



The State of New Hampshire  
**Department of Environmental Services**

**Robert R. Scott, Commissioner**

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October 16, 2024

His Excellency, Governor Christopher T. Sununu  
and the Honorable Council  
State House  
Concord, New Hampshire 03301

**REQUESTED ACTIONS**

1. Authorize the Department of Environmental Services (NHDES) to enter into an agreement with Kingsbury Companies, LLC, Middlesex, VT (VC# 269022-B001) in the amount of \$4,973,540.00 for construction services for the rehabilitation of Little Bog Pond Dam and Lower Trio Pond Dam in Odell, NH, effective upon Governor and Council approval through July 25, 2026. Funding is 41.9% American Rescue Plan Act (ARPA) Funds, and 58.1% Capital (General) Funds. This is an allowable use of ARP FRF funds under Section 602 (c)(1)(D) to make necessary investments in general government services.

2. Further authorize that a contingency in the amount of \$300,000.00 be approved for unanticipated site expenses for the rehabilitation of Little Bog Pond Dam and Lower Trio Pond Dam in Odell, NH, bringing the total to \$5,273,540.00, effective upon Governor and Council approval through July 25, 2026. 100% Capital (General) Funds.

Funding is available in the accounts as follows:

03-44-44-440010-2657-102-500731 FY 2025  
\$2,083,083.39  
Dept. of Environmental Services, ARPA DES Loans, Contracts for Program Service  
Activity Code: 00FRF602GS4402B

03-44-44-440030-9309-034-500161 \$3,190,456.61  
Dept. of Environmental Services, L21, 107:1:V-2, Dam Repairs & Reconstruction, Capital Projects

**EXPLANATION**

This contract is for the rehabilitation of Little Bog Pond Dam and Lower Trio Pond Dam in Odell, two low hazard dams in Nash Stream Forest, with potential breach impacts to various downstream road crossings, including Nash Stream Road in multiple areas. Historically, Little Bog Pond Dam was a late 1800's timber-crib and rockfill dam, but in 2006 it breached during a storm event and was subsequently repaired temporarily with an uncontrolled overflow spillway. Little Bog Pond is now approximately 1.7 feet lower than the original pond elevation prior to the breach in 2006.

Constructed in 1943 to replace an 1800's dam, Lower Trio Pond Dam is a timber-crib spillway with earthen abutments. The timber sheathing on the spillway was replaced in 1981. Lower Trio Pond is difficult to

access and there are concerns related to the integrity and longevity of the timber crib structure. This rehabilitation project will bring both aging dams into compliance with State Dam Safety regulations and current design standards. Additionally, the elevation of Little Bog Pond will be brought back to the pre-2006 elevation. This project also requires improvements to the 1.5 mile road from Little Bog Pond to Lower Trio Pond for construction equipment to access Lower Trio Pond Dam. The engineering consulting firm of GEI Consultants designed the project and will be providing construction oversight services.

A Request for Bids was prepared and advertised on the Department of Administrative Services Purchasing website. Contractors interested in submitting a bid were required to attend a Pre-Bid Meeting at the Little Bog and Lower Trio Dams on August 7, 2024. Bidders were required to provide a statement of qualifications including corporate qualifications, a list of prequalification projects with references, a list of proposed subcontractors and suppliers, and a proposed project schedule.

NHDES received four bid packages as listed below. Bids were delivered to NHDES by September 12, 2024, and opened publicly that afternoon. GEI Consultants reviewed the bid packages and deemed the four submitting contractors to be qualified to complete the project, and also confirmed that all four firms were represented at the Pre-Bid Meeting.

<u>Firm Name</u>	<u>Basis of Award</u>
Charter Contracting Company, LLC, Boston, MA	\$6,499,690
T Ford Company, Inc., Georgetown, MA	\$6,068,740
Kingsbury Companies, LLC, Middlesex, VT	\$5,273,540
Michels Construction, Inc., Brownsville, WI	\$6,704,200

As a result of the low bid and due diligence to confirm the qualifications and capabilities of the respondents, we recommend awarding the contract to Kingsbury Companies, LLC. NHDES tentatively provided them a Notice of Award on September 19, 2024 in preparation of the contract documents. This firm has satisfactorily completed similar dam related projects that include water control, concrete work, earthwork stabilization, and road preparation in New England within the last five years, and has the resources necessary to complete the project in accordance with all regulatory permit conditions.

In preparation for the project and in accordance with RSA 482:13, NHDES held a public informational meeting regarding the drawdown and rehabilitation of Little Bog and Lower Trio Dams at the Department of Natural & Cultural Resources (DNCR) North Country Resources Center in Lancaster, NH on September 25, 2024. Additionally, NHDES construction crew mobilized to the site on October 14, 2024 and performed the drawdown of both ponds as well as cleared the trees for the construction laydown areas for both sites.

This contract has been approved by the Department of Justice as to form, substance and execution.

We respectfully request your approval.

  
Robert R. Scott, Commissioner

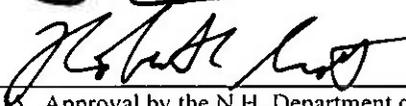
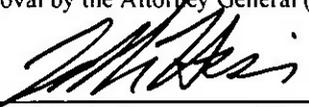
**Notice:** This agreement and all of its attachments shall become public upon submission to Governor and Executive Council for approval. Any information that is private, confidential or proprietary must be clearly identified to the agency and agreed to in writing prior to signing the contract.

**AGREEMENT**

The State of New Hampshire and the Contractor hereby mutually agree as follows:

**GENERAL PROVISIONS**

**1. IDENTIFICATION.**

1.1 State Agency Name NH Department of Environmental Services		1.2 State Agency Address 29 Hazen Drive - PO Box 95 Concord, NH 03302-0095	
1.3 Contractor Name Kingsbury Companies, LLC		1.4 Contractor Address 58 Center Road Middlesex, VT 05602	
1.5 Contractor Phone Number  (802) 496 - 2205	1.6 Account Unit and Class  03-44-44-440030-9309-034-500161 03-44-44-440010-2657-102-500731	1.7 Completion Date  7/25/2026	1.8 Price Limitation  \$5,273,540.00
1.9 Contracting Officer for State Agency Corey J. Clark, PE, Chief Engineer, Dam Bureau		1.10 State Agency Telephone Number (603) 271-1961	
1.11 Contractor Signature   Date: 10/2/24		1.12 Name and Title of Contractor Signatory Travis J. Kingsbury President	
1.13 State Agency Signature   Date: 10/16/24		1.14 Name and Title of State Agency Signatory Robert R. Scott Commissioner	
1.15 Approval by the N.H. Department of Administration, Division of Personnel (if applicable)  By: _____ Director, On: _____			
1.16 Approval by the Attorney General (Form, Substance and Execution) (if applicable)  By:  On: 10/17/2024			
1.17 Approval by the Governor and Executive Council (if applicable)  G&C Item number: _____ G&C Meeting Date: _____			

Contractor Initials   
 Date 10/2/24

**2. SERVICES TO BE PERFORMED.** The State of New Hampshire, acting through the agency identified in block 1.1 ("State"), engages contractor identified in block 1.3 ("Contractor") to perform, and the Contractor shall perform, the work or sale of goods, or both, identified and more particularly described in the attached EXHIBIT B which is incorporated herein by reference ("Services").

**3. EFFECTIVE DATE/COMPLETION OF SERVICES.**

3.1 Notwithstanding any provision of this Agreement to the contrary, and subject to the approval of the Governor and Executive Council of the State of New Hampshire, if applicable, this Agreement, and all obligations of the parties hereunder, shall become effective on the date the Governor and Executive Council approve this Agreement, unless no such approval is required, in which case the Agreement shall become effective on the date the Agreement is signed by the State Agency as shown in block 1.13 ("Effective Date").

3.2 If the Contractor commences the Services prior to the Effective Date, all Services performed by the Contractor prior to the Effective Date shall be performed at the sole risk of the Contractor, and in the event that this Agreement does not become effective, the State shall have no liability to the Contractor, including without limitation, any obligation to pay the Contractor for any costs incurred or Services performed.

3.3 Contractor must complete all Services by the Completion Date specified in block 1.7.

**4. CONDITIONAL NATURE OF AGREEMENT.**

Notwithstanding any provision of this Agreement to the contrary, all obligations of the State hereunder, including, without limitation, the continuance of payments hereunder, are contingent upon the availability and continued appropriation of funds. In no event shall the State be liable for any payments hereunder in excess of such available appropriated funds. In the event of a reduction or termination of appropriated funds by any state or federal legislative or executive action that reduces, eliminates or otherwise modifies the appropriation or availability of funding for this Agreement and the Scope for Services provided in EXHIBIT B, in whole or in part, the State shall have the right to withhold payment until such funds become available, if ever, and shall have the right to reduce or terminate the Services under this Agreement immediately upon giving the Contractor notice of such reduction or termination. The State shall not be required to transfer funds from any other account or source to the Account identified in block 1.6 in the event funds in that Account are reduced or unavailable.

**5. CONTRACT PRICE/PRICE LIMITATION/ PAYMENT.**

5.1 The contract price, method of payment, and terms of payment are identified and more particularly described in EXHIBIT C which is incorporated herein by reference.

5.2 Notwithstanding any provision in this Agreement to the contrary, and notwithstanding unexpected circumstances, in no event shall the total of all payments authorized, or actually made hereunder, exceed the Price Limitation set forth in block 1.8. The payment by the State of the contract price shall be the only and the complete reimbursement to the Contractor for all expenses, of whatever nature incurred by the Contractor in the performance

hereof, and shall be the only and the complete compensation to the Contractor for the Services.

5.3 The State reserves the right to offset from any amounts otherwise payable to the Contractor under this Agreement those liquidated amounts required or permitted by N.H. RSA 80:7 through RSA 80:7-c or any other provision of law.

5.4 The State's liability under this Agreement shall be limited to monetary damages not to exceed the total fees paid. The Contractor agrees that it has an adequate remedy at law for any breach of this Agreement by the State and hereby waives any right to specific performance or other equitable remedies against the State.

**6. COMPLIANCE BY CONTRACTOR WITH LAWS AND REGULATIONS/EQUAL EMPLOYMENT OPPORTUNITY.**

6.1 In connection with the performance of the Services, the Contractor shall comply with all applicable statutes, laws, regulations, and orders of federal, state, county or municipal authorities which impose any obligation or duty upon the Contractor, including, but not limited to, civil rights and equal employment opportunity laws and the Governor's order on Respect and Civility in the Workplace, Executive order 2020-01. In addition, if this Agreement is funded in any part by monies of the United States, the Contractor shall comply with all federal executive orders, rules, regulations and statutes, and with any rules, regulations and guidelines as the State or the United States issue to implement these regulations. The Contractor shall also comply with all applicable intellectual property laws.

6.2 During the term of this Agreement, the Contractor shall not discriminate against employees or applicants for employment because of age, sex, sexual orientation, race, color, marital status, physical or mental disability, religious creed, national origin, gender identity, or gender expression, and will take affirmative action to prevent such discrimination, unless exempt by state or federal law. The Contractor shall ensure any subcontractors comply with these nondiscrimination requirements.

6.3 No payments or transfers of value by Contractor or its representatives in connection with this Agreement have or shall be made which have the purpose or effect of public or commercial bribery, or acceptance of or acquiescence in extortion, kickbacks, or other unlawful or improper means of obtaining business.

6.4. The Contractor agrees to permit the State or United States access to any of the Contractor's books, records and accounts for the purpose of ascertaining compliance with this Agreement and all rules, regulations and orders pertaining to the covenants, terms and conditions of this Agreement.

**7. PERSONNEL.**

7.1 The Contractor shall at its own expense provide all personnel necessary to perform the Services. The Contractor warrants that all personnel engaged in the Services shall be qualified to perform the Services, and shall be properly licensed and otherwise authorized to do so under all applicable laws.

7.2 The Contracting Officer specified in block 1.9, or any successor, shall be the State's point of contact pertaining to this Agreement.

## 8. EVENT OF DEFAULT/REMEDIES.

8.1 Any one or more of the following acts or omissions of the Contractor shall constitute an event of default hereunder ("Event of Default"):

- 8.1.1 failure to perform the Services satisfactorily or on schedule;
- 8.1.2 failure to submit any report required hereunder; and/or
- 8.1.3 failure to perform any other covenant, term or condition of this Agreement.

8.2 Upon the occurrence of any Event of Default, the State may take any one, or more, or all, of the following actions:

8.2.1 give the Contractor a written notice specifying the Event of Default and requiring it to be remedied within, in the absence of a greater or lesser specification of time, thirty (30) calendar days from the date of the notice; and if the Event of Default is not timely cured, terminate this Agreement, effective two (2) calendar days after giving the Contractor notice of termination;

8.2.2 give the Contractor a written notice specifying the Event of Default and suspending all payments to be made under this Agreement and ordering that the portion of the contract price which would otherwise accrue to the Contractor during the period from the date of such notice until such time as the State determines that the Contractor has cured the Event of Default shall never be paid to the Contractor;

8.2.3 give the Contractor a written notice specifying the Event of Default and set off against any other obligations the State may owe to the Contractor any damages the State suffers by reason of any Event of Default; and/or

8.2.4 give the Contractor a written notice specifying the Event of Default, treat the Agreement as breached, terminate the Agreement and pursue any of its remedies at law or in equity, or both.

## 9. TERMINATION.

9.1 Notwithstanding paragraph 8, the State may, at its sole discretion, terminate the Agreement for any reason, in whole or in part, by thirty (30) calendar days written notice to the Contractor that the State is exercising its option to terminate the Agreement.

9.2 In the event of an early termination of this Agreement for any reason other than the completion of the Services, the Contractor shall, at the State's discretion, deliver to the Contracting Officer, not later than fifteen (15) calendar days after the date of termination, a report ("Termination Report") describing in detail all Services performed, and the contract price earned, to and including the date of termination. In addition, at the State's discretion, the Contractor shall, within fifteen (15) calendar days of notice of early termination, develop and submit to the State a transition plan for Services under the Agreement.

## 10. PROPERTY OWNERSHIP/DISCLOSURE.

10.1 As used in this Agreement, the word "Property" shall mean all data, information and things developed or obtained during the performance of, or acquired or developed by reason of, this Agreement, including, but not limited to, all studies, reports, files, formulae, surveys, maps, charts, sound recordings, video recordings, pictorial reproductions, drawings, analyses, graphic representations, computer programs, computer printouts, notes, letters, memoranda, papers, and documents, all whether finished or unfinished.

10.2 All data and any Property which has been received from the State, or purchased with funds provided for that purpose under this Agreement, shall be the property of the State, and shall be returned to the State upon demand or upon termination of this Agreement for any reason.

10.3 Disclosure of data, information and other records shall be governed by N.H. RSA chapter 91-A and/or other applicable law. Disclosure requires prior written approval of the State.

11. **CONTRACTOR'S RELATION TO THE STATE.** In the performance of this Agreement the Contractor is in all respects an independent contractor, and is neither an agent nor an employee of the State. Neither the Contractor nor any of its officers, employees, agents or members shall have authority to bind the State or receive any benefits, workers' compensation or other emoluments provided by the State to its employees.

## 12. ASSIGNMENT/DELEGATION/SUBCONTRACTS.

12.1 Contractor shall provide the State written notice at least fifteen (15) calendar days before any proposed assignment, delegation, or other transfer of any interest in this Agreement. No such assignment, delegation, or other transfer shall be effective without the written consent of the State.

12.2 For purposes of paragraph 12, a Change of Control shall constitute assignment. "Change of Control" means (a) merger, consolidation, or a transaction or series of related transactions in which a third party, together with its affiliates, becomes the direct or indirect owner of fifty percent (50%) or more of the voting shares or similar equity interests, or combined voting power of the Contractor, or (b) the sale of all or substantially all of the assets of the Contractor.

12.3 None of the Services shall be subcontracted by the Contractor without prior written notice and consent of the State.

12.4 The State is entitled to copies of all subcontracts and assignment agreements and shall not be bound by any provisions contained in a subcontract or an assignment agreement to which it is not a party.

13. **INDEMNIFICATION.** The Contractor shall indemnify, defend, and hold harmless the State, its officers, and employees from and against all actions, claims, damages, demands, judgments, fines, liabilities, losses, and other expenses, including, without limitation, reasonable attorneys' fees, arising out of or relating to this Agreement directly or indirectly arising from death, personal injury, property damage, intellectual property infringement, or other claims asserted against the State, its officers, or employees caused by the acts or omissions of negligence, reckless or willful misconduct, or fraud by the Contractor, its employees, agents, or subcontractors. The State shall not be liable for any costs incurred by the Contractor arising under this paragraph 13. Notwithstanding the foregoing, nothing herein contained shall be deemed to constitute a waiver of the State's sovereign immunity, which immunity is hereby reserved to the State. This covenant in paragraph 13 shall survive the termination of this Agreement.

