>
February 25, 2008	RFP issued
March 20, 2008 @ 2:00 p.m.	Proposals due
March 24, 2008 (estimated)	Notification of intent to award sent out
April 3, 2008 (estimated)	Signed Contract
May 26, 2008 (estimated)	Phase I Study Completion
May 26, 2008 (estimated)	Phase II Start Date
June 1, 2008	Emergency Action Plan and Embankment Repairs Completion Date
December 1, 2008	Inspection, Operation, and Management Plan and Permanent Benchmarks Completion Date
December 1, 2009	Facility Analyses Completion Date

- D. Dane County Public Works, Highway and Transportation, 1919 Alliant Energy Center Way, Madison, Wisconsin 53713, will receive your Proposal.

- E. Information regarding this project may be obtained from John Schraufnagel - Public Works Project Engineer, 608/266-4798 or schraufnagel@co.dane.wi.us.
- F. If RFP documents are obtained from the Dane County web site, proposing company is responsible to check back regularly at the web site for Addenda.
- G. **All Proposals must be submitted by 2:00 P.M., Thursday, March 20, 2008.**
- H. Dane County reserves the right to accept or reject any Proposal submitted.
- I. Information submitted by consultants will be reviewed and candidates may be scheduled to appear before an interview panel. Those appearing for an interview shall be prepared to discuss their approach for the design of this Work, a timetable and the basis of their fee schedule.
- J. Dane County reserves the right to negotiate an Agreement after the successful firm is selected. Selection will be based only on the proposal submitted and subsequent interviews. Therefore, the proposals must be complete. Submission of a proposal shall constitute a valid offer, which may be accepted by the County for a period of ninety (90) days following the proposal opening.
- K. Dane County is an Equal Opportunity Employer.



**AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES FOR BABCOCK & TENNEY DAM FAILURE ANALYSIS, STABILITY ANALYSIS, PERMANENT BENCHMARKS AND AN EMERGENCY ACTION PLAN IN MADISON, WISCONSIN**

**RFP NO. 108040**

**THIS AGREEMENT**, made and entered into as of date by which authorized representatives of both parties have affixed their signatures, is by and between County of Dane (hereafter referred to as “OWNER”) and Consultant Company Name (hereafter, “ENGINEER”).

**WHEREAS**, OWNER intends to analyze and make improvements to the Lake Waubesa Dam and the Lake Mendota Dam, Madison, WI; and

**WHEREAS**, OWNER desires to enter into an Agreement with ENGINEER for provision of ENGINEER’S services;

**NOW, THEREFORE**, in consideration of above recitals and mutual covenants of parties, receipt and sufficiency of which is acknowledged by each party for itself, parties do agree as follows:

**SAMPLE**

**ARTICLE 1**

**ENGINEER’S SERVICES**

**BASIC SERVICES**

(1) ENGINEER’S Basic Services with respect to the Dane County Babcock & Tenney Dam Analyses (hereinafter, “the Project”) shall be as set forth in the WI DNR Field Files and throughout this request. Schedule A will be specific consultant responsibilities and work to be accomplished per mutual agreement and will be added to these contract. Schedule B will detail financial terms and will also be part of this contract. Costs for necessary testing services, including lab work, soil corings, compaction testing, and concrete testing shall be in contract amount, and Owner shall not incur additional costs for these expenses. ENGINEER shall supervise such testing.

## **PHASE I**

### **A. STUDY**

(2) ENGINEER shall obtain from OWNER information and materials necessary to ascertain scope of the Project and shall verify with OWNER program and functional requirements of the Project.

(3) Based on information, materials and requirements as verified by OWNER, ENGINEER shall prepare: 1) Summary Report; and 2) Study consisting of text, drawings and other documents illustrating scale and relationship of the Project components. Draft version of Study shall be submitted to OWNER for review, modifications and written approval before submitting Final version.

(4) ENGINEER shall submit to OWNER in Summary Report and Study construction cost estimate based on information provided by OWNER and gathered by ENGINEER for Final version of Study.

(5) ENGINEER shall not be responsible for providing services not included in this Agreement and not customarily furnished in accordance with generally accepted engineering practices.

## **PHASE II**

### **A. DESIGN DEVELOPMENT PHASE**

(6) Based on approved Schematic Design Documents, ENGINEER shall prepare Design Development Documents consisting of drawings and other documents to fix and describe size and character of the Project as to specifications, details, materials, components, equipment and systems, including site, utility, structural, mechanical, electrical, plumbing, controls, security, telecommunications, well and waste treatment systems. Design Development Documents shall be submitted to OWNER for written Approval.

(7) ENGINEER shall submit to OWNER revised construction cost estimate.

## **B. CONSTRUCTION DOCUMENTS**

(8) Based on approved Design Development Documents, ENGINEER shall prepare Drawings and Specifications setting forth in detail requirements for bidding and constructing the Project, including necessary bidding information. OWNER shall prepare necessary invitation and instructions to bidders, bidding forms, form of Contract between OWNER and Contractor, Conditions of Contract, and Supplementary Conditions. Drawings, Specifications and other documents prepared under this Construction Document Phase shall be submitted to OWNER for written Approval.

(9) ENGINEER shall advise OWNER of any adjustments to previously submitted construction cost estimate indicated by changes in requirements or general market conditions, and shall obtain OWNER'S written approval of any such changes.

(10) ENGINEER shall submit construction related documents requiring approval of governmental authorities having jurisdiction over the Project.

## **C. BIDDING OR NEGOTIATION**

(11) Following OWNER'S approval of documents prepared under Construction Documents Phase and latest construction cost estimate, ENGINEER shall assist OWNER in obtaining bids or negotiated proposals, and in awarding and preparing construction contracts.

## **D. CONSTRUCTION PHASE**

(12) Construction Phase shall commence with award of Construction Contract and shall terminate when OWNER accepts the Project.

(13) ENGINEER shall provide administration of Construction Contract and will report deviations from Drawings and Specifications discovered as result of inspection visits called for in Schedule A.

(14) ENGINEER, as representative of OWNER during Construction Phase, shall advise and consult with OWNER and all of OWNER'S instructions to Contractor shall be issued

through ENGINEER. ENGINEER shall have authority to act on behalf of OWNER to extent provided in this Agreement unless otherwise modified in writing.

(15) ENGINEER shall at all times have access to the Project and work thereon. Give consideration and attention to residents' and contractors' needs and surrounding environment and work accordingly. Coordinate concerns or questions about residents' and/or contractors' needs and surrounding environment with Facility Manager or Public Works Project Engineer.