**14. INSURANCE.**

14.1 The Contractor shall, at its sole expense, obtain and continuously maintain in force, and shall require any subcontractor or assignee to obtain and maintain in force, the following insurance:

14.1.1 commercial general liability insurance against all claims of bodily injury, death or property damage, in amounts of not less than \$1,000,000 per occurrence and \$2,000,000 aggregate or excess; and

14.1.2 special cause of loss coverage form covering all Property subject to subparagraph 10.2 herein, in an amount not less than 80% of the whole replacement value of the Property.

14.2 The policies described in subparagraph 14.1 herein shall be on policy forms and endorsements approved for use in the State of New Hampshire by the N.H. Department of Insurance, and issued by insurers licensed in the State of New Hampshire.

14.3 The Contractor shall furnish to the Contracting Officer identified in block 1.9, or any successor, a certificate(s) of insurance for all insurance required under this Agreement. At the request of the Contracting Officer, or any successor, the Contractor shall provide certificate(s) of insurance for all renewal(s) of insurance required under this Agreement. The certificate(s) of insurance and any renewals thereof shall be attached and are incorporated herein by reference.

**15. WORKERS' COMPENSATION.**

15.1 By signing this agreement, the Contractor agrees, certifies and warrants that the Contractor is in compliance with or exempt from, the requirements of N.H. RSA chapter 281-A ("*Workers' Compensation*").

15.2 To the extent the Contractor is subject to the requirements of N.H. RSA chapter 281-A, Contractor shall maintain, and require any subcontractor or assignee to secure and maintain, payment of Workers' Compensation in connection with activities which the person proposes to undertake pursuant to this Agreement. The Contractor shall furnish the Contracting Officer identified in block 1.9, or any successor, proof of Workers' Compensation in the manner described in N.H. RSA chapter 281-A and any applicable renewal(s) thereof, which shall be attached and are incorporated herein by reference. The State shall not be responsible for payment of any Workers' Compensation premiums or for any other claim or benefit for Contractor, or any subcontractor or employee of Contractor, which might arise under applicable State of New Hampshire Workers' Compensation laws in connection with the performance of the Services under this Agreement.

**16. WAIVER OF BREACH.** A State's failure to enforce its rights with respect to any single or continuing breach of this Agreement shall not act as a waiver of the right of the State to later enforce any such rights or to enforce any other or any subsequent breach.

**17. NOTICE.** Any notice by a party hereto to the other party shall be deemed to have been duly delivered or given at the time of mailing by certified mail, postage prepaid, in a United States Post Office addressed to the parties at the addresses given in blocks 1.2 and 1.4, herein.

**18. AMENDMENT.** This Agreement may be amended, waived or discharged only by an instrument in writing signed by the parties hereto and only after approval of such amendment, waiver or discharge by the Governor and Executive Council of the State of New Hampshire unless no such approval is required under the circumstances pursuant to State law, rule or policy.

**19. CHOICE OF LAW AND FORUM.**

19.1 This Agreement shall be governed, interpreted and construed in accordance with the laws of the State of New Hampshire except where the Federal supremacy clause requires otherwise. The wording used in this Agreement is the wording chosen by the parties to express their mutual intent, and no rule of construction shall be applied against or in favor of any party.

19.2 Any actions arising out of this Agreement, including the breach or alleged breach thereof, may not be submitted to binding arbitration, but must, instead, be brought and maintained in the Merrimack County Superior Court of New Hampshire which shall have exclusive jurisdiction thereof.

**20. CONFLICTING TERMS.** In the event of a conflict between the terms of this P-37 form (as modified in EXHIBIT A) and any other portion of this Agreement including any attachments thereto, the terms of the P-37 (as modified in EXHIBIT A) shall control.

**21. THIRD PARTIES.** This Agreement is being entered into for the sole benefit of the parties hereto, and nothing herein, express or implied, is intended to or will confer any legal or equitable right, benefit, or remedy of any nature upon any other person.

**22. HEADINGS.** The headings throughout the Agreement are for reference purposes only, and the words contained therein shall in no way be held to explain, modify, amplify or aid in the interpretation, construction or meaning of the provisions of this Agreement.

**23. SPECIAL PROVISIONS.** Additional or modifying provisions set forth in the attached EXHIBIT A are incorporated herein by reference.

**24. FURTHER ASSURANCES.** The Contractor, along with its agents and affiliates, shall, at its own cost and expense, execute any additional documents and take such further actions as may be reasonably required to carry out the provisions of this Agreement and give effect to the transactions contemplated hereby.

**25. SEVERABILITY.** In the event any of the provisions of this Agreement are held by a court of competent jurisdiction to be contrary to any state or federal law, the remaining provisions of this Agreement will remain in full force and effect.

**26. ENTIRE AGREEMENT.** This Agreement, which may be executed in a number of counterparts, each of which shall be deemed an original, constitutes the entire agreement and understanding between the parties, and supersedes all prior agreements and understandings with respect to the subject matter hereof.

Contractor Initials   
Date 10/2/21

**EXHIBIT A**  
**SPECIAL CONDITIONS**

**I. NEW HAMPSHIRE STATE AND LOCAL FISCAL RECOVERY FUNDS FEDERAL REQUIREMENTS**

This Agreement is funded under a grant to the State of New Hampshire (State) and subsequently through the Governor’s Office for Emergency Relief and Recovery (GOFERR) and New Hampshire Department of Environmental Services (NHDES) as approved by the Governor and Executive Council from the federal government through the Department of Treasury (Treasury) through the American Rescue Plan Act of 2021 (ARPA), with the source of funds being the State and Local Fiscal Recovery Funds (SLFRF) identified under the Catalog of Federal Domestic Assistance (CFDA) number #21.027. The Federal Award Identification Number (FAIN) for this award is SLFRP0145. This grant award is a subaward of SLFRF funds and any and all compliance requirements, as updated by Treasury, for use of SLFRF funds are applicable to the Subrecipient, without further notice. Treasury requirements are published and updated at <https://home.treasury.gov/policy-issues/coronavirus/assistance-for-state-local-and-tribal-governments/state-and-local-fiscal-recovery-funds>.

**FEDERAL FUNDING ACCOUNTABILITY and TRANSPARENCY ACT (FFATA).** The Subrecipient shall comply with the terms of the FFATA by providing NHDES with their Unique Entity Identifier (Unique Entity ID), and all applicable Executive Compensation Data information as required under the FFATA. A Unique Entity ID may be obtained by visiting <https://www.sam.gov>.

**SAM REGISTRATION:** The Subrecipient must have an active registration with the System for Award Management (SAM) (<https://www.sam.gov>).

**GENERALLY ACCEPTED ACCOUNTING PROCEDURES:** The Subrecipient, if a governmental entity, shall maintain project accounts in accordance with the Generally Accepted Accounting Principles (GAAP), including standards relating to the reporting of infrastructure assets as issued by the Governmental Accounting Standards Board (GASB). The full text of Governmental Accounting Reporting Standards is available through the GASB website at: <http://www.gasb.org>

**RECORDKEEPING REQUIREMENTS:** The Subrecipient must maintain records and financial documents for five years after all funds have been expended or returned to the State and/or Treasury. Treasury may request transfer of records of long-term value at the end of such period. Wherever practicable, such records should be collected, transmitted, and stored in open and machine-readable formats.

Subrecipient must agree to provide or make available such records to the State and Treasury upon request, and to the Government Accountability Office (“GAO”), Treasury’s Office of Inspector General (“OIG”), and their authorized representative in order to conduct audits or other investigations.

**SINGLE AUDIT REQUIREMENTS:** Recipients and subrecipients that expend more than \$750,000 in Federal awards during their fiscal year will be subject to an audit under the Single Audit Act and its implementing regulation at 2 CFR Part 200, Subpart F regarding audit requirements. Recipients and subrecipients may also refer to the Office of Management and Budget (OMB) Compliance Supplements for audits of federal funds and related guidance and the Federal Audit Clearinghouse to see examples and single audit submissions.

**CIVIL RIGHTS COMPLIANCE:** The sub-grantee, contractor, subcontractor, successor, transferee, and assignee shall comply, and shall include in every contract or agreement funded with these funds this same requirement to comply, with Title VI of the Civil Rights Act of 1964, which prohibits recipients of federal financial assistance from excluding from a program or activity, denying benefits of, or otherwise discriminating against a person on the basis of race, color, or national origin (42 U.S.C. § 2000d et seq.), as implemented by the Department of the Treasury's Title VI regulations, 31 CFR Part 22, which are herein incorporated by reference and made a part of this contract (or agreement). Title VI also includes protection to persons with "Limited English Proficiency" in any program or activity receiving federal financial assistance, 42 U.S.C. § 2000d et seq., as implemented by the Department of the Treasury's Title VI regulations, 31 CFR Part 22, and herein incorporated by reference and made a part of this contract or agreement.

In order to carry out its enforcement responsibilities under Title VI of the Civil Rights Act, NHDES may collect and review information from subrecipients to ascertain their compliance with the applicable requirements before and after providing financial assistance. Treasury's implementing regulations, 31 CFR part 22, and the Department of Justice (DOJ) regulations, Coordination of Non-discrimination in Federally Assisted Programs, 28 CFR part 42, provide for the collection of data and information from recipients and subrecipients (see 28 CFR 42.406).

**PERIOD OF PERFORMANCE:** All funds are subject to statutory requirements that they must be used for costs incurred by the recipient during the period that begins on March 3, 2021, and ends on December 31, 2024, and that award funds for the financial obligations incurred by December 31, 2024 must be expended by December 31, 2026.

**PROCUREMENT, SUSPENSION AND DEBARMENT:** Recipients are responsible for ensuring that any procurement using SLFRF funds, or payments under procurement contracts using such funds are consistent with the procurement standards set forth in the Uniform Guidance at 2 CFR 200.317 through 2 CFR 200.327, as applicable. The Uniform Guidance establishes in 2 CFR 200.319 that all procurement transactions for property or services must be conducted in a manner providing full and open competition, consistent with standards outlined in 2 CFR 200.320, which allows for non-competitive procurements only in circumstances where at least one of the conditions below is true: the item is below the micro-purchase threshold; the item is only available from a single source; the public exigency or emergency will not permit a delay from publicizing a competitive solicitation; or after solicitation of a number of sources, competition is determined inadequate. Subrecipients must have and use documented procurement procedures that are consistent with the standards outlined in 2 CFR 200.317 through 2 CFR 200.320.

Subrecipient shall fully comply with Subpart C of 2 C.F.R. Part 180 entitled, "Responsibilities of Participants Regarding Transactions Doing Business With Other Persons," as implemented and supplemented by 2 C.F.R. Part 1532. subrecipient is responsible for ensuring that any lower tier covered transaction, as described in Subpart B of 2 C.F.R. Part 180, entitled "Covered Transactions," and 2 C.F.R. § 1532.220, includes a term or condition requiring compliance with 2 C.F.R. Part 180, Subpart C. subrecipient is responsible for further requiring the inclusion of a similar term and condition in any subsequent lower tier covered transactions. subrecipient acknowledges that failing to disclose the information required under 2 C.F.R. § 180.335 to NHDES may result in the delay or negation of this assistance agreement, or pursuance of administrative remedies, including suspension and debarment. Subrecipients may access the System for Award Management (SAM) exclusion list at <https://sam.gov/SAM/> to determine whether an entity or individual is presently excluded or disqualified.

By entering into this agreement, the subrecipient certifies that the subrecipient is not debarred or suspended. Furthermore, the subrecipient certifies that no part of this contract will be subcontracted to a debarred or suspended person or firm.

**DOMESTIC PREFERENCES FOR PROCUREMENTS (2 C.F.R. § 200.322)** As appropriate and to the extent consistent with law, to the greatest extent practicable, there is a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section must be included in all subawards including all contracts and purchase orders for work or products under this award.

For purposes of this section:

- (1) "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
- (2) "Manufactured products" means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

**PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT:**

As required by 2 CFR 200.216, subrecipients, are prohibited from obligating or expending loan or grant funds to procure or obtain; extend or renew a contract to procure or obtain; or enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115-232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or

affiliate of such entities). Recipients, Subrecipients, and borrowers also may not use federal funds to purchase:

- a. For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).
- b. Telecommunications or video surveillance services provided by such entities or using such equipment.
- c. Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

Consistent with 2 CFR 200.471, costs incurred for telecommunications and video surveillance services or equipment such as phones, internet, video surveillance, and cloud servers are allowable except for the following circumstances:

- a. Obligating or expending funds for covered telecommunications and video surveillance services or equipment or services as described in 2 CFR 200.216 to:
  - (1) Procure or obtain, extend or renew a contract to procure or obtain;
  - (2) Enter into a contract (or extend or renew a contract) to procure; or
  - (3) Obtain the equipment, services, or systems. Certain prohibited equipment, systems, or services, including equipment, systems, or services produced or provided by entities identified in section 889, are recorded in the System for Award Management exclusion list which can be found at <https://www.sam.gov/SAM/pages/public/index.jsf>

**REPORTING REQUIREMENTS:** For all projects listed under the Water and Sewer Expenditure Categories (see Table below), detailed project-level information is required.

5: Infrastructure	
5.1	Clean Water: Centralized Wastewater Treatment
5.2	Clean Water: Centralized Wastewater Collection and Conveyance
5.3	Clean Water: Decentralized Wastewater
5.4	Clean Water: Combined Sewer Overflows
5.5	Clean Water: Other Sewer Infrastructure
5.6	Clean Water: Stormwater
5.7	Clean Water: Energy Conservation

5.8	Clean Water: Water Conservation
5.9	Clean Water: Nonpoint Source
5.10	Drinking water: Treatment
5.11	Drinking water: Transmission & Distribution
5.12	Drinking water: Transmission & Distribution: Lead Remediation
5.13	Drinking water: Source
5.14	Drinking water: Storage
5.15	Drinking water: Other water infrastructure

Definitions for water and sewer Expenditure Categories can be found in the EPA's handbooks. For "clean water" expenditure category definitions, please see: <https://www.epa.gov/sites/production/files/2018-03/documents/cwdefinitions.pdf>. For "drinking water" expenditure category definitions, please see: <https://www.epa.gov/dwsrf/drinking-water-state-revolving-fund-national-information-management-system-reports>.

All Clean Water and Drinking Water infrastructure projects:

- Projected/actual construction start date (month/year)
- Projected/actual initiation of operations date (month/year)
- Location (for broadband, geospatial location data)

For water and sewer projects:

- National Pollutant Discharge Elimination System (NPDES) Permit Number (if applicable; for projects aligned with the Clean Water State Revolving Fund)
- Public Water System (PWS) ID number (if applicable; for projects aligned with the Drinking Water State Revolving Fund)

**II. FEDERAL REQUIREMENTS APPLICABLE TO ARPA INFRASTRUCTURE PROJECTS OVER \$10M**

For projects over \$10 million (based on expected total cost) a recipient shall provide a certification that, for the relevant project, all laborers and mechanics employed by contractors and subcontractors in the performance of such project are paid wages at rates not less than those prevailing, as determined by the U.S. Secretary of Labor in accordance with subchapter IV of chapter 31 of title 40, United States Code (commonly known as the "Davis-Bacon Act"), for the corresponding classes of laborers and mechanics employed on projects of a character similar to the contract work in the civil subdivision of the State (or the District of Columbia) in which the work is to be performed. All contracts and subcontracts for the construction of treatment works shall insert in full in any contract the standard Davis-Bacon contract clause as specified by 29 CFR §5.5(a).

### III. OTHER SPECIAL PROVISIONS

A. In addition to the above special provisions, the following provisions as required by federal regulations apply to this Agreement:

1. **Financial management.** *The Contractor shall comply with 2 CFR part 200 Subpart D and the specific standards regarding financial reporting, accounting records, internal control, budget control, allowable cost, source documentation, and cash management outlined therein.*
2. **Allowable costs.** *All costs charged to this Agreement shall be eligible, necessary, and reasonable for performing the tasks outlined in the approved project scope of services. The costs, including match, shall be incurred during the period of performance of the project, and shall be allowable, meaning that the costs must conform to specific federal requirements detailed in 2 CFR part 200 Subpart E.*
3. **Property Management.** *The Contractor shall comply with the property management and procedures detailed in 2 CFR Part 200 Subpart D.*
4. **Restrictions on Lobbying.** *The Contractor shall comply with the terms of 15 CFR part 28 and 2 CFR Part 200 Subpart E which prohibit the use of federal Contract funds to influence (or attempt to influence) a federal employee, and requires the submission of Standard Form LLL ("Disclosure of Lobbying Activities") if nonfederal funds have been used to influence (or attempt to influence) a federal employee.*
5. **Drug-Free Workplace.** *The Contractor shall comply with the terms of 2 CFR part 1329 which require that as a condition of the Agreement, certification that they maintain a drug-free workplace. By signing and submitting the Agreement, the Contractor certifies that he or she will not engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance in conducting any activity associated with the Agreement.*
6. **Protection for Whistleblowers.** *The Contractor shall comply with the terms of 41 U.S.C. §471 regarding Whistleblower protections. As described in 41 USC §471 "an employee of a contractor, subcontractor, grantee, or subgrantee or personal services contractor may not be discharged, demoted, or otherwise discriminated against as a reprisal for disclosing to a person or body described in paragraph (2) information that the employee reasonably believes is evidence of gross mismanagement of a Federal contract or grant, a gross waste of Federal funds, an abuse of authority relating to a Federal contract or grant, a substantial and specific danger to public health or safety, or a violation of law, rule, or regulation related to a Federal contract (including the competition for or negotiation of a contract) or grant."*

## **EXHIBIT B** **SERVICES**

Construction for the Little Bog Pond Dam & Lower Trio Pond Dam Reconstruction Project (NHDES Dam No. D185002 and D185003) as designed and specified by GEI Consultants.

The Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

This project is located in Nash Stream Forest in Coos County, New Hampshire, and is being performed for the New Hampshire Department of Environmental Services ("Owner/Engineer"). The intent of the project is to rehabilitate the existing dams to meet current dam safety regulations and include:

1. Construct new reinforced concrete spillways, training walls, wing walls, stop log bays and operator bridges.
2. Install upstream and downstream riprap protection.
3. Construct earth embankments and associated filter drains.
4. Protect select culverts to access the sites.
5. Improve ~1.5 mile road access from Little Bog Pond Dam to Lower Trio Pond Dam.
6. Remove existing bridge and install new bridge along access to Lower Trio Pond Dam.

The Project Manual issued in June 2024 and Addendums No. 1 (dated August 14, 2024), No. 2 (dated August 23, 2024) and No. 3 (dated September 9, 2024) are incorporated as part of Exhibit B by reference. The Project Manual cover and table of contents and Addendums 1-3 cover sheets are attached.



**PROJECT MANUAL FOR:**

**LITTLE BOG POND DAM AND LOWER TRIO  
POND DAM RECONSTRUCTION PROJECT  
NHDES #D185003 & #D185002**

**NASH STREAM FOREST NATURAL AREA  
COOS COUNTY  
NEW HAMPSHIRE**

**100% Design  
JUNE 2024**

**Owner: The New Hampshire Department of  
Environmental Services - Dam Bureau  
29 Hazen Drive  
Concord, NH 03302**

**Engineer:**

**GEI Consultants, Inc.  
400 Unicorn Park Dr.  
Woburn, MA 01801**



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EC-102	EROSION CONTROL DETAILS AND NOTES
CD-101	CONTROL OF WATER
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**Little Bog Pond Dam & Lower Trio Pond Dam  
Reconstruction Project  
Addendum #1**

Please find the following ADDENDUM #1, dated August 14<sup>th</sup>, 2024, for the Little Bog Pond Dam & Lower Trio Pond Dam Reconstruction Project which is to be included as part of the Contract Documents thereof:

As per Specification Section 00200, Article 13.09 the bid shall contain an acknowledgment of receipt of this Addendum #1, (and all addenda). The number and date of which shall be filled in by filling out the information in the space provided in Section 00301 – Bid Form, Article 3 – 3.01A.

Please note bids are due Thursday, September 5, 2024, at 2:00 PM (EST). Hard copy bids may be received as stipulated in the Contract Documents. This Addendum has been issued to address clarifications in the Contract Specifications as well as address Prospective Contractor Questions after the August 7, 2024, Pre-Bid Meeting:

ITEM #1: Meeting Purpose: Mandatory pre-bid site walk for Little Bog and Lower Trio Ponds Dam+ Reconstruction Project with potential bidders to review pertinent project details and resolve any questions bidders may have. Notes from the site walk and discussions are summarized below.

Meeting Attendees (Sign-In Sheet included as Attachment #1):

Joshua Jacak, GEI Consultants	Eric DeFélice, DeFélice Corp.
Jim Nickerson, GEI Consultants	Cody Williams, New England Infrastructure
Michael Timmins, NHDES	William Linsky, Charter
Charlie Krautmann, NHDES	Bill Peach, T.Ford
Maggie Machinist, DNCR	Jim Black, Michels
	Clemerite Vanas, Kingsbury Co.

1. Introductions and Project Overview
2. Laydown Areas
  - NHDES will clear all trees in laydown areas shown on Contract Drawings in Fall of 2024. NHDES will remove timber but leave stumps. The contractor will be responsible for stump removal.
  - Contractor responsible for any clearing adjacent to the dam work.
3. Site Access
  - Contract documents currently state the mobilization may commence on May 5<sup>th</sup>, 2025. After further discussions the Contractor will be able to mobilize on May 19<sup>th</sup>, 2025, with the possibility to start one or two weeks earlier pending road conditions and approval by NHDES. The access to Nash Stream will be closed after the first week of December 2025. The contractor will be responsible for any snow removal in the fall of 2025 (October, November and December) to access the site. Punchlist items can be completed the following spring from May 2026 through June 2026.
  - Accessing the site the first two weeks of May will depend on winter snowfall amounts and conditions of access road in spring. Condition of roadway will need to be documented prior to commencing construction activities. Any damage to roadway will be responsibility of contractor to repair.
  - Emerson Road, which is the primary access to Nash Stream Road, is maintained by the Town of Stark. This road may be posted in the first few weeks of May for oversized loads to reduce frost heaves. At the Contractor's discretion, they can seek a waiver from the Town of Stark if the road is posted but will need to post an insurance bond with the Town to use heavy equipment on this road. Spring conditions vary and sometimes the posting is lifted at the end of April.
4. Work Hours
  - Contract documents currently state work hours are to be Monday – Friday 7 A.M. to 6 P.M.

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- After discussions we are proposing to change working hours to be Monday – Friday 6 A.M. to 8 P.M., and Saturday 8 A.M. to 6 P.M., with Sunday work allowed with prior approval by RPR and NHDES.
5. Cofferdam Construction/Construction Sequence
- Clarification that cofferdam does not need to be a Port-A-Dam and other alternative will be considered.
  - Alternative means to provide bypass flows will also be considered.
    - Excavation plan as shown in Contractor drawings is a suggestion and could be expanded to allow any bypass piping to run adjacent to new spillway footprint and construct spillway in one phase.
  - Means and methods of cofferdam construction are ultimately up to the Contractor. Any plan will need to be approved by RPR and NHDES.
  - NHDES will draw down ponds during Fall of 2024.
    - At Little Bog Pond NHDES will remove/excavate boulders within the spillway and lower impoundment approximately four to five feet. The Contractor may have to remove an additional one to two feet to achieve elevation 2036.0 per the contract drawings.
    - At Lower Trio NHDES will remove existing stop logs which will draw down the impoundment to the upstream toe of the embankment. Additional drawdown may have to occur in the spring and/or summer of 2025 to achieve elevation 2305.0 per the contract drawings.
6. Reuse of On-Site Riprap
- The Contractor is to reuse as many existing boulders on-site as possible. Some boulders will need to be broken mechanically to achieve the riprap specification.
  - Assume excess boulders will be removed from the site by the Contractor. Coordinated with the RPR/Owner before removal for possible alternate use on-site.
7. Access Road
- Contractors responsible for minimum improvements needed to get equipment up to Lower Trio Pond Dam.
8. Bidding Process
- Bids Due September 5<sup>th</sup> by 2 P.M. EST
  - Notice to Proceed provided at latest in December 2024
9. Prevailing Wages
- The expected total cost of the project is estimated to be less than \$10 million and therefore Section 00805 Article 3 SC-103.06a I Federal Requirements is not applicable. The Engineer's Estimate will not be provided to bidders.
10. Buy America Requirement
- There is a requirement for Contractor to make best effort to buy American; but it is not required.

ITEM #2: Revised seed mix called out in specification Section 32 92 19 2.03A and B and on drawings C-109, C-110, C-209, and C-210 in response to discussions with New Hampshire Natural Heritage Bureau. Updated drawings sheets and spec language is included as Attachment #2.

ITEM #3: Response to Contractor Questions

1. Will NHDES consider a 1 week bid date extension to 9/12/2024? No.
2. Will the concrete pad shown on sheet C-103 detail A, require removal at the completion of the project? Concrete pad is to be left in place.
3. Will an on-site location be provided for disposal of surplus soils, rock, brush and stumps? No, Contractor to assume all excess material will be hauled off-site for disposal.

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4. Can the CAD file be provided for use during the bid preparation? No.
5. Please confirm both Dams can be worked simultaneously. Yes, work on both dams can be performed concurrently.
6. During the site walk it was discussed that the Contractor has the option of moving the cofferdams closer to the dams, to alleviate the retained height of the water. If this is required because of limitations with the Porta-Dam then will GEI revise the limits of grading to coincide with the Porta-Dam relocation? See additional Cofferdam Dam notes provided under ITEM #1. Grading limits as shown on Contract Drawings will not be revised. Slope of proposed dam embankment needs to remain at 2.5:1.
7. Please confirm that the Contractor can enter the pond to remove obstructions for the installation of the Porta-Dam. Contractor is permitted to work within the Limits of Work as shown on the Contract Drawings, including areas within the pond as needed for installation of cofferdams.
8. Please confirm that should the temporary measures fail due to a storm in excess of the design by GEI, then it will be considered an act of God and the Contractor shall be held harmless. The drawings show a concept for control of water and the minimum requirements for the Contractor perform a delegated design of the cofferdam. Means and methods of cofferdam design and construction are ultimately up to the Contractor.
9. Please confirm the 24" pipes can be installed outside the reconstructed spillway allowing the entire structure to be built in one phase. Yes, see additional Cofferdam Dam notes provided under ITEM #1.
10. Please confirm if weekend work is allowed. Yes, see response provided under ITEM #1.
11. Please confirm that the Owner/Engineer do not require a trailer. Owner/Engineer does not need trailer on-site. The Contractor's trailer/facility shall be large enough to accommodate on-site meetings and office space for the RPR for duration of construction.
12. Please confirm limits of tree clearing by DES. See response provided under ITEM #1.
13. Please confirm that the proposed design for Lower Trio Road does not need to be constructed. All that is needed is for the Contractor to be able to access the work area as needed with materials and equipment. As stated under Item #1, Contractor is responsible for minimum improvements needed to get materials, equipment, and personnel up to Lower Trio Pond Dam.
14. Please confirm if Title is available for the disposal of the box truck. If not, then how to proceed. Title is not available for box truck and owner is unknown. Follow procedures outlined in State of New Hampshire Title and Anti-Theft Handbook.
15. Please confirm that the Project is not required to follow the "Buy American" regulations. See response provided under ITEM #1.
16. Based upon observations made during the site walk, and due to a lack of subsurface investigations, will NH DES revise the Bid Form to provide an item for Rock Removal, including ledge and boulders within the required excavations? As outlined in the Spec Section 01 20 00: Measurement and Payment, removal and stockpiling of existing boulders is to be paid for under "General Site Demolition".

**Attachments:**

- Attachment #1 – Pre-Bid Meeting Sign-in Sheet
- Attachment #2 – Updated Drawings Sheets and Specifications

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**Attachment #1**

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**Pre-Bid Meeting Sign-In Sheet**



# Pre-Bid Meeting

## Meeting Sign-In Sheet

Project Name: Little Bog Pond and Lower Trip Pond Dam Reconstruction Project No: 2204640

Date, Time & Location: August 7, 2024; 10:00 am, NASH Stream Forest

Participants Attending This Meeting <i>Please Print</i>	Representing:	Telephone:	E-Mail:
Joshua Jack	GEI	960-174-4022	jjack@geiconsulting.com
Eric DeFelic	DeFelic Corp <i>New England Infrastructure</i>	978-815-8340	eng@defelic.com
Cody Williams	NEI	478-293-3535	cwilliams@neiconsulting.com
William Linskey	Charter	617-655-4270	wlinskey@charter.us
Bill Peach	T Ford	978-995-5787	bill@tford.com
Jim Black	J Michels	920-539-3405	jblack@michels.us
Charlie Kretzmann	NHDES	603-419-0894	charles.kretzmann@nh.gov
CLEMENTE VARAS	KINGSBURY CO.	302 224 6176	CVARAS@KINGSBURYCO.COM
Jim Nickerson	GEI	351-771-1577	jnickerson@geiconsulting.com

Contractor Initials *JD*  
Date *10/2/24*

## **Attachment #2**

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**Updated Drawings Sheets and Specifications**

SECTION 32 92 19

LOAMING, SEEDING, AND REVEGETATION

PART I GENERAL

1.01 WORK INCLUDES

- A. The Work under this Section includes the furnishing of all labor, equipment, supplies, and materials for loaming, seeding, revegetating, and related items, as indicated on the drawings and/or as specified herein as follows:
  - 1. Loam
  - 2. Seeding
  - 3. Fertilizing (using low phosphate, slow-release fertilizer only)
  - 4. Temporary Erosion Protection
  - 5. Maintenance
- B. The Work of this item covers loaming and seeding operations, as well as prior preparation and subsequent conditioning (fertilizer and erosion protection) and maintenance, at all locations where fill is placed, excavations made, or existing vegetation is disturbed.
- C. The performance of this work shall be judged by the establishment of appropriate ground cover, as specified, in the indicated areas. The CONTRACTOR shall be responsible for the watering and other proper care of the seeded areas until final acceptance.
- D. The CONTRACTOR shall supply acceptable wood-free loam from off-site sources as applicable to supplement that which was generated from onsite stripping activity and judged suitable for re-use in the work by the RPR.
- E. In general, the work shall consist of all loaming, seeding, and revegetation necessary to prepare all areas on the site for revegetation, seeding with approved seed mix, conditioning and fertilizing the soil as required, protecting the area from erosion through the use of mulch or biodegradable blankets, and maintaining the seeded areas (watering, etc.) until the vegetation is well established. The CONTRACTOR shall be responsible for all maintenance and repair of loam and seeded areas until final acceptance. The CONTRACTOR shall loam, seed, and revegetate all areas where construction shall take place as shown on the Contract Drawings, as well as any other areas necessary for the Work of the Contract (with approval from the RPR). The CONTRACTOR shall perform ALL necessary loaming, seeding, and revegetation at all locations on the site.
- F. Loaming, seeding, and revegetation of areas disturbed by the CONTRACTOR but beyond the limits of work shown on the Contract Drawings shall be executed as per this Section but shall be paid for under the separate pay item for Site Restoration.

1.02 PROTECTION

- A. Because the project is located adjacent to and within the outlet channel of Little Bog and Lower Trio Ponds and other wetland areas adjacent to the Ponds and channel shoreline/banks, it is critical that no fertilizers or other chemicals be allowed to reach open water or stream areas.

100% Design Submittal  
June 2024

Loaming, Seeding, Revegetation  
32 92 19-1

In accordance with the New Hampshire Shoreland Water Quality Protection Act (NH RSA 483-B:9(d)), no fertilizer shall be applied to vegetation or soils located within 25 feet of the reference line of any public water. Beyond 25 feet, slow or controlled release fertilizer, as defined by rules adopted by the department (NHDES), may be used. See Paragraph 2.04.A below for additional information on acceptable fertilizer.

DO NOT over-fertilize and take care that runoff containing fertilizer does not enter the Lake or downstream outlet channels. NO herbicides, pesticides, or similar chemicals will be allowed at the site. Fertilizers must be approved prior to application and shall not contain herbicides or pesticides.