(16) ENGINEER shall endeavor to protect OWNER against defects and deficiencies in work of Contractor. ENGINEER shall not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Project.

(17) Based on site observations and on Contractor's Application & Certificate for Payment, ENGINEER shall determine amount owed to Contractor and shall certify such amounts. Certifying of Application & Certificate for Payment shall constitute representation by ENGINEER to OWNER, based on ENGINEER'S site observations and data comprising Application & Certificate for Payment, that work has progressed to point indicated; that to ENGINEER'S best knowledge, information and belief, quality of work is in accordance with Construction Documents (subject to evaluation of work for conformance with Construction Documents upon substantial completion, to results of any subsequent tests required by Construction Documents, to minor deviations from Construction Documents correctable prior to completion, and to any specific qualifications stated in Application & Certificate for Payment); and that Contractor is entitled to payment in amount certified. By certifying Application & Certificate for Payment, ENGINEER shall not be deemed to represent that ENGINEER has made any examination to ascertain how and for what purpose Contractor has used money paid on account of contract sum.

(18) ENGINEER shall be, in first instance, interpreter of requirements of Construction Documents and shall make recommendations on all claims of OWNER or Contractor relating to execution and progress of the Project and on all other matters or questions relating thereto.

ENGINEER'S decisions in matters relating to artistic effect shall be final if consistent with intent of Construction Documents.

(19) ENGINEER shall have authority to reject work that does not conform to Construction Documents. Whenever, in ENGINEER'S reasonable opinion, ENGINEER considers it necessary or advisable to insure proper implementation of intent of Construction Documents, ENGINEER will have authority to require reasonable number of inspections or testing of any work in accordance with provisions of Construction Documents whether or not such work be then fabricated, installed or completed.

(20) ENGINEER shall review and approve shop drawings, samples, and other submissions of Contractor for conformance with design concept of the Project and for compliance with Drawings and Specifications.

(21) ENGINEER shall prepare information for Change Orders and submit to OWNER for approval and publication.

(22) ENGINEER shall conduct inspections to determine progress for payment, substantial completion and final completion. They shall receive and review written guarantees and related documents assembled by Contractor, for OWNER'S permanent record, and shall certify final Application & Certificate for Payment.

(23) ENGINEER shall not be responsible for acts or omissions of Contractor, or any Subcontractors, or any of Contractor's or Subcontractor's agents or employees, or any other persons performing any of the Project.

(24) ENGINEER shall not be responsible for making investigations involving detailed appraisals and evaluations of existing facilities, and surveys or inventories required in connection with construction performed by OWNER.

(25) ENGINEER shall not be responsible for providing consultation concerning replacement of any work damaged by fire or other cause during construction, and furnishing professional services of type set forth under Basic Services section under Article 1 as may be required in connection with replacement of such work.

(26) ENGINEER shall not be responsible for providing professional services made necessary by default of Contractor or by major defects in work of Contractor in performance of Construction Contract.

(27) ENGINEER shall not be responsible for preparing to serve or serving as expert witness in connection with any public hearing, arbitration proceeding or legal proceeding.

(28) ENGINEER shall provide usual and customary services of architectural and engineering consultants for design and engineering of site, architectural, structural, mechanical, electrical, plumbing, controls, security, telecommunications, well, and waste treatment systems included in the Project.

**E. START-UP / TROUBLESHOOTING PHASE**

(29) ENGINEER shall provide necessary assistance and expertise in initial start-up, testing, adjusting and balancing, and troubleshooting of any equipment or system.

(30) ENGINEER shall provide necessary assistance and expertise in preparation of operation and maintenance manuals, and training personnel for operation and maintenance.

SAMPLE

**ARTICLE 2**

**OWNER'S RESPONSIBILITIES**

(1) OWNER shall provide full information regarding requirements for the Project.

(2) OWNER shall furnish certified land survey of site giving, as applicable, grades and lines of streets, alleys, pavements and adjoining property, rights-of-way, restrictions, easements, encroachments, zoning, deed restrictions, boundaries and contours of site.

(3) OWNER shall pay for necessary testing services, including lab work, soil borings, compaction testing and concrete testing. ENGINEER shall supervise such testing.

(4) If OWNER becomes aware of any fault or defect in the Project or non-conformance with [Construction Documents, RFP, or this Agreement], OWNER shall give prompt notice thereof to ENGINEER and ENGINEER shall take prompt action to correct such fault or defects.

### ARTICLE 3

#### CONSTRUCTION COST

(1) Actual or probable construction cost is not to be used as basis for determining ENGINEER'S compensation under this Agreement.

(2) Actual or probable construction cost does not include compensation of ENGINEER and ENGINEER'S consultants, cost of land, rights-of-way, or other costs which are responsibility of OWNER.

(3) Construction cost estimates prepared by ENGINEER represent ENGINEER'S best judgment as design professionals familiar with current construction industry. It is recognized, however, that neither ENGINEER nor OWNER has any control over cost of labor, materials or equipment, over methods of determining bid prices, or over competitive bidding or market conditions. Accordingly, ENGINEER does not guarantee that bids will not vary from any construction cost estimates prepared by ENGINEER.

(4) If Bidding or Negotiating Phase has not commenced within six months after ENGINEER submits Construction Documents to OWNER, construction cost estimate approved by OWNER at Design Development Phase, including adjustments approved at Construction Documents Phase, shall be adjusted to reflect any change in general level of prices which may have occurred in construction industry for area in which the Project is located. Adjustment shall reflect changes between date of submission of Construction Documents to OWNER and date on which proposals are sought.

(5) If cost of construction set forth in construction cost estimate approved by OWNER at Design Development Phase (including any adjustments approved at Construction Documents Phase plus amount of bidding contingency established hereunder) is exceeded by ten percent (10%) by lowest bona fide bid, OWNER shall:

- (a) Give written approval to proceed with the Project at said bid amount; or
- (b) Authorize re-bidding the Project within reasonable time and cooperate with ENGINEER in revising the Project scope and quality to reduce cost

of the Project to amount not in excess of cost of construction set forth in construction cost estimate approved at Design Development Phase (including adjustments approved at Construction Documents Phase plus amount of bidding contingency).

(6) In case of (b), ENGINEER, without additional charge, shall modify Drawings and Specifications as necessary and as approved by OWNER to reduce cost of the Project prior to re-bid. Providing of such service shall be limit of ENGINEER'S responsibilities in this regard and, having done so, ENGINEER shall be entitled to compensation set forth in this Agreement.