1.03 SUBMITTALS

- A. The CONTRACTOR shall submit to the RPR for review and approval, the following information a minimum of eight (14) days in advance of starting any loaming, seeding, and revegetation operations. Provide composition, test data, Manufacturer's information, and/or source of following material:
  - 1. Soil Chemistry Test Results
  - 2. Off-site loam material
  - 3. Seed (including certification of weed content)
  - 4. Limestone
  - 5. Fertilizer
  - 6. Compost
  - 7. Mulch and/or Erosion Protection Blanket material

PART 2 PRODUCTS

2.01 LOAM

- A. Loam, to be furnished from sources outside of the project limits, shall consist of loose, friable, sandy loam, or loam, free of admixture of subsoil, refuse, stumps, rocks, brush, weeds and other materials which will prevent the formation of a suitable seed bed. No stones in excess of one and one-quarter inch (1-1/4") in diameter will be tolerated. The soils shall conform to the following gradation:

<u>Sieve Size</u>	<u>Percent Finer by Weight</u>
1-inch	90-100%
No. 4	70-95%
No. 40	30-85%
No. 100	25-50%
No. 200	20-40%

(No more than 15 percent of loam shall be clay)

Mixing of any on-site peat and mineral soils to make loam is acceptable. The product shall meet the requirements loam above.

The CONTRACTOR shall notify the RPR of the location of the source of supply for the loam at least ten days prior to delivery of the loam to the project site. Any imported materials which do not meet the above requirements shall be rejected and removed from the site.

The loam shall contain at least 10%, but not more than 20%, organic material as determined by the loss during ignition of oven-dried samples. Test samples shall be dried to a constant weight at a temperature of 221°F ± 5°F. Loam shall be amended with well-cured compost as necessary to achieve minimum 10% organic content.

Loam shall not have greater than 500 ppm salt.

B. Testing Requirement:

All loam shall, at the CONTRACTOR's expense, be subjected to a Standard Soil Test with Organic Matter which shall include reporting of the following parameters: pH, Buffer pH, Extractable Nutrients, Extractable Heavy Metals (e.g. Lead), Cation Exchange Capacity, Percent Base Saturation, Percent Organic Matter, and Total Soil Nitrogen. The laboratory test results shall provide recommendations for nutrient and pH adjustments.

A minimum of one test shall be performed on each distinct off-site loam source. A standard soil test shall be performed for every 500 CY of loam used at the site.

Soil testing shall be performed at the University of New Hampshire Cooperative Extension Soil and Plant Tissue Testing Laboratory or other approved accredited Testing Laboratory.

2.02 COMPOST

A. Compost shall be mature and well cured (4-6 months curing after completion of thermophilic compost process) and moderately screened. It shall have a moisture content that has results in no visible free water or dust produced when handling the material.

B. Compost shall meet the following criteria:

	Minimum	Maximum
Percent passing 2"	100%	--
Percent passing 1"	90%	100%
Percent passing ½"	70%	100%
Percent passing ¼"	4%	75%

C. Compost pH shall be between 6.0 and 8.5. Manufactured inert material (plastic, metal, etc) shall be less than 0.5% on a dry weight or volume basis, whichever provides the least amount of foreign material. Minimum organic matter shall be 40% dry weight basis as determined by Loss-On-Ignition Matter Method. Soluble salt contents shall be less than 6.0 mmhos/cm. The compost shall be composed of a minimum of 65% by volume recycled plant waste. A maximum of 35% by volume of other approved organic waste

and/or biosolids may be substituted for recycled plant waste. The supplier shall provide written verification of feedstock sources.

- D. Compost shall be certified free of herbicides and other harmful chemicals.

### 2.03 SEED

- A. Wetland Seed Mix: Seed shall be the commercial product of a reputable grower approved by the RPR and shall be certified to be not more than one (1) year old. Seed mixes shall be provided by New England Wetlands Plants, Inc. (NEWPI) or other approved grower/vendor and optimized for the on-site conditions shall be applied where shown on the Contract Drawings. The seed mix proposed for use shall be the New England Erosion Control/Restoration Mix for Detention Basins and Moist Sites or equivalent. ~~Acceptable~~ The mix typically contains the following plant species ~~are as follows:~~

Riverbank Wild Rye (*Elymus riparius*), Little Bluestem (*Schizachyrium scoparium*), Big Bluestem (*Andropogon gerardii*), Switch Grass (*Panicum virgatum*), Upland Bentgrass (*Agrostis perennans*), Beggar Ticks (*Bidens Frondosa*), Spotted Joe Pye Weed (*Eupatorium Maculatum*), Nodding Bur Marigold (*Bidens cernua*), New England Aster (*Aster novae-angliae*), Boneset (*Eupatorium perfoliatum*), Blue Vervain (*Verbena hastata*), Soft Rush (*Juncus effusus*), Wool Grass (*Scirpus cyperinus*)

The following species are to be removed from the standard mix:

Creeping Red Fescue (*Festuca rubra*), Hollow-Stem Joe Pye Weed (*Eupatorium fistulosum/Eutrochium fistulosum*), New York Ironweed (*Vernonia noveboracensis*)

The loading rate will be 1 pound of ~~NEWPI's New England Erosion Control/Restoration Mix for Dry Sites~~ seed mix per 1,250 square feet of seed area or the manufacturer's recommended application rate, whichever is greater.

- B. Upland Seed Mix: Seed shall be the commercial product of a reputable grower approved by the RPR and shall be certified to be not more than one (1) year old. Seed mixes shall be provided by New England Wetlands Plants, Inc. (NEWPI) ~~Holland Wildflower Farm~~ or other approved grower/vendor and optimized for the on-site conditions shall be applied where shown on the Contract Drawings. The seed mix proposed for use shall be the New England Logging Road Mix or equivalent. The mix typical contains the following plant species:

~~Virginia Wildrye (Elymus virginicus), Switchgrass, Canada Wildrye (Elymus canadensis),~~ Little Bluestem (*Schizachyrium scoparium*), Switch Grass (*Panicum virgatum*), Virginia Wild Rye (*Elymus virginicus*), Big Bluestem (*Andropogon gerardii*), ~~and Indiangrass (Sorghastrum nutans)~~ Soft Rush (*Juncus effusus*), Path Rush (*Juncus tenuis*), Upland Bentgrass (*Agrostis perennans*)

The following species are to be removed from the standard mix:

Red Fescue (*Festuca rubra*), Indian Grass (*Sorghastrum nutans*), Partridge Pea (*Chamaecrista fasciculata*)

The seed mixture for upland areas shall be sown at a minimum rate of one pound (1 lb.) per ~~one thousand square feet (2,500 sf)~~ 2,200 square feet of seed area or the manufacturer's recommended application rate, whichever is greater.

- C. Other seed mixes may be utilized subject to prior approval by the RPR and NHDES.
- D. The seed shall be furnished and delivered premixed in the proportions specified above. All seed shall comply with applicable State and Federal seed laws. A grower's certificate of compliance with the specifications shall be submitted by the grower with the shipment of the seed. The certificate shall include the guaranteed percentage of purity, weed content and germination of the seed, and also the net weight and date of shipment. No seed shall be sown until the CONTRACTOR has submitted the certificate to the RPR.

#### 2.04 FERTILIZER

Fertilizer shall be furnished in containers plainly marked with chemical analysis of the product and showing one of the following compositions by weight. In accordance with NH RSA 438, it shall be a low phosphate, slow-release nitrogen guaranteed as indicated on the label to contain:

- 1. Not more than 2% Phosphorus; and
  - 2. A Nitrogen component which is at least 50% slow-release Nitrogen components.
- B. No fertilizer except limestone shall be applied within 25 feet of any surface water body.

#### 2.05 LIMESTONE

- A. Limestone shall consist of pulverized limestone obtained by grinding either calcareous or dolomitic limestone so that ninety-five percent (95%) of the material will pass a No. 20 sieve and at least fifty percent (50%) will pass a No. 100 sieve and shall have a satisfactory neutralizing value.

#### 2.06 EROSION CONTROL BLANKET

- A. Erosion control blankets shall be appropriate for use on slopes where mulch is not stable. The erosion protection blankets shall be for temporary application and shall be biodegradable and non-toxic. Materials such as jute, coir fiber, and mattresses with straw matrices are judged acceptable, provided no other unsuitable material is included. All erosion control products should be new and previously unused and free of weed and other undesirable seeds. The purpose of these materials is to provide temporary erosion control during the period of establishment of the underlying grass. The blankets shall allow for the growth of grass seeded under the blankets.
- B. Erosion control blankets anchors shall be compatible with the blanket material and shall be of wooden or other biodegradable material.

#### 2.07 MULCH

- A. Mulch used in this project shall be straw free from weeds or coarse matter. A sample shall be submitted. Hay mulch shall not be allowed.
- B. Special care shall be taken to ensure that mulch imported to the site is free from invasive wetland species seeds or plant matter.

## PART 3 EXECUTION

## 3.01 LOAM

- A. Loam shall be amended in accordance with the recommendations of the Testing Laboratory provided in their report and in accordance with these specifications.
- B. Loam shall be spread on the designated areas so as to form a cover of loam to a minimum depth of six (6) inches unless otherwise shown on the drawings or directed by the RPR. Areas designated for covering with loam shall be scarified or otherwise roughened, just prior to the application of loam. After the spreading of loam all stiff clods, hard lumps, large stones, trash, wood, brush, stumps, roots, or other objectionable material shall be gathered and removed from loamed area. Compaction may be accomplished by the use of a lawn roller commonly used for this work.
- C. Promptly fertilize, seed, mulch, or otherwise cover, and stabilize through tracking with suitable equipment any loam placed on grades steeper than 5 percent.

## 3.02 APPLICATION RATES OF LIMESTONE, FERTILIZER AND SEED

- A. Prepared soils shall be collected and submitted to the approved testing for testing in accordance with their guidelines. At a minimum, the soil shall be tested as per the requirements in Paragraph 2.01 of this Section. Soils shall be treated in accordance with the recommendations of the Testing Laboratory provided in their report.
- B. Limestone, if required by the results of soil testing, shall be applied and thoroughly incorporated in the layer of loam to adjust the acidity of the material. Typical limestone application rates in the area have been on the order of one hundred and thirty-five pounds (135 lbs.) per thousand square foot (1,000 sq. ft.); however, the results of the test shall dictate the rate of limestone application.
- C. Fertilizer, if required by the results of soil testing, shall be raked to a depth of at least two inches (2") and the area brought to a smooth surface. Typical fertilizer application rates in the area have been on the order of seven and one-half pounds (7.5 lbs.) per one thousand square feet (1,000 sf); however, the results of the test shall dictate the rate of fertilizer application.
- D. Limestone and/or fertilizer shall be mixed thoroughly into the loam seedbed during preparation and prior to seeding. Mixing shall be accomplished through disking or similar method.
- E. Compost, if required, may be incorporated into the loam prior to spreading or following spreading. Application rate should be as required to achieve a minimum of 10% organic matter. Typically, this can be achieved by applying a 2- to 4-inch depth of compost on top of the spread loam and thoroughly incorporating the compost into the upper six (6) inches of soil. Wide-tracked equipment must be used to avoid compaction of the soil.
- F. Mulch shall be applied at a rate of seventy to ninety pounds (70-90 lbs) per one thousand square feet (1,000 sf). As an alternative to mulch, or if mulch is found to be ineffective in preventing erosion prior to vegetation establishment, erosion control blankets may be installed as per the manufacture's recommendations.

## 3.03 TIME OF SEEDING

- A. The recommended seeding periods are from April 1 to June 1, and from August 15 to October 1. The CONTRACTOR may seed at other times. Regardless of the time of

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seeding, the CONTRACTOR shall be responsible for a full establishment of vegetation. When directed, areas in the project which do not develop satisfactory growth shall be re-fertilized and reseeded. Re-fertilizing the reseeding shall be incidental to the original seeding item requirements. All seeding must be completed by October 15, unless authorization is obtained from the RPR.

- B. Dormant seeding after October 15 shall be allowed, however, seed application rate shall be doubled.

### 3.04 FERTILIZING AND LIMING

- A. Fertilizing and liming shall be done when the soil is in a moist condition and at least twenty-four (24) hours before the sowing of seed. The fertilizer and lime shall be applied to the soil by means of a mechanical spreader or other approved method capable of maintaining a uniform rate of application and shall be thoroughly harrowed, raked or otherwise mixed with the soil to a depth of not less than one (1) inch. The fertilizer and lime shall not be applied together. If the limestone and fertilizer are applied dry, the limestone shall precede the fertilizer and shall be worked thoroughly into the soil before the fertilizer is spread.
- B. Extreme care shall be taken by the CONTRACTOR so as not to introduce fertilizer into the Lake, outlet channel or other waterways. Over-fertilization will not be allowed.

### 3.05 SOWING SEED

- A. Seed of the required mixture and quality shall be spread by a mechanical seeder or other method which sow the seed uniformly at the required rate over the entire area to be seeded. The mechanical seeder shall be capable of being operated to avoid the growth of vegetation in rows and shall be so operated. After seeding, all areas shall be lightly raked by hand to mix the seed and loam. Seeded areas shall be rolled with a lawn roller not to exceed one hundred and twenty pounds (120 lbs.) in weight.

### 3.06 TEMPORARY EROSION CONTROL BLANKET INSTALLATION

- A. Erosion control blankets shall be installed over all areas of revegetation where slopes exceed 3:1 (H:V). The downstream slope of the re-shaped outlet channel banks will require an erosion control blanket(s).
- B. Protection of seeded areas shall be either through the installation of temporary biodegradable erosion control blankets or the application of mulch. Temporary erosion control blankets may be necessary if mulch is found to be ineffective in controlling erosion prior to the establishment of vegetation.
- C. Temporary erosion control blankets shall be installed as per the manufacturer's instructions and recommendations. In general, such blankets are installed down (perpendicular to) slopes and are anchored in a shallow trench at the top of the slope.
- D. All temporary erosion control blankets must be anchored to the ground by the use of stakes, as per the manufacturer's instructions and recommendations. In general, stakes should be placed in staggered rows on 2- to 3-foot centers. Stakes should be long enough to achieve adequate anchorage.

### 3.07 MULCHING

- A. Protection of seeded areas shall be either through the application of mulch or the installation of temporary biodegradable erosion control blankets.

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- B. Areas which have been seeded shall be mulched immediately following seeding. Areas which cannot be seeded within the specified seeding periods shall be mulched to provide temporary protection to the soil surface. Mulch shall be spread with a mulch blower or by hand. Mulch shall be immediately anchored with a mulch-anchoring tool (operated perpendicular to the contour) or by tracking with a tracked vehicle (operated parallel to the contour). Applying mulch simultaneous to seeding in a hydroseeding operation is acceptable.
- C. Straw mulch shall be applied to seeded areas at a rate of ten (10) pounds per one hundred (100) square feet. The rate shall be doubled for unseeded areas.

## 3.08 MAINTENANCE

- A. The CONTRACTOR shall be responsible for the watering and other proper care of the seeded areas until final acceptance. If seeded areas have not established by the end of the Fall growing season, the maintenance period shall extend through the following Spring.

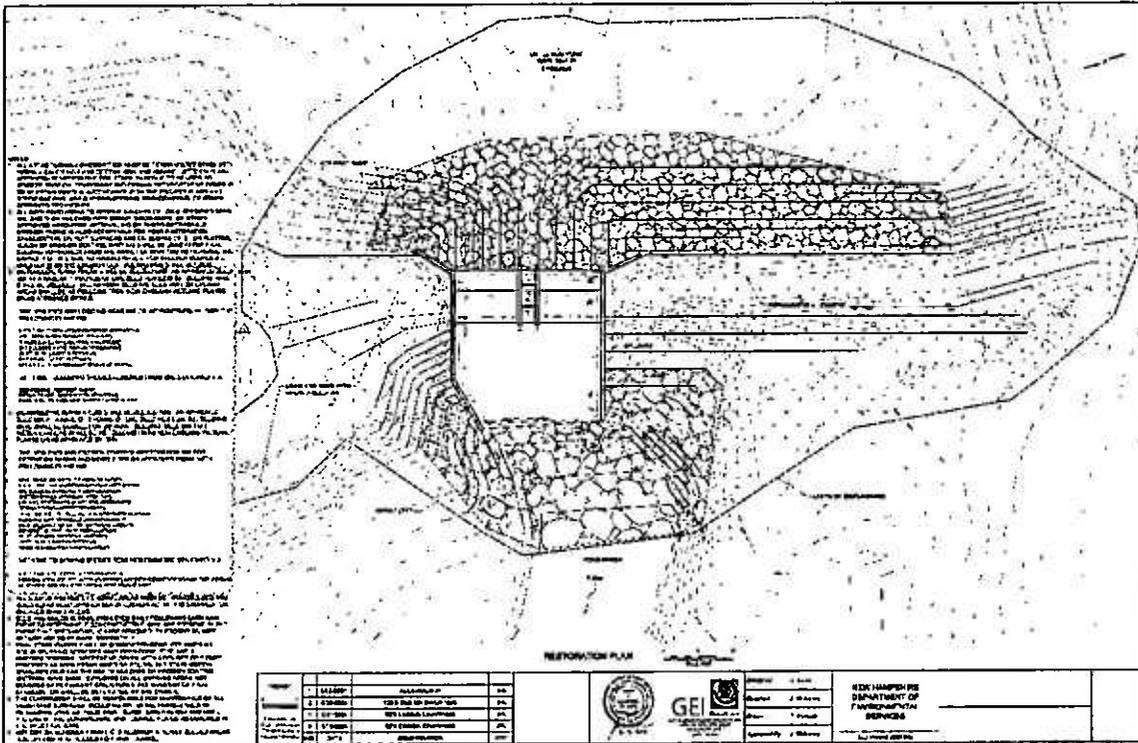
## 3.09 REPAIR

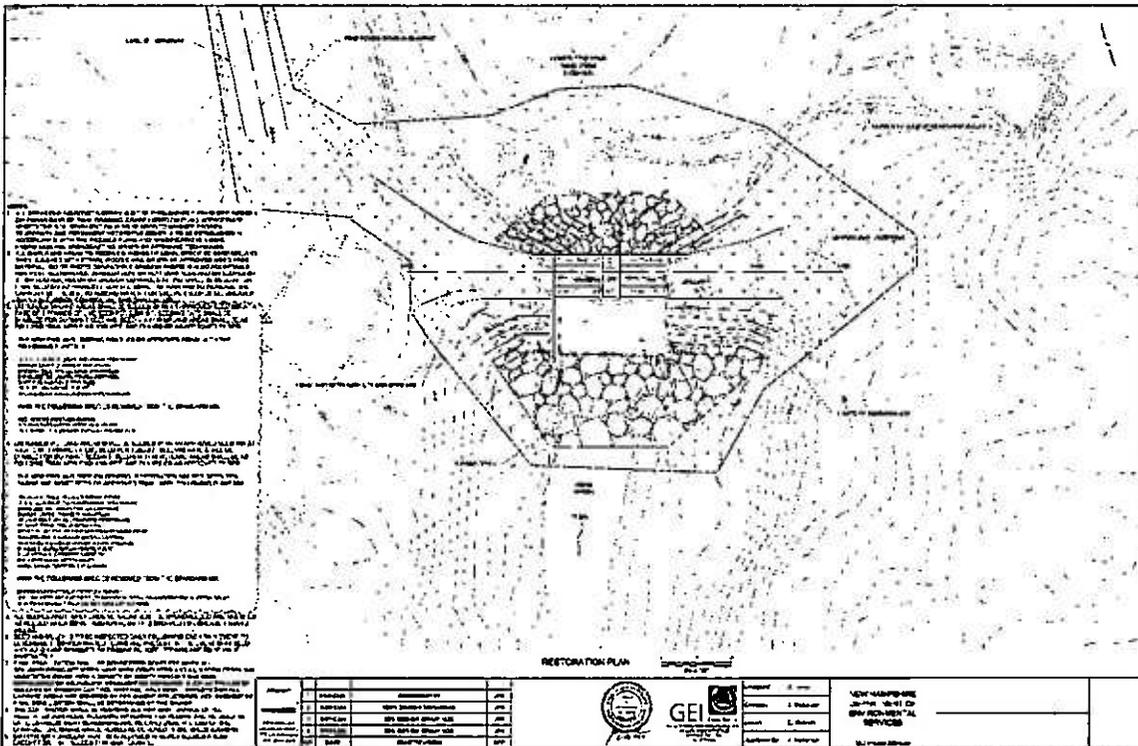
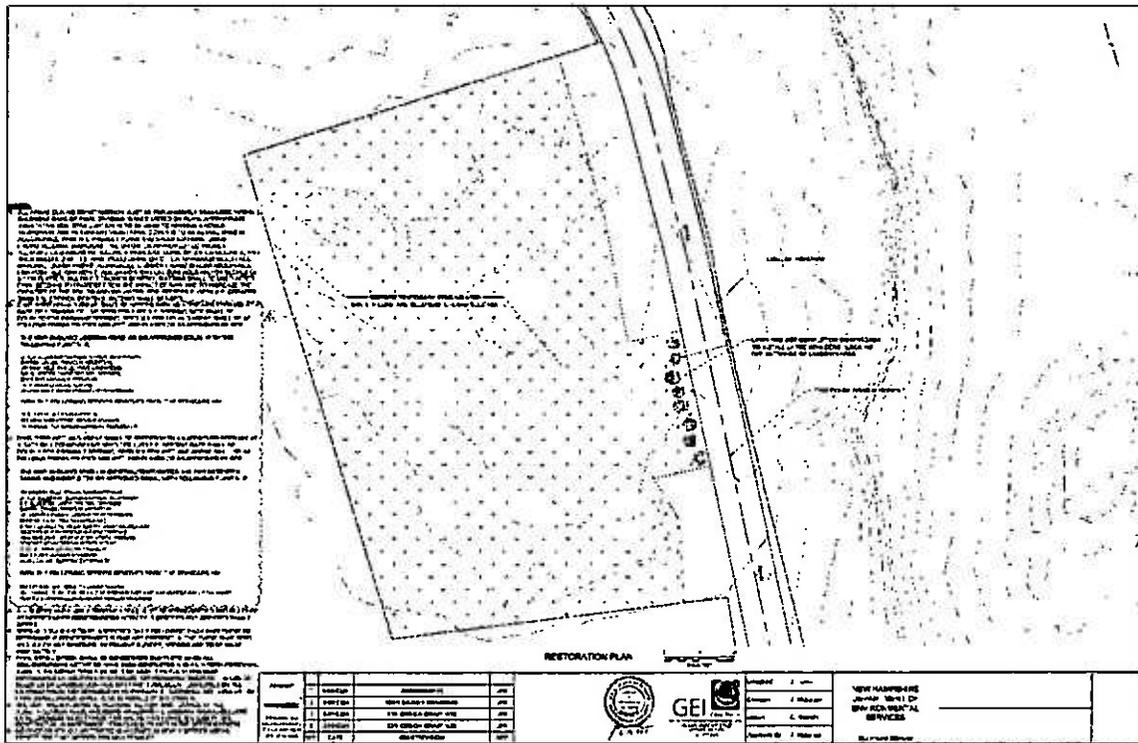
- A. The CONTRACTOR shall be responsible for repair of all damage to and erosion of the loamed and seeded areas until final acceptance by the RPR and NHDES. Repair responsibilities shall include, but not be limited to, repair of eroded areas, reseeding, replacement of erosion control measures, regrading, etc. The intent is to facilitate the establishment of an adequate ground cover over all disturbed areas on the site. If seeded areas have not established by the end of the Fall growing season, the period during which the CONTRACTOR is responsible for repairs shall extend through the following Spring.

## 3.10 ACCEPTANCE

- A. Seeded area final stabilization shall be considered complete when all soil-disturbing activities have been completed and a uniform, perennial vegetative cover with a density of eighty percent has been established or equivalent stabilization measures (such as the use of mulches or erosion control matting) have been employed on all unpaved areas not covered by permanent structures. Achievement of final stabilization shall be determined by NHDES.
- B. The CONTRACTOR is responsible for ensuring that a satisfactory firm stand of vegetation is obtained and shall do all necessary re-loaming, re-fertilizing and reseeded and make all necessary repairs, regardless of cause of damage, to this effect until final acceptance of the project.
- C. If seeded areas have not established and been accepted by the end of the Fall growing season, the RPR and NHDES will defer evaluation for acceptance until the following Spring.

END OF SECTION







**Little Bog Pond Dam & Lower Trio Pond Dam  
Reconstruction Project  
Addendum #2**

Please find the following ADDENDUM #2, dated August 23<sup>rd</sup>, 2024, for the Little Bog Pond Dam & Lower Trio Pond Dam Reconstruction Project which is to be included as part of the Contract Documents thereof:

As per Specification Section 00200, Article 13.09 the bid shall contain an acknowledgment of receipt of this Addendum #2, (and all addenda). The number and date of which shall be filled in by filling out the information in the space provided in Section 00301 – Bid Form; Article 3 – 3.01A.

Please note bids are due **Thursday, September 12, 2024**, at 2:00 PM (EST). Hard copy bids may be received as stipulated in the Contract Documents. This Addendum has been issued to address clarifications in the Contract Specifications as well as address Prospective Contractor Questions after the August 7, 2024, Pre-Bid Meeting:

**ITEM #1: Response to Contractor Questions**

1. Can the bid date be extended. Yes, the bids due date will be extended to September 12<sup>th</sup> at 2 PM EST.
2. Response to Addendum 1 Question No. 8: If installed per the documents, should a storm in excess of the basis of design occur, is the Contractor liable. The Contractor is hereby made aware that the NHDES Dam Bureau has no control over inflows into the waterbodies. Major rainfall events and/or snowmelt may cause the level of either Little Bog Pond or Lower Trio Pond to rise rapidly and lead to potential inundation of the work site. In the event of uncontrolled increases in the Lake level, the Contractor shall undertake measures to protect existing structures and new work at no additional cost to the Bureau, up to the design requirements specified in the Contract Documents. The Contractor shall be responsible for any loss or damage to their work, equipment, or material. Costs for any mobilization(s) and demobilization(s) required by the Dam Bureau, as a result of a major rainfall event that exceeds the control of water requirements in the Design Documents, shall be paid for at a time and materials rate to be negotiated with the Dam Bureau and shall not be included in the bid. Note that no payment for mobilization(s) and demobilization(s) will be made if it is the result of the Contractor's surface water control systems (i.e. cofferdams, diversion channels, pump/stphon systems; etc.) inadequacies under normally anticipated weather/precipitation conditions.
3. Response to Addendum 1 Question No. 11: Is the contractor required to have a trailer with a dedicated office for the RPR in addition to what the Contractor requires? Is the Contractor to furnish the office? Please clarify what is required. The Contractor is responsible to provide a dedicated workspace for the RPR in a construction trailer. At a minimum, this should include a desk, rolling office chair, two-drawer file cabinet, flat table.
4. Based upon observations made during the site walk, and due to a lack of subsurface investigations, will NHDES revise the Bid Form to provide an item for Rock Removal, specifically buried boulders (not shown on the design documents as stated in Specification Section 01 20 00 under General Site Demolition) and ledge. No. This work is incidental to the excavation pay item.
5. Per Specification Section 312323.3.02B: If a mud mat is required at footings if graded gravel, cobbles, or boulders are present at subgrade, how will this be paid for? This work is incidental to the concrete work associated with the footings.

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6. Per Specification Section 312323 3.02B: If choke stone is required at the weir and apron slab where graded gravel, cobbles, or boulders are present at subgrade, how will this be paid for? This work is incidental to the concrete work associated with the footings.
7. Should the Spillway weir wall be considered as mass concrete? Please advise. See revised Specification 03 30 00 – Cast-In-Place Concrete which provides clarity on mass concrete. The concrete pours may be considered mass concrete depending on the contractors proposed pour sequences and sizes.

**Attachments:**

Attachment #1 – Revised Section 03 30 00 Cast-In-Place Concrete

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## SECTION 03 30 00

## CAST-IN-PLACE CONCRETE

## PART 1 GENERAL

## 1.01 WORK INCLUDES

- A. Provide all layout, products, materials, equipment, tools, services, transportation, supervision, and labor to complete all the work as shown on the drawings and including the following:
1. Cast-in-place concrete required for construction of the Work shown on the drawings.
- B. Related Sections:
1. Section 03 05 00: BASIC CONCRETE MATERIALS
  2. Section 03 10 00: CONCRETE FORMS AND ACCESORIES
  3. Section 03 20 00: CONCRETE REINFORCEMENT
  4. Work Specified under other sections: Items to be embedded in concrete are as specified in the various sections of this specification. The responsibility for coordinating concrete placements with embedded items rests solely with the CONTRACTOR.

## 1.02 REFERENCES

- A. The following is a list of standards that may be referenced in this Section:
1. American Concrete Institute (ACI):
    - a. ACI 301 - Specifications for Structural Concrete
    - b. ACI 117 - Standard Specifications for Tolerances for Concrete Construction and Materials.
    - c. ACI 207.1R - Guide to Mass Concrete
    - d. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete.
    - e. ACI 302.1R - Guide for Concrete Floor and Slab Construction.
    - f. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete.
    - g. ACI 304.2R - Placing Concrete by Pumping Methods.
    - h. ACI 305R - Hot Weather Concreting.
    - i. ACI 306R - Cold Weather Concreting.
    - j. ACI 306.1 - Standard Specification for Cold Weather Concreting.
    - k. ACI 308.1 - Standard Specification for Curing Concrete.
    - l. ACI 309R - Guide for Consolidating Concrete.

- m. ACI 318/318R - Building Code Requirements for Structural Concrete and Commentary.
  - n. ACI 350 - Code Requirements for Environmental Engineering Concrete Structures and Commentary
2. American Society for Testing and Materials (ASTM):
- a. ASTM A82 - Steel Wire, Plain, for Concrete Reinforcement.
  - b. ASTM A185 - Steel Welded Wire Fabric; Plain, for Concrete Reinforcement.
  - c. ASTM A615 - Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
  - d. ASTM C31 - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
  - e. ASTM C33 - Concrete Aggregates.
  - f. ASTM C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
  - g. ASTM C94 - Ready-Mixed Concrete.
  - h. ASTM C114 - Standard Test Methods for Chemical Analysis of Hydraulic Cement.
  - i. ASTM C143 - Standard Test Method for Slump of Hydraulic Cement Concrete.
  - j. ASTM C150 - Portland Cement (PC).
  - k. ASTM C156 - Standard Test Method for Water Retention by Concrete Curing Materials.
  - l. ASTM C 231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
  - m. ASTM C260 - Air Entraining Admixtures for Concrete.
  - n. ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete.
  - o. ASTM C494 - Chemical Admixtures for Concrete.
  - p. ASTM C595 - Standard Specifications for Blended Hydraulic Cements (PLC - Portland Limestone Cement)
  - q. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.
  - r. ASTM C989 - Standard Specification for Slag Cement for Use in Concrete and Mortars.
  - s. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation.
  - t. ASTM C 1315 - Standard Specification for Liquid Membrane-Forming Compounds having Special Properties for Curing and Sealing Concrete.

- u. ASTM C1602 - Standard Specification for Mixing Water Used in Production of Hydraulic Cement Concrete.
  - v. ASTM C1611 - Standard Test Method for Slump Flow of Self-Consolidating Concrete.
  - w. ASTM D 2103: Polyethylene Film and Sheeting.
  - x. ASTM E 329 - Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction.
3. American Welding Society:
- a. AWS D1.4 - Structural Welding Code - Reinforcing Steel
4. U.S. Army Corps of Engineers Specifications (USACE):
- a. CRD C572 PVC Waterstop.
  - b. EM 1110-2-2104 - Strength Design for Reinforced Concrete Hydraulic Structures.
  - c. INP-SL-1 - Assessment of Undervater Concrete Technologies for in-Wet Construction of Navigation Structures.
5. Other:
- a. U.S. Product Standard PS 20 - American Softwood Lumber Standard.
- B. Where these Specifications differ from the requirements of ACI or ASTM, the more stringent requirements shall apply.

#### 1.03 DEFINITIONS

- A. Exposed Concrete: Concrete surfaces that can be inside or outside of structures, regardless of whether concrete is above or below water, dry at all times, or can be seen when structure is drained.
- B. Defective Areas: Surface defects that include honeycomb, rock pockets, indentations greater than 3/16 inch, cracks 0.005-inch wide and larger as well as any crack that leaks for liquid containment basins and below grade habitable spaces; cracks 0.010-inch wide and larger in non-fluid holding structures spalls, chips, air bubbles greater than 3/4-inch in-diameter, pinholes, bug holes, embedded debris, lift lines, sand lines, bleed lines, leakage from form joints, fins and other projections, form popouts, texture irregularities, and stains and other color variations that cannot be removed by cleaning.
- C. New Concrete: Concrete less than 60-days old.
- D. Design Strength: As defined in Section 03 05 00: BASIC CONCRETE MATERIALS.
- E. Mass Concrete: is any concrete system that approaches a maximum temperature of 160 degrees F within the first 72 hours of placement. In addition, it includes all concrete elements with a section thickness of 3 feet or more regardless of temperature.