#### **ARTICLE 4**

##### **DIRECT PERSONNEL EXPENSE**

(1) Direct Personnel Expense is defined as salaries of professional, technical and clerical employees engaged on the Project by ENGINEER, and cost of their mandatory and customary benefits such as statutory employee benefits, insurance, sick leave, holidays, vacations and pensions. Fixed fee for services performed under this Agreement shall include all Direct Personal Expenses incurred in providing such services unless otherwise approved by OWNER in writing.

#### **ARTICLE 5**

##### **REIMBURSABLE EXPENSES**

(1) Fixed fee for services performed under this Agreement shall include all Reimbursable Expenses incurred in providing such services unless otherwise approved by OWNER in writing.



**ARTICLE 6**

**PAYMENTS TO ENGINEER**

(1) Fee for services to be provided under this Agreement is fixed at [\$XXXXXX.00].

(2) Payments for services under this Agreement shall be made monthly in proportion to services performed so that compensation at completion of each Phase shall equal following percentages of total fee for services hereunder:

PHASE I: Investigation, Longevity, Repair Study and Reports (Lump Sum)

PHASE II: (Percentage of Construction Cost)

Design Development Phase	25%
Construction Documents Phase	30%
Bidding or Negotiation Phase	15%
Construction Phase	15%
Start-Up/Troubleshooting	15%

SAMPLE

(3) Payments for additional services of ENGINEER and for Reimbursable Expenses shall be made monthly upon submission by ENGINEER of statements for services rendered.

OWNER shall make payments for Reimbursable Expenses directly to provider of service.

(4) No deductions shall be made from ENGINEER'S compensation because of penalty, liquidated damages, or other sums withheld from payments of contractors.

**ARTICLE 7**

**ENGINEER'S ACCOUNTING RECORDS**

(1) Records of Reimbursable Expenses and expenses pertaining to Additional Services on the Project and for any services approved to be performed on basis of Multiple of Direct Personnel Expense, shall be kept on generally recognized accounting basis and shall be available to OWNER or OWNER'S authorized representative at mutually convenient time.

## ARTICLE 8

### TERMINATION OF AGREEMENT

(1) This Agreement may be terminated by either party upon seven days' written notice should other party fail substantially to perform in accordance with its terms through no fault of party initiating termination.

(2) In event of termination not due to fault of ENGINEER, ENGINEER shall be paid compensation for services performed to date of termination date, including Reimbursable Expenses.

(3) What follows shall constitute grounds for immediate termination:

(a) Violation by ENGINEER of any State, Federal or local law, or failure by ENGINEER to comply with any applicable state and federal service standards, as expressed by applicable statutes, rules and regulations;

(b) Failure by ENGINEER to carry applicable licenses or certifications as required by law;

(c) Failure of ENGINEER to comply with reporting requirements contained herein; or

(d) Inability of ENGINEER to perform the Project provided for herein.

(4) Failure of Dane County Board of Supervisors or State or Federal Governments to appropriate sufficient funds to carry out OWNER'S obligations hereunder shall result in automatic termination of this Agreement as of date funds are no longer available, without notice.

(5) Completion of Study Phase services does not obligate OWNER to proceed with ENGINEER to later project phases. OWNER may terminate this Agreement at completion of Study Phase services.

**ARTICLE 9**

OWNERSHIP OF DOCUMENTS

(1) Draft version of Study shall become property of OWNER. ENGINEER shall furnish OWNER with:

- (a) Electronic version of original set of all drawings (Drawings in AutoCAD 2004(or earlier version)) with al external references bound to disc before copying; and
- (b) Original set of all drawings sealed and signed.

**ARTICLE 10**

SUCCESSORS AND ASSIGNS

(1) OWNER and ENGINEER each binds itself, its partners, successors, assigns and legal representatives to other parties to this Agreement and to partners, successors, assigns and legal representatives of such other party with respect to all covenants of this Agreement. Neither OWNER nor ENGINEER shall assign, sublet or transfer any interest in this Agreement without written consent of other.

**ARTICLE 11**

EXTENT OF AGREEMENT

(1) This Agreement, including Schedules A, B and C attached hereto, represents entire integrated agreement between OWNER and ENGINEER and supersedes all prior negotiations, representations or agreements, either written or oral. This Agreement may be amended only by written instrument signed by both OWNER and ENGINEER.

**ARTICLE 12**

GOVERNING LAW

(1) Law of State of Wisconsin shall govern this Agreement, with venue in Dane County Circuit Court.

## ARTICLE 13

### ENGINEER'S LIABILITY INSURANCE

(1) ENGINEER shall, at all times during term of this Agreement, indemnify, save harmless and defend OWNER, its boards, commissions, agents, officers, employees and representatives against any and all liability, loss, damages, costs or expenses which OWNER, its officers, employees, agents, boards, commissions and representatives may sustain, incur or be required to pay by reason of ENGINEER furnishing services required to be provided under this Agreement, provided, however, that provisions of this paragraph shall not apply to liabilities, losses, charges, costs, or expenses caused by or resulting from acts or omissions of OWNER, its agents, boards, commissions, officers, employees or representatives. Obligations of ENGINEER under this paragraph shall survive expiration or termination of this Agreement.

(2) In order to protect itself and OWNER, its officers, boards, commissions, agents, employees and representatives under indemnity provisions above, ENGINEER shall at all times during term of this Agreement keep in full force and effect comprehensive general liability and auto liability insurance policies (with OWNER as additional insured), together with professional malpractice or errors and omissions coverage, issued by company or companies authorized to do business in State of Wisconsin and licensed by Wisconsin Insurance Department, with liability coverage provided for therein in amounts of at least \$1,000,000.00 CSL (Combined Single Limits). Coverage afforded shall apply as primary. OWNER shall be given ten (10) days advance notice of cancellation or non-renewal. Upon execution of this Agreement, ENGINEER shall furnish OWNER with certificate of insurance and, upon request, certified copies of required insurance policies. If ENGINEER'S insurance is underwritten on Claims-Made basis, Retroactive Date shall be prior to or coincide with date of this Agreement, Certificate of Insurance shall state that coverage is Claims-Made and indicate Retroactive Date, ENGINEER shall maintain coverage for duration of this Agreement and for six years following completion of this Agreement, and ENGINEER shall furnish OWNER, annually on policy renewal date,

Certificate of Insurance as evidence of coverage. It is further agreed that ENGINEER shall furnish OWNER with 30-day notice of aggregate erosion, in advance of Retroactive Date, cancellation, or renewal. In event any action, suit or other proceeding is brought against OWNER upon any matter herein indemnified against, OWNER shall give reasonable notice thereof to ENGINEER and shall cooperate with ENGINEER'S attorneys in defense of action, suit or other proceeding. ENGINEER shall furnish evidence of adequate Worker's Compensation Insurance.

(3) ENGINEER'S obligation to maintain professional errors and omissions insurance coverage shall remain in effect for period of two years following completion of construction of this Project. Copy of ENGINEER'S professional insurance shall be filed with OWNER prior to commencement of the Project. ENGINEER agrees to provide to OWNER at least thirty-day notice of intent to cancel any of these policies, whereupon OWNER shall have right to pay any premiums to retain insurance coverage or to obtain coverage from other companies, and OWNER shall be entitled to collect cost thereof from ENGINEER. Cessation of insurance coverage shall have no effect on obligations and duties of ENGINEER under law or this Agreement.

(4) In case of any sublet of work under this Agreement, ENGINEER shall furnish evidence that each and every subcontractor has in force and effect insurance policies providing coverage identical to that required of ENGINEER.

(5) Parties do hereby expressly agree that OWNER, acting at its sole option and through its Risk Manager, may waive any and all requirements contained in this Agreement, such waiver to be in writing only. Such waiver may include or be limited to reduction in amount of coverage required above. Extent of waiver shall be determined solely by OWNER'S Risk Manager taking into account nature of the Project and other factors relevant to OWNER'S exposure, if any, under this Agreement.

## ARTICLE 14

### NO WAIVER BY PAYMENT OR ACCEPTANCE

(1) In no event shall making of any payment or acceptance of any service or product required by this Agreement constitute or be construed as waiver by OWNER of any breach of covenants of this Agreement or a waiver of any default of ENGINEER and making of any such payment or acceptance of any such service or product by OWNER while any such default or breach shall exist shall in no way impair or prejudice right of OWNER with respect to recovery of damages or other remedy as result of such breach or default.

## ARTICLE 15

### NONDISCRIMINATION

(1) ENGINEER will not discriminate against any recipient of services, actual or potential, employee or applicant for employment, because of race, religion, color, sex, handicap, age, sexual preference, marital status, physical appearance, or national origin against any person, whether recipient of services (actual or potential), employee or applicant for employment. Such equal opportunity shall include but not be limited to following: employment, upgrading, demotion, transfer, recruitment, advertising, layoff, termination, training, rates of pay, any other form of compensation or level of service(s) and selection for training, including apprenticeship. ENGINEER agrees to post in conspicuous places, available to all employees and applicants for employment, notices setting forth provisions of this paragraph. Listing herein of prohibited bases for discrimination shall not be construed to amend in any fashion state or federal law setting forth additional bases and exceptions shall be permitted only to extent allowable in state or federal law.

(2) ENGINEER will, in all solicitations or advertisements for employees placed by or on behalf of ENGINEER, state that all qualified applicants will receive consideration for employment and ENGINEER shall include statement to effect that ENGINEER is "Equal Opportunity Employer".

(3) ENGINEER will send to each labor union or representative of workers with which ENGINEER has collective bargaining agreement or other contract or understanding, notice, to be provided by OWNER'S Affirmative Action Officer, advising labor union or workers' representative of commitments under this Agreement, and shall post copies of notice in conspicuous places available to employees and applicants for employment.

(4) ENGINEER shall furnish all information and reports required by Affirmative Action Commission, and by rules, regulations, and orders of Affirmative Action Officer and will permit access to its books, records, and accounts by OWNER and OWNER'S Affirmative Action Officer for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

#### **ARTICLE 16**

##### **CIVIL RIGHTS COMPLIANCE**

(1) If ENGINEER has twenty or more employees and receives \$20,000 in annual contracts with OWNER, ENGINEER shall submit to OWNER current Civil Rights Compliance Plan (CRC) for Meeting Equal Opportunity Requirements under Title VI of Civil Rights Act of 1964, Section 504 of Rehabilitation Act of 1973, Title VI and XVI of Public Service Health Act, Age Discrimination Act of 1975, Omnibus Budget Reconciliation Act of 1981 and Americans with Disabilities Act (ADA) of 1990. ENGINEER shall also file Affirmative Action (AA) Plan with OWNER in accordance with requirements of Chapter 19 of Dane County Code of Ordinances. ENGINEER shall submit copy of its discrimination complaint form with its CRC/AA Plan. CRC/AA Plan must be submitted prior to effective date of this Agreement and failure to do so by said date shall constitute grounds for immediate termination of this Agreement by OWNER. If approved plan has been received during previous calendar year, plan update is acceptable. Plan may cover two-year period. ENGINEER who has less than twenty employees, but who receives more than \$20,000.00 from OWNER in annual contracts, may be required to submit CRC Action Plan to correct any problems discovered as result of complaint investigation

or other Civil Rights Compliance monitoring efforts set forth herein below. If ENGINEER submits CRC/AA Plan to a Department of Workforce Development Division or to Department of Health and Family Services Division that covers services purchased by OWNER, verification of acceptance by State of ENGINEER'S Plan is sufficient.

(2) ENGINEER agrees to comply with OWNER'S civil rights compliance policies and procedures. ENGINEER agrees to comply with civil rights monitoring reviews performed by OWNER, including examination of records and relevant files maintained by ENGINEER. ENGINEER agrees to furnish all information and reports required by OWNER as they relate to affirmative action and non-discrimination. ENGINEER further agrees to cooperate with OWNER in developing, implementing, and monitoring corrective action plans that result from any reviews.

(3) ENGINEER shall post Equal Opportunity Policy, name of ENGINEER'S designated Equal Opportunity Coordinator and discrimination complaint process in conspicuous places available to applicants and clients of services, applicants for employment and employees. Complaint process will be according to OWNER'S policies and procedures, and made available in languages and formats understandable to applicants, clients and employees. ENGINEER shall supply to OWNER'S Contract Compliance Officer upon request, summary document of all client complaints related to perceived discrimination in service delivery. These documents shall include names of involved persons, nature of complaints, and description of any attempts made to achieve complaint resolution.

(4) ENGINEER shall provide copies of all announcements of new employment opportunities to OWNER'S Contract Compliance Officer when such announcements are issued.

(5) If ENGINEER is government entity having its own compliance plan, ENGINEER'S plan shall govern ENGINEER'S activities.