#### 1.04 SUBMITTALS

- A. Furnish submittals following procedures specified in applicable sections of the Contract Documents.
- B. Concrete Placement Plan to include at a minimum:

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1. Procedures for control of concrete temperature during placement.
  2. Laboratory and Field Testing.
  3. Placement Schematic and Procedures.
  4. Pour sequence(s) for all concrete work at the site.
  5. Quality control procedure and responsible parties.
- C. Cold Weather Concrete Placement and Insulation Plan. Develop a Cold Weather Placement and Insulation Plan in conformance to ACI 306.1. The plan shall include:
1. Temperature controls
  2. Heaters
  3. Thermal blankets to insulate curing concrete.
- D. Warm Weather Concrete Placement and Cooling Plan. Develop a Warm Weather Concrete Placement and Cooling Plan in conformance with ACI 305.1. The plan shall include:
1. Concrete materials cooling plan to ensure delivered concrete is no hotter than 80 degrees F.
  2. Placement sequence and controls to control temperatures during warm weather.
  3. Thermal controls that will prevent curing concrete temperatures from exceeding 160 degrees.
- E. Administrative:
1. Manufacturer's application instructions for curing compound.
  2. Statement of Qualifications:
    - a. CONTRACTOR's resident superintendent for concrete placement.
  3. Preinstallation Conference minutes.
- F. Quality Control:
1. Concrete batch ticket for each load of concrete delivered to the site.
  2. Manufacturer's certification.
  3. Test reports.
- G. Shop Drawings:
1. Detailed drawings of the falsework proposed to be used. Such drawings shall be in sufficient detail to indicate the layout, sizes of members, anticipated stresses, grade of materials to be used in the falsework, and typical foundation conditions. Falsework drawings must be designed and stamped by a professional engineer licensed in the state of New Hampshire.
  2. Reinforcing shop drawings, rebar bending diagrams, and placing lists for reinforcing steel. Details of reinforcing steel for fabrication and erection shall conform to ACI 315 - Details and Detailing of Concrete Reinforcement. The shop bending diagrams shall show the actual lengths of bars, to the nearest inch measured to the intersection of the extensions (tangents for bars of circular cross

- section) of the outside surface. Include bar placement diagrams which clearly indicate the dimensions of each bar splice.
3. Shop drawings showing vertical and horizontal construction joints, control joints expansion joints, Waterstops and the requirements herein.
  4. Where mechanical couplers are required or permitted to be used to splice reinforcing steel, submit manufacturer's literature, which contains instructions and recommendations for installation for each type of coupler used; certified test reports, which verify the load capacity of each type and size of coupler used; and shop drawings that show the location of each coupler with details of how they are to be installed in the formwork.
- H. Mix Designs: Prior to beginning the work, submit concrete mix designs, which shall show the proportions and gradations of materials proposed for each class and type of concrete as well as historical performance data showing that the mix designs will meet the requirements of these Specifications. When a water-reducing admixture is to be used, the CONTRACTOR shall furnish mix designs for concrete both with and without the admixture.
- I. Delivery Tickets: Where ready-mix concrete is used, the CONTRACTOR shall furnish certified delivery tickets at the time of delivery of each load of concrete. Each ticket shall show the state-certified equipment used for measuring, and the total quantities, by weight, of cement, sand, each class of aggregate, admixtures, the amounts of water in the aggregate, and added at the batching plant. If water is added at the Site, that shall be included on the ticket. In addition, each certificate shall state the mix number, total yield in cubic yards, and the time of day to the nearest minute, corresponding to the time when the batch was dispatched, when it left the plant, when it arrived at the Site, when unloading began, and when unloading was finished.
- J. Mass Concrete Thermal Control Plan. Develop a Thermal Control Plan in conformance with ACI 207 for concrete placement that exceeds 4 feet in walls or 3 feet in slabs or mats.
1. Plans and systems to monitor and control temperature during batching, transportation, and placement of concrete.
  2. Plans and systems for monitoring temperature of concrete during curing using thermistors placed in middle and edges of each pour to confirm the temperature differentials are within specification limits, that the heat of hydration has reached its peak and is dissipating prior to subsequent pours. Include description of thermistors, placement locations, plans for protection. Include redundant thermistors.
    - a. Thermal controls that will prevent curing concrete temperatures from exceeding 160 degrees F and differential temperature limit between interior curing concrete and exterior curing does not exceed 35 degrees F.
  3. Sequence of subsequent pours to allow the heat of the mass to dissipate and remain within the temperature limits in the specifications.
  4. Plans to lower the temperature of placed concrete if temperature exceeds limits specified in the Thermal Control Plan.

1.05 HOT AND COLD WEATHER CONDITIONS

A. Hot and Warm Weather:

1. Follow approved Warm Weather Concrete Placement and Cooling Plan.
2. Concrete temperature shall not exceed 80°F at placement.
3. At air temperatures of 80°F, water reducing, set retarding admixtures shall be used in accordance with manufacturer's recommendations.
4. When concrete temperatures exceed 80°F, water reducing, set retarding admixtures shall be used in accordance with manufacturer's recommendations.
5. Rate of evaporation from concrete surface shall not exceed 0.2 lb/ft<sup>2</sup>/h based on ACI 305R Table 2.1.5 and Figure 2.1.5. Use fog-spray or evaporation retardant to maintain evaporation at 0.2 lb/ft<sup>2</sup>/h or less.

B. Cold Weather

1. Follow approved Cold Weather Placement and Insulation Plan when the ambient air temperature is less than 40°F, or if the ambient air temperature is approaching 40°F and falling.
2. Temperature of earth, reinforcement, forms, fillers, and other materials in contact with concrete at time of placement shall not be less than 35°F.
3. Maintain air and forms in contact with concrete sections having minimum dimension less than 12 in. at temperature above 50°F for at least first 3 days and at temperature above 32°F for remainder of specified curing period.
4. Maintain air and forms in contact with concrete in more massive sections at temperature above 40°F for at least first 7 days and at temperature above 32°F for remainder if specified curing period.
5. Do not locally heat or dry concrete when using heating units to meet Specification requirements.

1.06 QUALITY ASSURANCE

A. Preinstallation conference:

1. Meeting attendees:
  - a. CONTRACTOR, including pumping, placing, finishing, and curing subcontractors. (Attendance mandatory)
  - b. RPR, including field inspection personnel.
  - c. Concrete supplier representative. (Attendance mandatory)
  - d. Admixture representative. (Attendance mandatory)
  - e. Quality control testing and sampling personnel. (Attendance mandatory)
  - f. OWNER's representative.
2. Agenda shall include, as a minimum, the following topics:
  - a. Status of submittals.

- b. Mix designs: required slump and air content requirements; admixture types, dosage, performance, and re-dosing at site; concrete placement temperature requirements.
  - c. Placement methods and equipment, consolidation, finishing, curing, and protection of concrete.
  - d. Quality control requirements and procedures.
  - e. Hot and cold weather procedures.
- B. Quality Control Submittals
- 1. Manufacturer's Certificate of Compliance:
    - a. Portland Cement.
    - b. Admixtures.
    - c. Fly ash.
    - d. Aggregates.
    - e. Bonding agent.
    - f. Bond breaker.
    - g. Patching materials.
    - h. Admixtures: Manufacturers' Certificate of Proper Installation.
  - 2. Test Reports
    - a. Admixtures, test reports showing chemical ingredients and percentage of chloride in each admixture and fly ash.
    - b. Source test analyses report for fly ash, including a percentage of chloride content and loss on ignition (L.OI).
    - c. Statement identifying reactivity of aggregates. Determine water-soluble chloride in each component of aggregates in accordance with ASTM C 1218.
    - d. For each trial concrete mix design and signed by a qualified mix designer, including cylinder compressive strength test results for laboratory concrete mixes.
    - e. Field quality control test results.
- C. Testing of Reinforcing Steel:
- 1. If requested by NIDES or RPR, the CONTRACTOR shall furnish samples from each heat of reinforcing steel in a quantity adequate for testing.
- D. Testing of Concrete Materials:
- 1. Testing for aggregate shall include sieve analysis, sand equivalence, clay and friable content, light weight particles and organic impurities content, alkali-silica reactivity, abrasion resistance, and soundness in accordance with ASTM C33 - Concrete Aggregates.
  - 2. The cost of laboratory tests on cement, aggregates, and concrete, will be paid by the CONTRACTOR. The laboratory will meet or exceed the requirements of

- 1) Test Procedure: Tests for air entrainment in accordance with the requirements of ASTM C231 - Air Content of Freshly Mixed Concrete by the Pressure Method
  - 2) Frequency: One (1) test for each 50 cubic yards or one for each concrete pour.
  - c. Temperature:
    - 1) Frequency: One (1) test for each 50 cubic yards or one for each concrete pour.
    - 2) Measure temperature immediately prior to placement.
  - f. Concrete for NIDES QA testing shall be furnished by the CONTRACTOR at no cost to NIDES. The CONTRACTOR shall assist RPR in obtaining samples and disposal and cleanup of excess material.
- E. Evaluation and Acceptance of Concrete:
- 1. Evaluation and acceptance of the compressive strength of concrete will be according to the requirements of ACI 318 - Building Code Requirements for Reinforced Concrete, Chapter 5 "Concrete Quality", and as indicated herein.
  - 2. If any concrete fails to meet these requirements, immediate corrective action shall be taken to increase the compressive strength for subsequent batches of the type of concrete affected.
  - 3. Concrete that fails to meet the ACI requirements and these Specifications is subject to removal and replacement as part of the Work.
- F. Construction Tolerances:
- 1. The CONTRACTOR shall set and maintain concrete forms and perform finishing operations so that the concrete is within the tolerances herein. Surface defects and irregularities are defined as finishes and are to be distinguished from tolerances. Tolerance is the permissible variation from lines, grades, or dimensions indicated.
  - 2. Where tolerances are not indicated, permissible deviations will be in accordance with ACI 117 - Standard Tolerance for Concrete Construction and Materials. Unless otherwise specified, the variation from required lines or grades shall not exceed 1/4 inch in 10 feet and there shall be no offsets or visible waviness in the finished surface.
- G. Concrete curing shall conform to requirements of ACI 301 and ACI 308.

**PART 2 PRODUCTS**

**2.01 FORM AND FALSEWORK MATERIALS**

- A. Refer to specification Section 03 10 00: CONCRETE FORMS AND ACCESSORIES.

**2.02 FORM TIES**

- A. Refer to specification Section 03 10 00: CONCRETE FORMS AND ACCESSORIES.

## 2.03 CONCRETE MATERIALS

- A. Materials shall be delivered, stored, and handled to prevent damage by water or breakage. Only one brand of cement shall be used. Cement reclaimed from clearing bags or leaking containers shall not be used. Cement shall be used in the sequence of receipt of shipments.
- B. Materials for the Work shall comply with the requirements of Sections 201, 203, and 204 of ACI 301- Structural Concrete for Buildings, as applicable.
- C. Storage of materials shall conform to the requirements of Section 205 of ACI 301.
- D. Materials for concrete shall conform to the following NHDOT requirements:
1. Cement shall be Portland Cement (PC) conforming to ASTM C150 - Portland Cement, Type I/II, Type II, or a Portland Limestone Cement (PLC) conforming to ASTM C595 - Standard Specifications for Blended Hydraulic Cements (PLC - Portland Limestone Cement) Type 1L.
  2. Where Portland Cement or Portland Limestone Cement plus a pozzolan is used the pozzolan shall not constitute more than 20% by weight of the total cementitious materials, unless otherwise specified. Pozzolan shall meet the requirements of ASTM C618 for Class N or F with the following additional requirements:
    - a. The maximum percentage of sulfur trioxide shall be 4.0 percent for Class F.
    - b. The maximum percentage loss on ignition shall be 8.0 percent for Class N and 2.5 percent for Class F.
    - c. The pozzolanic activity index with lime shall be determined using 2-inch cubes and the minimum strength at seven (7) days shall be 900 pounds per square inch.
    - d. Unless the CONTRACTOR selects aggregates that are not potentially alkali-reactive, pozzolan shall be tested for reduction of mortar expansion at fourteen (14) days as specified for Class N pozzolan under the optional physical requirements in Table 2A of ANSI/ASTM C618. However, the cement used in the test shall be low-alkali. For the pozzolan to be acceptable, it shall result in an expansion reduction of zero percent or greater when compared to the control test.
    - e. Pozzolan shall not decrease the sulfate resistance of concrete. Before a Class N pozzolan is used, it shall be shown by test and experience not to detract from the sulfate resistance. Before a Class F pozzolan is used, it shall be shown to have an "R" factor of less than 2.5, determined in accordance with ASTM C114.
  3. Granulated blast furnace slag shall conform with ASTM C989 Grade 100 and contain less than 0.1% by weight free carbon or steel slag.
  4. Water shall be potable, clean, and free from objectionable quantities of silty organic matter, alkali, salts, and other impurities. The water shall be considered potable, for the purposes of this Section only, if it meets local drinking water standards. Agricultural water with high total dissolved solids (over 1000 mg/l TDS) shall not be used.

5. Aggregates shall be obtained from pits acceptable to NHDES and RPR, shall be non-reactive, and shall conform to ASTM C33, and meet the durability requirements of the NHDOT. Lightweight sand for fine aggregate will not be permitted. Sand shall not exceed 40% of the total aggregates.
- a. Coarse Aggregate Size: Maximum size of coarse aggregate shall not exceed the following requirements but in no case larger than  $\frac{1}{4}$  inches.
- 1) One-fifth narrowest dimension between sides of forms within which concrete is to be cast.
  - 2) Three-fourths of the minimum clear spacing between reinforcing bars.
  - 3) One-third the slab thickness for unreinforced slabs.
  - 4) Reduced aggregate concrete containing aggregate with particle size not less than  $\frac{1}{8}$  inch nor more than  $\frac{1}{2}$  inch in any dimension and a maximum of 5 percent of particles passing a No. 8 sieve (for use in metal pan stairs only).
  - 5) Three-fourths of the minimum clear spacing between waterstop and reinforcing steel.
  - 6) Self-Consolidating Concrete shall have a maximum size of coarse aggregate not exceeding  $\frac{1}{4}$  inch.
6. Ready-mixed concrete shall conform to the requirements of ASTM C94 - Ready-Mixed Concrete.
7. Air-entraining agent meeting the requirements of ASTM C260 - Air Entraining Admixtures for Concrete shall be used. Sufficient air-entraining agent shall be used to provide the specified air content. NHDES and RPR reserves the right, at any time, to sample and test the air-entraining agent. The air-entraining agent shall be added to the batch as specified by the manufacturer. Air content shall be tested at the point of placement. Air entraining agent shall be Micro-Air by Master Builders, Darvaair by Grace Construction Products, Sika AEA-15 by Sika Corporation, or equal.
8. Admixtures: The CONTRACTOR may propose the addition of admixtures to control the set, affect water reduction, and increase workability. The use of an admixture shall be subject to acceptance by NHDES and RPR. In any case, the addition of an admixture shall be at the CONTRACTOR's expense. Concrete containing an admixture shall be first placed at a location determined by RPR, in a test pour if so directed; such a test pour shall be at the CONTRACTOR's expense. If the use of an admixture is producing an inferior result, the CONTRACTOR shall discontinue use of the admixture. Admixtures shall conform to the requirements of ASTM C494 - Chemical Admixtures for Concrete. The required quantity of cement shall be used in the mix regardless of whether an admixture is used. Admixtures shall contain no free chloride ions, shall be non-toxic after 30 days, and shall be compatible with and made by the same manufacturer as the air entraining admixture.
- a. All chemical admixtures shall be from the same manufacturer.
  - b. Concrete shall not contain more than one water-reducing admixture.

- c. Provide admixtures produced and serviced by established, reputable manufacturers and use in compliance with manufacturer's recommendations.
- d. Admixtures used for all cast-in-place concrete shall conform to the requirements of ANSI/NSF 61.
- e. Air-Entraining Admixture: Use a product conforming to requirements of ASTM C 260. Acceptable Manufacturers:
  - AEA-92; The Euclid Chemical Company.
  - Sika Air; Sika Corporation.
  - Micro Air; BASF.
  - Or approved equal.
- f. Water-Reducing Admixture: Use a product conforming to requirements of ASTM C 494 Type A. (Required for all concrete except where an alternate water reducing admixture type as listed below is used). Acceptable Manufacturers:
  - Eucon WR-91; The Euclid Chemical Company
  - PolyHeed 997; BASF.
  - Or approved equal.
- g. Water-Reducing and Retarding Admixture: Use a product conforming to requirements of ASTM C 494, Type D. Acceptable Manufacturers:
  - Eucon Retarder-75; The Euclid Chemical Company.
  - Plastiment; Sika Corporation.
  - Pozzolith 200N; BASF.
  - Or Approved Equal.
- h. High-Range Water Reducing Admixture: Use a product conforming to requirements of ASTM C 494, Types A and F. Acceptable Manufacturers:
  - Eucon 37; The Euclid Chemical Company.
  - Sika ViscoCrete 2100; Sika Corporation.
  - Glenium 7700; BASF.
  - Or approved equal.
- i. Water-Reducing, and Acceleration Admixture: Use a product conforming to requirements of ASTM C 494, Types C or E. Not permitted for use in concrete for water retaining structures. Acceptable Manufacturers:
  - Accelguard 80; The Euclid Chemical Company.
  - Pozzutec 20; BASF.
  - Plastocrete 161 Fl., Sika Rapid-1, or Sikaset series; Sika Corporation.
  - Or Approved Equal
- j. Set controlling admixture may be either with or without water-reducing properties. Where the air temperature at the time of placement is expected to be consistently over 80 degrees F, a set retarding admixture such as Sika Corporation Plastocrete 161MR, Master Builder Pozzolith,

Daratard 17 by Grace Construction Products, EUCON Retarder 100 by Euclid, or equal shall be used. Where the air temperature at the time of placement is expected to be consistently under 40 degrees, a set accelerating admixture such as Sika Corporation Plastocrete 161 FL, Polarset by Grace Construction Products, or equal shall be used.