**ARTICLE 17**

**LIVING WAGE**

(1) ENGINEER agrees to pay all workers employed by ENGINEER in performance of this Agreement, whether on a full-time or part-time basis, prevailing living wage as defined in Chapter 25.015(1)(f), Dane County Ordinances. ENGINEER agrees to make available for OWNER inspection ENGINEER'S payroll records relating to employees providing services on or under this Agreement or subcontract.

(2) If any payroll records of ENGINEER contain any false, misleading or fraudulent information, or if ENGINEER fails to comply with provisions of Chapter 25.015 of Dane County Code of Ordinances, OWNER may withhold payments on Agreement, terminate, cancel or suspend Agreement in whole or in part, or, after due process hearing, deny ENGINEER right to participate in bidding on future OWNER contracts for period of one year after first violation is found and for period of 3 years after second violation is found.

(3) ENGINEER agrees to submit to OWNER certification as required in Chapter 25.015(7) of Dane County Code of Ordinances.

(4) ENGINEER agrees to display OWNER'S current living wage poster in prominent place where it can be easily seen and read by persons employed by ENGINEER.

(5) ENGINEER shall ensure that any subcontractors comply with provisions of this Chapter 25.

(6) What follows are exemptions from requirements of Chapter 25:

- (a) When Maximum Cost of Agreement is less than \$5,000;
- (b) When ENGINEER is school district, municipality, or other unit of government;
- (c) When employees are persons with disabilities working in employment programs and ENGINEER holds current sub-minimum wage certificate issued by U.S. Department of Labor or where such certificate could be

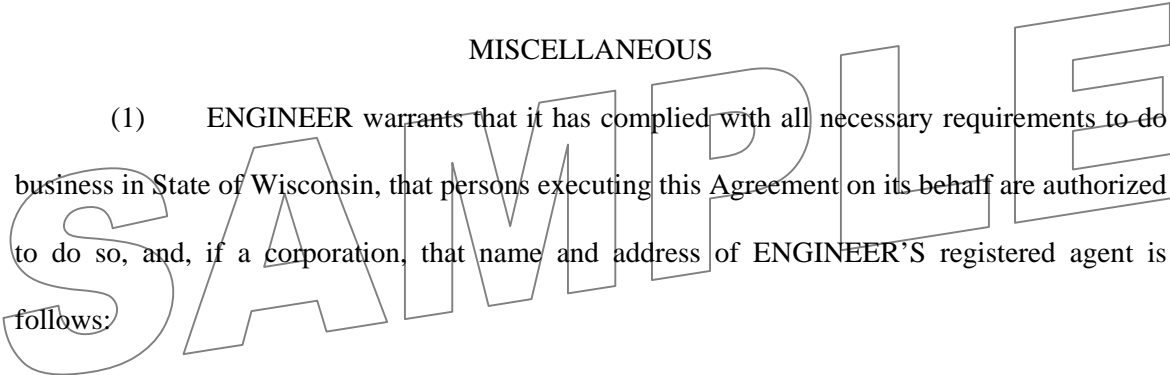
issued but for fact that ENGINEER is paying wage higher than minimum wage;

- (d) When individual receives compensation for providing services to family member;
- (e) When employees are student interns;
- (f) When ENGINEER meets any other criteria for exemption outlined in Chapter 25.015(1)(d) of Dane County Code of Ordinances; and
- (g) Where Agreement is funded or co-funded by government agency requiring different living wage, higher wage requirement shall prevail.

**ARTICLE 18**

MISCELLANEOUS

(1) ENGINEER warrants that it has complied with all necessary requirements to do business in State of Wisconsin, that persons executing this Agreement on its behalf are authorized to do so, and, if a corporation, that name and address of ENGINEER'S registered agent is follows:




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(2) ENGINEER shall notify OWNER immediately, in writing, of any change in its registered agent, his or her address, and ENGINEER'S legal status. For partnership, term "registered agent" shall mean general partner.

(3) This Agreement is intended to be agreement solely between parties hereto and for their benefit only. No part of this Agreement shall be construed to add to, supplement, amend, abridge or repeal existing duties, rights, benefits or privileges of any third party or parties, including but not limited to employees of either of parties.

(4) Entire agreement of parties is contained herein and this Agreement supersedes any and all oral agreements and negotiations between parties relating to subject matter hereof. Parties expressly agree that this Agreement shall not be amended in any fashion except in writing, executed by both parties.

(5) Parties may evidence their agreement to foregoing upon one or several counterparts of this instrument, which together shall constitute single instrument.

SAMPLE

IN WITNESS WHEREOF, OWNER and ENGINEER, by their respective authorized agents, have caused this Agreement and its Schedules to be executed, effective as of date by which all parties hereto have affixed their respective signatures, as indicate below.

\* \* \* \* \*

FOR ENGINEER:

\_\_\_\_\_  
Signature Date

\_\_\_\_\_  
Printed or Typed Name and Title

\_\_\_\_\_  
Signature Date

\_\_\_\_\_  
Printed or Typed Name and Title

SAMPLE  
\* \* \* \* \*

FOR OWNER:

\_\_\_\_\_  
Kathleen M. Falk, County Executive Date

\_\_\_\_\_  
Robert Ohlsen, County Clerk Date

## SUPPLEMENTARY CONDITIONS

### A. QUALIFICATIONS & ELIGIBILITY REQUIREMENTS

To be considered for this project, the Consultant must meet or exceed the following criteria:

- A. Have more than two registered engineers as responsible members of the firm.
- B. Have been in business for a period of not less than five (5) years.
- C. Must have been responsible for the analysis of at least three (3) dams of similar design, scope, and size of the Babcock and Tenney Dams. The selection will be made on experience, cost, and current ability to plan and oversee construction of this project.
- D. Consideration may be given to joint ventures consisting of two or more firms organized for the purpose of furnishing professional services as a single entity, providing the assignment of and provisions for continuity of the various responsibilities within the joint venture are approved by the County, and further providing that either of the individual firms constituting the joint venture meets the eligibility requirements listed above.

### B. PRICING

Pricing information should be submitted with this RFP as outlined below.

- I. It is anticipated that the work done within Phase I of the scope of this RFP will be at a firm cost to include all related expenses.
- II. Engineering Work done under Phase II of the scope of work will be a percentage of work to be done.

Please provide pricing information below. These values are intended to be estimated costs only.

PHASE I LUMP SUM \$ \_\_\_\_\_

PHASE II PERCENT OF TOTAL CONSTRUCTION COST \$ \_\_\_\_\_

**C. PROPOSAL SUBMISSION**

Proposals should be submitted in the following order:

1. Cover Sheet
2. Signature Page
3. Qualifications
4. Requested Services and Business Information
5. Work-plan and Proposed Schedule
6. Relevant Experience
7. Proposed Project Team With Resumes
8. References
9. Pricing Worksheet

**D. EVALUATION CRITERIA**

Personnel Assigned to the Project	25
Relative Experience	25
References	15
Pricing	20
Work Plan	<u>15</u>
Total	100

## SCOPE OF WORK

### PHASE I

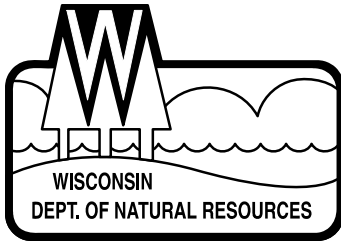
#### **Investigation, Longevity, Repair Study, Reports, and all other work per DNR Report Files:**

1. **Concrete Structure** – Onsite monitoring and investigation.
2. **Inspection, Operation, and Maintenance Plan** (Both Dams)
3. **Emergency Action Plan** (Both Dams)
4. **Dam Failure Analysis** (Tenney Dam ONLY)
5. **Stability Analysis** (Babcock Dam ONLY)

### PHASE II

#### **Design, Plans, Specifications, Bid, Oversight, and all other work per DNR Report Files:**

1. **Prequalify Bidders For Repair or Replacement** – In coordination with Dane County Public Works Engineering, develop a prequalification questionnaire (Dane County has a sample) for dam repair and maintenance firms, advertise and review responses. Develop a list of qualified bidders.
2. **Provide Plans and Specifications to Install Permanent Benchmarks** (Both Dams), **Repair Concrete Structure** (Both Dams), **Repair Embankment** (Tenney Dam ONLY)
  - a. Verify type of repair needed from study.
  - b. Prepare cost estimate and coordinate scope of work within Dane County budget;
  - c. Complete design, plans, specifications and bid documents for the repairs and to establish benchmarks;  
coordinate with Dane County Public Works Project Engineer.
  - d. Oversee the construction process and coordinate inspections, change orders, submittals, pay requests, etc. with the Dane County Public Works Project Engineer.
  - e. Oversee closeout with proper instructions to owner as well as all manuals, lien waivers, ect.



## State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor  
Matthew J. Frank, Secretary  
Lloyd L. Eagan, Regional Director

South Central Region Headquarters  
3911 Fish Hatchery Road  
Fitchburg, Wisconsin 53711-5397  
Telephone 608-275-3266  
FAX 608-275-3338  
TTY Access via relay - 711

February 22, 2008

IN REPLY REFER TO: 13.06

Dane County Department of Land and Water Resources  
Mr. Kevin Connors, Director  
1 Fen Oak Court, Room 208  
Madison, WI 53718

SUBJECT: Lake Mendota Dam, Field File # 13.06, Dam Safety Inspection Report, Dane County

Dear Mr. Connors:

This is the DNR Dam Safety Inspection Report based on our inspection of the Lake Mendota Dam on September 21, 2007. This report identifies work that needs to be done on the dam and a schedule for when that work is to be completed. Please contact me if you have questions about the needed repairs or are uncertain how to proceed.

The Lake Mendota Lock and Dam are located in the City of Madison at the downstream end of Lake Mendota on the Yahara River. The boat lock is present for boats passing from Lake Mendota to Lake Monona. The dam consists of two tainter gates and is located just upstream of the Sherman Avenue bridge. The dam appears to be in excellent condition and is well maintained.

Wisconsin has an excellent record of dam failures not resulting in death, injury, or property damage. Unfortunately, every year accidents are reported on or near dams that are otherwise compliant with safety standards that protect the public from the effects of a dam failure. Our safety inspection does not address injury that could result from trespass or other inappropriate behavior on the dam site. Your insurance carrier might be able to assist you in protecting you from this type of liability.

### **ESTIMATE OF THE DAM HAZARD RATING BASED ON CURRENT LAND USE**

Our estimate of the Dam Hazard Rating for the Lake Mendota Dam is Significant Hazard and is based on preliminary flood flow estimates and map surveillance. This is only an estimate of the Hazard Rating based on existing downstream development that could be affected should the dam fail. The actual hazard rating reflects both the downstream development that could be affected by a failure of the dam and land use controls, usually floodplain zoning, in place below the dam. A dam failure analysis performed by an engineer will verify our estimate.

The land use controls can be established by either 1) restrictive covenants, easements or legal arrangements or, 2) a floodplain zoning ordinance adopted in accordance with NR 116, Wisconsin Administrative Code. A lower Hazard Rating could possibly be assigned to your dam if the entities responsible for implementing floodplain zoning adopt the necessary land use controls to restrict development in the hydraulic shadow of the dam. We cannot formally assign a hazard rating to the dam until a dam failure analysis has been approved.

In order to determine a hydraulic shadow for the dam, you will have to hire an engineer to perform a dam failure analysis. Once the analysis has been completed and approved by the DNR, the dam hazard rating



will be assigned. The City of Madison and/or Dane County would then adopt zoning to possibly secure a lower hazard rating. By having a lower hazard rating assigned and secured for the dam you could:

- a) Decrease probability of increased property damage and or loss of life in the event of a dam failure.
- b) Decrease liability associated with dam ownership.
- c) Decrease the extent to which the dam's spillway capacity will need to be upgraded in the future.