- k. Normal range water reducer shall conform to ASTM C494, Type A. It shall be WRDA 79 by Grace Construction Products, Plastocrete 161 by Sika Corporation, EUCON 37 by Euclid Chemical, or equal. The quantity of admixture used, and the method of mixing shall be in accordance with the manufacturer's instructions and recommendations.
  - l. Anti-Washout admixture such as MasterMatrix UW 450 by Master Builder, EUCON AWA by Euclid Chemical or equal.
9. Calcium Chloride: Calcium chloride will not be permitted in concrete.
10. Alumina: Alumina will not be permitted in concrete.

2.04 CURING COMPOUNDS AND MATERIALS

- A. Compounds for curing concrete shall conform to the following requirements and ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete. Curing compounds must be from the same manufacture as the concrete admixtures. Curing compounds shall either be approved for potable water use per NSF 61 or removed after curing.
  - 1. Curing compounds shall be white-pigmented and resin-based. Sodium silicate compounds shall not be allowed. Concrete curing compound shall be Kurez VOX White Pigmented by Euclid Chemical Company, Cure R-2 by L&M Construction Chemicals, 1200-White by W.R. Meadows, or equal. When curing compound must be removed for finishes or grouting, curing compounds shall be Kurez DR VOX by Euclid Chemical Company, L&M Cure R by L&M Construction Chemicals, 1100-Clear by WR Meadows, or equal. Curing compounds shall meet local VOC requirements.
- B. Materials for curing concrete shall be:
  - 1. Saturated burlap blankets with drip lines conforming to AASHTO M 182.
  - 2. Polyethylene sheet for use as concrete curing blanket shall be white and shall have a nominal thickness of 6 mils. The loss of moisture when determined in accordance with the requirements of ASTM C156 - Standard Test Method for Water Retention by Concrete Curing Materials, shall not exceed 0.055 grams per square centimeter of surface.
  - 3. Sheet Materials: Material conforming to ASTM C 171.
  - 1. Water: Meet the standard chemical requirements for ready mix concrete as established in ASTM C 94, "Standard Specification for Ready-Mixed Concrete."

2.05 PVC WATERSTOP

- A. Fabricated from a compound of which the basic resin shall be prime virgin polyvinyl chloride (PVC). Compound shall not contain scrapped material, reclaimed material, or pigment.
- B. Conform to performance requirements of USACE CRD C572 -PVC Waterstop.

- C. Type - Flat Ribbed waterstop and hydrophilic swelling waterstops.
- D. Specific Gravity - Not more than 1.4.
- E. Shore Durometer Type A Hardness - Not less than 60.
- F. PVC waterstops shall be designated as follows:
  - 1. Type 1 Waterstop: Flat Ribbed waterstop shall be Greenstreak 679 or approved equal. Minimum 6-inches wide, 3/8-inch thick.
  - 2. Type 2 Waterstop: Sika Swelstop, 3/4-inch thick.
- G. Acceptable Manufacturers:
  - 1. Sika Greenstreak
  - 2. Vinylex corporation
  - 3. W.R. Meadows
  - 4. Or Approved Equal

2.06 MISCELLANEOUS MATERIALS

- A. Epoxy grout for grouting reinforcing bars shall be HIT-RE 500V3 two-component adhesive or approved equal. Adhesive shall be rated for use with deformed rebar in cracked and uncracked concrete under wet or dry installation and service conditions.
- B. Joint filler: Conforming to ASTM D 1752; pre-molded sponge rubber fully compressible with recovery rate of minimum 95 percent.
- C. Joint sealant: Polyurethano-based elastomeric sealant - Sikaflex -2c NS by Sika Corporation or approved equal.
- D. Form Release Agent: Provide a Form Release Agent product that does not bond with, stain, or adversely affect concrete surfaces and does not impair subsequent treatments of concrete surfaces. Provide form release agent that does not contain diesel fuel, petroleum-based lubricating oils, waxes, or kerosene.

2.07 CONCRETE MIX DESIGN REQUIREMENTS

- A. General:
  - 1. Concrete shall be composed of cement, admixtures, aggregates, and water of the qualities indicated. In general, the mix shall be designed to produce a concrete capable of being deposited to obtain maximum density and minimum shrinkage, and where deposited in forms, to have good consolidation properties and maximum smoothness of surface. The proportions shall be changed whenever necessary or desirable to meet the required results at no additional cost to NHDES. Mix changes shall be subject to review by NHDES and RPR.
  - 2. The CONTRACTOR is cautioned that the limiting parameters below are NOT a mix design. Admixtures may be required to achieve workability required by the CONTRACTOR's construction methods and aggregates. The CONTRACTOR is responsible for providing concrete with the required workability.
- B. Standard Classes of Concrete:
  - 1. Structural Concrete: Proportion normal weight concrete as follows:

- a. Minimum Compressive Strength: 4,000 psi at 28 days.
  - b. Maximum Water-Cementitious Materials Ratio: 0.45.
  - c. Slump Limits: 4 to 8 inches according to ASTM C143 - Standard Test Method for Slump of Hydraulic Cement Concrete. At no time shall water be added to concrete mix on-site. If higher slump is required a water reducing agent shall be added by the concrete supplier.
  - d. Air Content: .6%, plus or minus 1.0 percent at point of delivery for 3/4 -inch nominal maximum aggregate size.
  - e. The temperature of concrete upon delivery from the truck shall not exceed 80°F.
2. Mud Mat:
- f. Minimum Compressive Strength: 1500 psi at 7 days.
  - g. Slump Range at Placement: 2 to 4 inches.
  - h. Maximum Water-Cementitious Material Ratio: 0.50.
  - i. Air Content Range: 5 to 8 percent.
- C. All concrete shall be air-entrained. Air content at the point of placement shall conform to the requirements of ACI 301.
- D. Fly ash may constitute up to 20 percent by weight of the total cementitious content.
- E. Use set-retarding admixtures during hot weather only when approved by RPR.

## 2.08 MEASUREMENT OF MATERIALS

- A. The amount of cement and of each separate size of aggregate entering into each batch of concrete shall be determined by direct weighing equipment furnished by the CONTRACTOR and acceptable to NHDES and RPR; provided that, where batches are so proportioned as to contain an integral number of conventional sacks of cement and the cement is delivered at the mixer in the original unbroken sacks, the weight of the cement contained in each sack may be taken without weighing as 94 pounds.
- B. The quantity of water entering the mixer shall be measured by a suitable water meter or other measuring device of a type acceptable to NHDES and RPR and capable of measuring the water in variable amounts within a tolerance of one percent.

## 2.09 READY-MIXED CONCRETE

- A. At the CONTRACTOR's option, ready-mixed concrete may be used if it meets the requirements as to materials, batching, mixing, transporting, placing, the supplementary requirements as required herein, and is in accordance with ASTM C94 - Ready-Mixed Concrete.
- B. Ready-mixed concrete shall be delivered to the Work, and discharge shall be completed within 90 minutes after the addition of water to the cement and aggregates or before the drum has been revolved 250 revolutions, whichever comes first.
- C. Truck mixers shall be equipped with electrically actuated counters by which the number of revolutions of the drum or blades may be readily verified. The counter shall be of the resettable, recording type, and shall be mounted in the driver's cab. The counter shall be actuated at the time of starting the mixer at mixing speed. Materials including mixing

water shall be in the mixer drum before actuating the revolution counter for determining the number of revolutions of mixing.

- D. Each batch of ready-mixed concrete delivered to the Work shall be accompanied by a delivery ticket furnished to RPR.
- E. The use of non-agitating equipment for transporting ready-mixed concrete will not be permitted. Combination truck and trailer equipment for transporting ready-mixed concrete will not be permitted.
- F. The quality and quantity of materials used in ready-mixed concrete and in batch aggregates shall be subject to continuous inspection at the batching plant by NHDES or RPR.

### PART 3 EXECUTION

#### 3.01 GENERAL

- A. Conform to ACI 301 and ACI 304R, except as modified by these Specifications.
- B. Notify RPR a minimum of 24 hours prior to commencement of concreting operations.
- C. Inspect work to receive cast-in-place concrete for deficiencies that would prevent proper execution of the finished work. Do not proceed with placing concrete until such deficiencies are corrected to the satisfaction of the RPR.
- D. Should the RPR's inspections identify quality control issues or other quality control issues arise during construction of the cast-in-place concrete, the RPR may require the CONTRACTOR to develop a quality control checklist to be submitted to the RPR for review and approval prior to each cast-in-place concrete placement.

#### 3.02 WATERSTOPS

- A. Installed to form a continuous watertight diaphragm in both horizontal and vertical joint intersections unless otherwise shown.
- B. Installed PVC waterstop with one-half of the width of the waterstop embedded in the concrete on each side of the joint.
- C. Provide a minimum of 2 1/2 inches of concrete cover over Waterstops. When structure has 2 layers of reinforcing steel, locate centered between layers of steel or as otherwise shown on the Drawings.
- D. Secure waterstop in correct position. Tie PVC waterstop to reinforcing steel using grommets "hog rings," or tie wire at maximum spacing of 12 inches.
- E. Do not displace waterstop during placement of concrete.
- F. Ensure that concrete around waterstop is properly consolidated to ensure complete embedment of the waterstop in the concrete.
- G. Splice in accordance with manufacturer's recommendations.
- H. Only straight butt splices using heat welding shall be permitted in the field for PVC waterstop. All intersections, transitions, and changes of direction shall be factory fabricated.

3.03 STEEL REINFORCEMENT

- A. General Requirements: Reinforcement steel, welded wire fabric, couplers, and other appurtenances shall be fabricated and placed in accordance with the requirements of the Building Code and the supplementary requirements indicated herein.
- B. Fabrication:
  - 1. Reinforcement steel shall be accurately formed to the dimensions and shapes indicated, and the fabricating details shall be prepared in accordance with ACI 315 - Details and Detailing of Concrete Reinforcement and ACI 318, except as modified by the Drawings.
  - 2. The CONTRACTOR shall fabricate reinforcement bars for structures in accordance with bending diagrams, placing lists, and placing drawings. Said drawings, diagrams, and lists shall be prepared by the CONTRACTOR.
  - 3. Unless otherwise indicated, dowels shall match the size and spacing of the spliced bar.
- B. Bending or Straightening: Reinforcement shall not be straightened or re-bent in a manner that will injure the material. Field bending of reinforcing bars will not be allowed. Do not field cut reinforcing bars unless approved by RPR.
- C. No bars partially embedded in concrete shall be field bent except as indicated or specifically permitted by RPR.
- D. Placing:
  - 1. Reinforcement steel shall be accurately positioned as indicated and shall be supported and wired together to prevent displacement, using annealed iron wire ties or suitable clips at intersections. Reinforcement steel shall be supported by concrete, plastic or metal supports, spacers or metal hangers that are strong and rigid enough to prevent any displacement of the reinforcement steel.
    - a. For concrete over formwork, the CONTRACTOR shall provide concrete, metal, plastic, or other acceptable bar chairs and spacers.
    - b. Where concrete is to be placed on the ground, supporting concrete blocks (or dobies) may be used in sufficient numbers to support the bars without settlement, but in no case shall such support be continuous. Concrete blocks used to support reinforcement steel shall be tied to the steel with wire ties which are embedded in the blocks.
  - 2. Tie wires shall be bent away from the forms or exposed surface.
  - 3. Bars additional to those indicated which may be found necessary or desirable by the CONTRACTOR for the purpose of securing reinforcement in position shall be provided by the CONTRACTOR as part of the Work.
  - 4. Unless otherwise indicated, reinforcement placing tolerances and minimum spacing requirements shall be as specified in ACI 318 - Building Code Requirements for Reinforced Concrete and USACE EM 1110-2-2104.
  - 5. Welded wire fabric reinforcement placed over horizontal forms shall be supported on slab bolsters having gray, plastic-coated standard type legs. Slab bolsters shall be spaced not more than 30 inches on centers, shall extend continuously across the entire width of the reinforcing mat, and shall support the reinforcing mat in the plane indicated.

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- 6. Welded wire fabric placed over the ground shall be supported on wired concrete blocks (dobies) spaced not more than 3 feet on centers in any direction. The practice of placing welded wire fabric on the ground and hooking into place in the freshly placed concrete shall not be used.
- E. Cleaning and Protection:
  - 1. Reinforcement steel shall always be protected from conditions conducive to corrosion until concrete is placed around it.
    - (1) The surfaces of reinforcement steel and other metalwork to be in contact with concrete shall be thoroughly cleaned of dirt, grease, loose scale and rust, grout, mortar, and other foreign substances immediately before the concrete is placed. Where there is delay in depositing concrete, reinforcing shall be reinspected and, if necessary, recleaned.

3.04 CONCRETE PROPORTIONING AND MIXING

- A. Proportioning of the concrete mix shall conform to the requirements of Section 4.2.3 "Proportioning" of ACI 301 - Specifications for Concrete Construction.
- B. Mixing of concrete shall conform to the requirements of Section 4.3.1 "Measuring, batching, and mixing" of ACI 301.
- C. Retempering of concrete or mortar which has partially hardened shall not be permitted.
- D. Mixing of materials shall be done in accordance with AASHTO M 157 (ASTM C94). Concrete shall be mixed in stationary mixers, in a central mix plant, in truck mixers, or in self-contained mobile mixers. Mixing time shall be measured from the time all materials, except water, are in the drum.

Admixtures listed in the mix design, or admixtures approved by the RPR and water may be added at the project site.

- 1. Mixing General. Concrete shall be deposited in place within 90 minutes after batching when concrete is delivered in truck mixers or agitating trucks, and within 60 minutes when delivered in non-agitating trucks.
- 2. The 90-minute time limit for a mixer or agitating trucks may be extended to 180 minutes if:
  - a. No water is added after 90 minutes;
  - b. The concrete temperature prior to placement is less than 90 °F. The approved concrete mix contains an approved retarding admixture.
- 3. The 90-minute time limit for a mixer or agitating trucks may be extended to 180 minutes if:
  - a. No water is added after 90 minutes.
  - b. The concrete temperature prior to placement is less than 90 °F.
  - c. The approved concrete mix contains an approved retarding admixture.
- 4. The 90-minute time limit for a mixer or agitating trucks may be extended longer than 180 minutes if:
  - a. An Extended Set Control Admixture (ESCA) is added at the time of batching. Procedures and doses shall be in accordance with

manufacturer's recommendations. The ESCA shall be on the approved products list.

- b. The concrete temperature prior to placement is less than 90 °F.
- c. Each load of concrete shall be sampled and tested by the CONTRACTOR for air content according to CP 61.
- d. The Department will cast three additional acceptance cylinders. If the acceptance cylinders tested at 28 days do not meet design strength, the additional cylinders will be tested at 56 days for acceptance.