**Note: Right and left are referenced while standing on the dam looking downstream.**

<u>ITEM</u>	<u>WORK TO BE COMPLETED BY</u>
1) <b><u>CONCRETE STRUCTURE</u></b>	Monitor
<p>Overall, the concrete at the Lake Mendota Lock and Dam is in excellent condition. There are a couple of areas in need of monitoring on the concrete portion of the dam. There are two joints in the left retaining wall that have separated slightly (photos 4 and 5). Photo 4 shows some separation of a joint downstream of the tainter gate that appears to have been patched previously. This should be monitored. You may also want to patch the area again or apply some crack filler to help keep water out of the crack and decrease problems caused by the freeze/thaw cycle. Photo 5 also shows a joint that appears to have separated slightly. This crack has already been filled, but the filler appears to have dried out and shrunk. You should also monitor this crack. You may also consider removing the old crack filler and putting new crack filler in the joint.</p>	
2) <b><u>EMBANKMENT REPAIRS</u></b>	Erosion - June 1, 2008
<p>The embankment portion of the dam is generally in very good condition. The only problem that was observed during our inspection was at the upstream end of the left retaining wall. Water was observed to be working its way behind the wall (photo 6) resulting in soil washing out. This is relatively simple repair that should be taken care of so that it does not lead to problems in the future.</p> <p>During the 1993 flood, floodwaters bypassed the dam through the boathouse door. This indicates that the embankment height or length may not be sufficient. Uncontrolled bypassing can damage the dam and can lead to failure. After the dam failure analysis is completed, the embankment will need to be surveyed and evaluated to determine if the embankment should be raised or lengthened or if other measures must be taken to protect the dam from floodwaters passing through areas that are not designed to pass water.</p>	
3) <b><u>INSPECTION, OPERATION AND MAINTENANCE PLAN</u></b>	December 1, 2008
<p>The dam must have a written plan for regular inspection, operation, and maintenance (IOM). Maintenance and inspection of the dam should include all of the areas identified on the "Dam Inspection Checklist" which is included as part of this report.</p> <p>An IOM plan is required for all large dams in the State of Wisconsin. We did not find an IOM plan for the Lake Mendota Dam in our files. The plan should include, but is not limited to, water level specifications, corresponding operation action including operation in high and low flows, maintenance activities and schedule, and the current names and telephone numbers of the operator,</p>	

backup operator and key people in the County. We have included a copy of a sample IOM plan with this report that you could use to help assemble your plan.

Because our inspection program only allows for an inspection of your dam every ten years, we highly recommend that a registered professional engineer visually inspect the dam every 5 years and after every major flood. Inspection should include monitoring of the streambed upstream and downstream of the dam to check for scour and undermining. These are common and often missed problems at a dam. Please send copies of the reports to this office.

4) **EMERGENCY ACTION PLAN**

June 1, 2008

An Emergency Action Plan (EAP) is required for the area downstream of the dam. This plan is required so that during flooding or imminent failure of the dam, a series of well-planned steps can guide the Owner, Operator, and emergency workers through a process designed to minimize potential loss of life or property by identifying available resources and potentially affected properties. The EAP you put together will be used until a detailed EAP is developed based on a dam failure analysis. We are enclosing an example outline to be used in the development of your emergency action plan. The next section of this report will explain the requirement for the detailed EAP based on an engineering study.

5) **DAM FAILURE ANALYSIS**

December 1, 2009

In order to determine the extent of the dam failure floodplain (hydraulic shadow) for the dam, determine the required hydraulic capacity for the hazard it creates, and develop a detailed EAP you must hire an engineer registered in the state of Wisconsin to perform a dam failure analysis. Please have the engineer contact me before he or she begins work. The analysis is to be completed by December 1, 2009. In addition to establishing the hazard rating and the required hydraulic capacity for the dam, we will utilize this dam failure analysis to determine the required downstream land use controls that must be implemented.

A dam failure analysis will also provide the information necessary to develop a detailed Emergency Action Plan (EAP) and determine whether or not there is a need for a flood warning system. This plan is required so that during flooding or imminent failure of the dam, a series of well-planned steps can guide the Owner, Operator, and emergency workers through a process designed to minimize potential loss of life or property.

A stability analysis should be completed as part of the dam failure analysis.

6) **PERMANENT BENCHMARKS**

December 1, 2008

For future surveys, we are requesting that three permanent benchmarks be placed at the dam. Two of the benchmarks should be off of the dam, but very close to it, so that during a flood the benchmarks can be safely accessed. Additionally, one benchmark should be placed on the dam. All of the benchmarks should be able to be seen from a single setup at the dam for future surveys. The benchmarks should be tied to each other and to Mean Sea Level datum. We will need to have this new benchmark information sent to us when it is completed. We have included the current benchmark information for the Lake Mendota Dam with this report.

## **SUMMARY OF REQUIRED WORK AND SCHEDULE**

<b><u>ITEM</u></b>	<b><u>REQUIRED COMPLETION DATE</u></b>
1) <b><u>CONCRETE STRUCTURE</u></b>	Monitor
2) <b><u>EMBANKMENT REPAIRS</u></b>	Erosion - June 1, 2008
3) <b><u>INSPECTION, OPERATION AND MAINTENANCE PLAN</u></b>	December 1, 2008
4) <b><u>EMERGENCY ACTION PLAN</u></b>	June 1, 2008
5) <b><u>DAM FAILURE ANALYSIS</u></b>	December 1, 2009
6) <b><u>PERMANENT BENCHMARKS</u></b>	December 1, 2008

If the schedule above is not acceptable to you, submit your own schedule, in writing, for completing the above modifications and repairs. In order for us to consider a schedule other than this, you must submit your alternative schedule by March 1, 2008. If we do not hear from you by then, the schedule we have determined will be in affect.

If you have any questions concerning this report, or the operation and maintenance of your dam, please call me at 608-275-3316, e-mail me at the address below, or write to the address above.

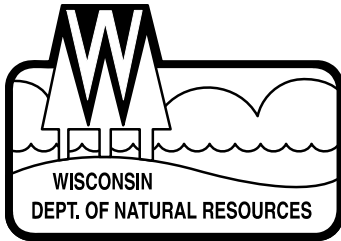
Thank you for your continued cooperation.

Sincerely,

Robert R. Davis, P.E.  
Water Management Engineer  
Robert.Davis@Wisconsin.gov  
608-275-3316

Enclosures: Inspection photographs  
Dam Inspection Checklist  
Sample Inspection, Operation, and Maintenance Plan  
Sample Emergency Action Plan  
Benchmark Information

cc: Bill Sturtevant, P.E. - WT/3 (Report, photos, and checklist)  
SCR Field File (Report, photos, and checklist)



## State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor  
Matthew J. Frank, Secretary  
Lloyd L. Eagan, Regional Director

South Central Region Headquarters  
3911 Fish Hatchery Road  
Fitchburg, Wisconsin 53711-5397  
Telephone 608-275-3266  
FAX 608-275-3338  
TTY Access via relay - 711

February 22, 2008

IN REPLY REFER TO: 13.19

Dane County Department of Land and Water Resources  
Mr. Kevin Connors, Director  
1 Fen Oak Court, Room 208  
Madison, WI 53718

SUBJECT: Lake Waubesa Dam, Field File # 13.19, Dam Safety Inspection Report, Dane County

Dear Mr. Connors:

This is the DNR Dam Safety Inspection Report based on our inspection of the Lake Waubesa Dam on September 21, 2007. This report identifies work that needs to be done on the dam and a schedule for when that work is to be completed. Please contact me if you have questions about the needed repairs or are uncertain how to proceed.

The Lake Waubesa Dam is located on the Yahara River and impounds Lake Waubesa. The dam consists of four stoplog bays and a boat lock chamber which is currently not fully operational by the public. It is located immediately upstream of the Highway 51 bridge over the Yahara River. The highway forms the embankment for the dam.

Currently the dam is operated with 4 bays of 12-foot long stoplogs requiring each log to be pulled out or put in separately. During times of fluctuating flow, the dam has to be operated at least daily by your staff. You may want to consider replacing the stoplogs with a more modern gate configuration that can be easier, faster, and safer to operate than stoplogs. Newer gate configurations, including those that can be raised by a motor instead of two staff, can be automated to be operated from your office which would allow you to make multiple gate adjustments each day while saving staff time.

The Lake Waubesa Dam has been assigned a Low Hazard Rating due to the fact that it submerges during times of high flow (photo 3).

Wisconsin has an excellent record of dam failures not resulting in death, injury, or property damage. Unfortunately, every year accidents are reported on or near dams that are otherwise compliant with safety standards that protect the public from the effects of a dam failure. Our safety inspection does not address injury that could result from trespass or other inappropriate behavior on the dam site. Your insurance carrier might be able to assist you in protecting you from this type of liability.

**Note: Right and left are referenced while standing on the dam looking downstream.**

**WORK TO BE**

**ITEM**

**COMPLETED BY**

1) **CONCRETE STRUCTURE**

Monitor/Fill Cracks

During our inspection, we observed several areas where cold joints are showing some separation (photos 5 and 6). These areas should be filled with crack filler to prevent water from getting into the joint and causing further expansion. The joints should also be monitored to assess whether they are continuing to separate. This should be included in the Inspection, Operation and Maintenance Plan that is discussed later in this report. Generally, the remainder of the concrete was observed to be in good condition.

2) **LOCK OPERATION**

Repair Lock - December 1, 2009

Currently the lock at the Lake Waubesa Dam is not reliably operational for the public's use (photo 4). During our inspection when the dam was submerged, the lock gates were open to allow flood flows to pass through, but in times of low flow the gates are closed and locked because they are not reliable to open and close when needed. The lock gates will need to be repaired or modified so that they are operational by December 1, 2009.

3) **INSPECTION, OPERATION AND MAINTENANCE PLAN**

December 1, 2008

The dam must have a written plan for regular inspection, operation, and maintenance (IOM). Maintenance and inspection of the dam should include all of the areas identified on the "Dam Inspection Checklist" which is included as part of this report.

An IOM plan is required for all large dams in the State of Wisconsin. We found an IOM plan for the Lake Waubesa Dam in our files. The plan should be updated to include, things such as, water level specifications, corresponding operation action including operation in high and low flows, maintenance activities and schedule, and the current names and telephone numbers of the operator, backup operator and key people in the County. We have included a copy of a sample IOM plan with this report that you may want to review to help revise your plan.

Because our inspection program only allows for an inspection of your dam every ten years, we highly recommend that a registered professional engineer visually inspect the dam every 5 years and after every major flood. Inspection should include monitoring of the streambed upstream and downstream of the dam to check for scour and undermining. These are common and often missed problems at a dam. Please send copies of the reports to this office.

4) **EMERGENCY ACTION PLAN**

June 1, 2008

An Emergency Action Plan (EAP) is required for the area downstream of the dam. This plan is required so that during flooding or imminent failure of the dam, a series of well-planned steps can guide the Owner, Operator, and emergency workers through a process designed to minimize potential loss of life or property by identifying available resources and potentially affected properties. We are enclosing an example outline to be used in the development of your emergency action plan. Because the Lake Waubesa Dam submerges, the EAP can be simplified somewhat, but emergency contacts still need to be included.

5) **STABILITY ANALYSIS**

December 1, 2009

Because the Lake Waubesa dam submerges, a dam failure analysis will not be required. A stability analysis, which is generally completed as part of the dam failure analysis, is still required to be completed. You must hire an engineer registered in the state of Wisconsin to complete the stability analysis which will need to include a scour inspection. The spillway discharge was too high at the time of our inspection to investigate the channel bed adjacent to the dam for scour and undermining. Please have the engineer contact me before he or she begins work. The analysis is to be completed by December 1, 2009.

6) **PERMANENT BENCHMARKS**

December 1, 2008

For future surveys, we are requesting that three permanent benchmarks be placed at the dam. Two of the benchmarks should be off of the dam, but very close to it, so that during a flood the benchmarks can be safely accessed. Additionally, one benchmark should be placed on the dam. All of the benchmarks should be able to be seen from a single setup at the dam for future surveys. The benchmarks should be tied to each other and to Mean Sea Level datum. We will need to have this new benchmark information sent to us when it is completed. We have included the current benchmark information for the Lake Waubesa Dam with this report.

**SUMMARY OF REQUIRED WORK AND SCHEDULE**

<b><u>ITEM</u></b>	<b><u>REQUIRED COMPLETION DATE</u></b>
1) <b><u>CONCRETE STRUCTURE</u></b>	Monitor/Fill Cracks
2) <b><u>LOCK OPERATION</u></b>	Repair Lock - December 1, 2009
3) <b><u>INSPECTION, OPERATION AND MAINTENANCE PLAN</u></b>	December 1, 2008
4) <b><u>EMERGENCY ACTION PLAN</u></b>	June 1, 2008
5) <b><u>STABILITY ANALYSIS</u></b>	December 1, 2009
6) <b><u>PERMANENT BENCHMARKS</u></b>	December 1, 2008

If the schedule above is not acceptable to you, submit your own schedule, in writing, for completing the above modifications and repairs. In order for us to consider a schedule other than this, you must submit your alternative schedule by March 1, 2008. If we do not hear from you by then, the schedule we have determined will be in affect.

If you have any questions concerning this report, or the operation and maintenance of your dam, please call me at 608-275-3316, e-mail me at the address below, or write to the address above.

Thank you for your continued cooperation.

Sincerely,

Robert R. Davis, P.E.  
Water Management Engineer  
Robert.Davis@Wisconsin.gov  
608-275-3316

Enclosures: Inspection photographs  
Dam Inspection Checklist  
Sample Inspection, Operation, and Maintenance Plan  
Sample Emergency Action Plan  
Benchmark Information

cc: Bill Sturtevant, P.E. - WT/3 (Report, photos, and checklist)  
SCR Field File (Report, photos, and checklist)