### 3.05 PREPARATION

- A. Verify that anchors, seats, plates, reinforcement, and other items to be cast into concrete are accurately placed, held securely, and will not cause hardship in placing concrete. Refer to Section 03 15 50: CONCRETE JOINTS, and Section 03 20 00 CONCRETE REINFORCEMENT, for additional requirements.
- B. Remove debris and standing water from placement area. Dampen all earth and wood surfaces against which concrete will be placed. Keep surfaces moist until concrete is placed.
- C. Do not place concrete until all formwork, reinforcement, and embedded items are properly placed and secured.
- D. Supply concrete placement checkout cards satisfactory to RPR, and a watertight container for the cards at a convenient location near each placement site. List on the checkout cards all the various work items required prior to concrete placement. Each work item for the respective placement shall be completed and the card signed by CONTRACTOR. Each work item shall then be inspected, and the card signed by RPR. Concrete placement may commence when all work items have been completed, inspected, and signed by both CONTRACTOR and RPR. The use of placement checkout cards may be waived by RPR where their use is judged to be impracticable.
- E. Have all necessary placing equipment on site prior to ordering concrete.
- F. Anchoring Reinforcement Dowels into Existing Concrete:
  - 1. Drill holes for each dowel to the size and depth indicated on the Drawings with carbide tip bit or star bit. Core drilling will not be permitted. Do not drill into or cut or otherwise damage existing reinforcement bars. If existing reinforcement bars are encountered during the drilling operation, relocate the hole to clear the existing reinforcement as directed by the RPR.
  - 2. Blow clean each finished hole with an oil free air jet and then flush with a jet of clean water.
  - 3. Immediately prior to the grouting operation, remove all water from the hole and from the walls of the hole.
  - 4. Pump dispensing gun for proper mixture. Insert nozzle and pump epoxy adhesive into the hole and insert reinforcement dowels. Do not retemper grout that has begun to stiffen; discard such grout. Comply with manufacturer's specified time limit within which the material must be placed after mixing.

## 3.06 PLACING CONCRETE

- A. Place concrete in as nearly a continuous operation as practical.
- B. Place concrete in near horizontal layers. Use spreading equipment that prevents segregation and that produces layers of widths and thickness appropriate for proper consolidation. Place each successive layer as soon as practicable after the preceding layer is completed.
- C. Use delivery and placement methods that do not cause segregation. The maximum free-fall drop height allowed for concrete placement shall be 4 feet.
- D. Do not disturb reinforcement, inserts, embedded items, or formed joints.
- E. Do not break or interrupt successive placements such that cold joints occur.
- F. Prevent debris or other objectionable material from becoming embedded in the concrete.
- G. Pumping Concrete:
  - 1. Conform to ACI 304.2R.
  - 2. Maintain standby pumping equipment on site, such that any interruption in placement operations due to equipment failure will not result in the formation of a cold joint.
- H. Placement Time: Place concrete within 90 minutes after water is added to cement, unless appropriate set delay admixtures are used. Use of set delay admixtures must be approved by RPR.
- I. Allow a minimum of 7 days between adjacent placements at expansion joints, unless otherwise indicated on the Drawings.
- J. Inclement Weather:
  - 1. Do not place concrete during heavy rain; defined as more than 0.3 inch per hour or 0.03 inch in 6 minutes (as defined by the Weather Bureau Glossary of Meteorology).
  - 2. If unusual adverse weather, such as heavy rain, severe cold or heavy snow, occurs or is forecast to occur during placement, an interruption in placing operations may be approved or required by RPR.
  - 3. Fully consolidate all placed concrete materials prior to stopping work.
- K. Cold Joints: Cold joints created by interruption of placement operations for any reason shall be treated as a construction joint in accordance with the requirements of Section 03 15 50: CONCRETE JOINTS.

## 3.07 CONSOLIDATING CONCRETE

- A. Conform to ACI 309R.
- B. Consolidate concrete by vibration, spading, rodding, or other manual methods. Work concrete around reinforcement, embedded items and into corners; eliminate all air or stone pockets and other causes of honeycombing, pitting or planes of weakness.
- C. Use immersion-type power vibrators, suitable for the concrete mix proportions and placement conditions of the respective placement. Use vibration equipment of internal type and not the type attached to forms and reinforcement.

- D. Use vibrators capable of transmitting vibration to concrete in frequencies sufficient to provide satisfactory consolidation.
- E. Do not leave vibrators in one spot long enough to cause segregation. Remove concrete segregated by vibrator operation. Do not use vibrators to spread concrete.
- F. Provide at least one standby vibrator prior to concrete placement.

3.08 COLD WEATHER PLACEMENT

- A. Follow approved cold weather placement plan when the ambient air temperature is less than 40°F, or if the ambient air temperature is approaching 40°F and falling.
- B. Develop cold weather placement plan in general conformance to ACI 306.1.
- C. Do not place concrete against frozen earth or ice, or against forms or reinforcement with frost or ice present.
- D. Maintain surface temperature of concrete above 40°F for minimum of 7 days after placement is completed.
- E. Do not locally heat or dry concrete when using heating units to meet Specification requirements.

3.09 HOT WEATHER PLACEMENT

- A. Follow approved hot weather placement plan. Include in the plan ambient weather conditions, considering combined effects of air temperature, humidity, wind speed and solar radiation, under which hot weather placement procedures will be implemented.
- B. Develop hot weather placement plan in general conformance to ACI 305R.
- C. Maintain temperature of concrete at or below temperature requirements in Section 03 05 00: BASIC CONCRETE MATERIALS, until concrete is placed.
- D. Provide shading, fog spraying, sprinkling, wet cover, or other means of maintaining concrete below the maximum specified temperatures.

3.10 FINISHING CONCRETE SURFACES

- A. Surfaces shall be free from fins, bulges, ridges, offsets, honeycombing, bug holes or roughness of any kind, and shall present a finished, smooth continuous hard surface.
- B. Allowable deviations from plumb or level and from the alignment, profiles, and dimensions indicated are defined as tolerances and are indicated in this specification. These tolerances are to be distinguished from irregularities in finish as described herein.
- C. Aluminum finishing tools shall not be used.
- D. Unless otherwise indicated, exterior corners in concrete members shall be provided with 1-inch chamfers or be tooled to a 1-inch radius. Re-entrant corners in concrete members shall not have fillets unless otherwise indicated.
- E. All expose edges and right-angled corners shall have a 1-inch 45-degree chamfer using wood or metal insert in the forms.
- F. Slope interior surfaces for drainage where shown on the Drawings or required by RPR. Surfaces that will be exposed to the weather and that would normally be level shall be sloped for drainage. Narrow surfaces, such as tops of walls and curbs, shall be sloped approximately 3/8-inch per foot of width.

- G. Do not add extra water to the surface of the concrete to aid in finishing.
- H. Classes of finish for formed concrete surfaces are designated as F1 or F2.
1. Finish F1: Applies to formed surfaces upon or against which fill material or concrete will be placed.
    - a. Finish F1: Applies to formed surfaces upon or against which fill material or concrete will be placed.
      - 1) Surface tolerance Class D as specified in ACI 117
      - 2) Patch voids larger than 1-1/2 inch wide or 1/2 inch deep
      - 3) Remove projections larger than 1 inch
      - 4) Mockup not required
      - 5) Protect form tie hole ends from moisture on surfaces that will be in contact with fill material. Protection shall consist of recessing the tie rod ends and filling the recesses with dry pack or other approved material or by an alternative system approved by RPR.
  2. Finish F2: Applies to all formed surfaces not permanently concealed by fill material or concrete.
    - 1) Surface tolerance Class B as specified in ACI 117
    - 2) Patch voids larger than 3/4 inch wide or 1/2 inch deep
    - 3) Remove projections larger than 1/4 inch
    - 4) Unless otherwise specified, provide mockup of concrete surface appearance and texture
    - 5) Recessed form tie rods to allow removal with a minimum of 1-inch recess to the tie rod ends. Dry pack finish recess to match adjacent concrete surface texture and color.
- I. Unformed Surfaces:
1. After proper and adequate vibration and tamping, unformed top surfaces of slabs, floors, walls, and curbs shall be brought to a uniform surface with suitable tools.
  2. The classes of finish for unformed concrete surfaces are designated and defined as follows:
  3. Finish U1 (screed finish): Applies to unformed surfaces that will be covered by fill material or by concrete. Finish U1 is also the first stage of finishes U2, U3 and U4. Finishing operations shall consist of sufficient leveling and screeding to produce an even, uniform surface with surface irregularities not to exceed 3/8-inch.
  4. Finish U2 (float finish): Applies to unformed surfaces not permanently concealed by fill material or concrete, or not required to receive finish U3 or U4. Finish U2 is also the second stage of finish U3 and U4.
    - a. After sufficient stiffening of the screeded concrete, surfaces shall be float finished with wood or metal floats or with a finishing machine using float blades.

- b. Float only as necessary to produce a surface that is free from screed marks and uniform in texture. Excessive floating of surfaces while the concrete is plastic and dusting of dry cement and sand on the concrete surface to absorb excess moisture will not be permitted.
    - c. Surface irregularities shall not exceed 1/4 inch. Joints and edges shall be tooled where indicated on the Drawings or as determined by the RPR.
    - d. If finish U3 is to be applied, continue floating until a small amount of mortar without excess water is brought to the surface, so as to permit effective troweling.
  - 5. Finish U3 (trowel finish): Applies generally to concrete surfaces that will be subjected to high-velocity water flows, including the apron, spillway weir crest and steps and stoplog bay surfaces. Finish U3 will also be applied to the top of walls.
    - a. Begin steel troweling when the floated surface (U2) has hardened sufficiently to prevent an excess of fine material from being drawn to the surface.
    - b. Perform steel troweling with firm pressure so as to flatten the sandy texture of the floated surface and to produce a dense uniform surface, free from blemishes, ripples and trowel marks. The finish shall be smooth and free of irregularities.
  - 6. Finish U4 (broom finish): Applies generally to concrete surfaces only where directed by the RPR.
    - a. Prepare the surface by applying Finish U2.
    - b. Subsequently, the surface shall be given a light broom finish with brooming perpendicular to drainage unless otherwise indicated. The resulting surface shall be rough enough to provide a nonskid finish.

3.11 CURING CONCRETE

- A. Follow approved curing procedures.
- B. Develop curing procedures in general conformance to ACI 308.1.
- C. Cure concrete in walls using one of the following methods:
  - 1. Option 1 - Leave form work in place and keep forms and exposed concrete surfaces wet for 7 days.
  - 2. Option 2 - Remove forms and apply curing compound.
  - 3. Option 3 - Remove forms and keep concrete surfaces wet for 7 days.
- D. Cure concrete in slabs using one of the following methods:
  - 1. Option 1 - Maintain ponded water on exposed surface for 7 days.
  - 2. Option 2 - Cover exposed surface with wet burlap. Keep burlap wet for 7 days. Remove and dispose of burlap after curing is completed.
  - 3. Option 3 - Apply curing compound to exposed surface. Do not apply curing compound to surfaces of construction joints.
- E. Apply curing compound in accordance with manufacturer's instructions.

3.12 PROTECTING CONCRETE

- A. Protect concrete from premature drying, excessively hot or cold temperatures, and mechanical damage.
- B. Do not allow construction vehicles or equipment on concrete until it has attained its specified design strength.

3.13 TOLERANCES

- A. Tolerances are defined as allowable variation from specified lines, grades, and dimensions, and as allowable magnitude of surface irregularities.
- B. Allowable Magnitude of Surface Irregularities:
  - 1. F1 Surfaces: 1 inch (depressions only)
  - 2. F2 Surfaces: 0.25 inch
  - 3. U1 Surfaces: 0.375 inch
  - 4. U2 Surfaces: 0.25 inch
  - 5. U3 Surfaces: 0.125 inch per 10 feet, 0.5 inch maximum deviation
  - 6. Concrete surface irregularities are defined as bulges, depressions, and offsets in hardened concrete surfaces.
  - 7. Concrete surface irregularities are measured relative to the actual concrete surface.

3.14 QUALITY ASSURANCE

- A. Responsibility:
  - 1. OWNER will perform all field quality assurance testing, obtain all field quality assurance samples, and perform all laboratory testing of field samples for all cast-in-place concrete used in the Work.
- B. CONTRACTOR shall provide necessary materials and adequate access to OWNER's personnel for quality assurance testing.
  - 1. OWNER will verbally advise CONTRACTOR of results of field quality assurance test results upon completion of respective tests. Copies of OWNER's field quality assurance test results will be provided to CONTRACTOR within 24 hours after testing.
- C. General:
  - 1. Test results will be evaluated in accordance with ACI 301 and these Specifications.
  - 2. Frequency of testing may be changed at RPR's discretion.
  - 3. Concrete samples for pumped concrete will be taken from the placement (discharge) end of the pumping line. Where sampling at the pump discharge is impractical, samples will be taken at the pump supply hopper.
  - 4. Refer to Section 03 05 00: BASIC CONCRETE MATERIALS, for concrete quality requirements.
- D. Compressive Strength:

100% Design Submittal, REV 1  
August 2024

Cast-in-Place Concrete  
03 30 00-24

1. Cylinder Preparation: ASTM C 31.
  2. Each set shall consist of six cylinders.
  3. Three extra cylinders will be cast for each set cast during cold weather concreting operations. The extra cylinders will be field cured. Protect field curing cylinders; place and maintain cylinders in the curing environment of the representative concrete.
  4. Frequency: 1 set for each 50 cubic yards of concrete placed, and at least 1 set for each structure.
  5. Test Procedure: Compression tests will be performed in accordance with ASTM C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens at the following intervals:
    - a. One (1) test cylinder will be tested at three (3) days,
    - b. One (1) test cylinder will be tested at seven (7) days,
    - c. one (1) test cylinder will be tested at fourteen (14) days,
    - d. two (2) test cylinders will be tested at twenty-eight days (28), and
    - e. one (1) test cylinder will be retained for additional testing as needed.
- E. Slump:
1. Test Procedure: ASTM C 143.
  2. Frequency: 1 test for each truckload or batch.
- F. Air Content:
1. Test Procedure: ASTM C 231.
  2. Frequency: 1 test for each truckload or batch.
- G. Temperature:
1. Frequency: 1 test for each truckload or batch.
  2. Measure temperature immediately prior to placement.
- H. Tolerances:
1. Variation of all hardened concrete structures or elements of structures will be measured as necessary to verify compliance with Specification requirements.
  2. CONTRACTOR shall provide appropriate templates for OWNER's use in measuring variation measurements.

END OF SECTION



**Little Bog Pond Dam & Lower Trio Pond Dam  
Reconstruction Project  
Addendum #3**

Please find the following ADDENDUM #3, dated September 9<sup>th</sup>, 2024, for the Little Bog Pond Dam & Lower Trio Pond Dam Reconstruction Project which is to be included as part of the Contract Documents thereof:

As per Specification Section 00200, Article 13.09 the bid shall contain an acknowledgment of receipt of this Addendum #3, (and all addenda). The number and date of which shall be filled in by filling out the information in the space provided in Section 00301 – Bid Form, Article 3 – 3.01A.

Please note bids are due Thursday, September 12<sup>th</sup>, 2024, at 2:00 PM (EST). Hard copy bids may be received as stipulated in the Contract Documents. This Addendum has been issued to address Prospective Contractor Questions on the Contract Drawings and Specifications.

**ITEM #1: Response to Contractor Questions**

1. Please confirm no Davis Bacon or Prevailing wages are required for the project. Please see response in Addendum #1 for clarifications on prevailing wages.

"The expected total cost of the project is estimated to be less than \$10 million and therefore Section 00805 Article 3 SC-103.06a I. Federal Requirements is not applicable..."

2. Can you please provide information or brand and model for the backflow preventer for the spillway draining system shown on drawing S-103 and S-203? We can't seem to find any information in drawings or spec book. At the 4-in HDPE piping outlets use HydroGate Model 50c 4-in Flap Gate or approved equal. For the 8-in underdrain piping outlets use RedValve Checkmate UltraFlex 8-in In-Line Check Valve or approved equal. See Figure 1 below; product brochures for each are included as attachments.

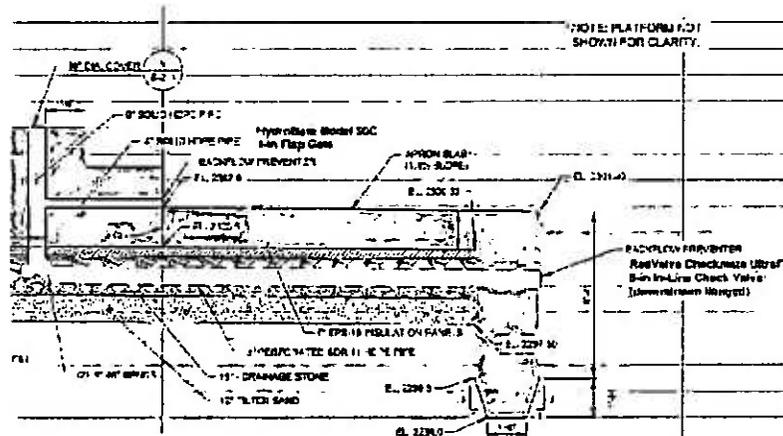


Figure 1. Screenshot of Section A on Sheet S-203 showing location of flap gate and back flow preventer.

GEI Consultants, Inc.

1 | Page



Attachments:

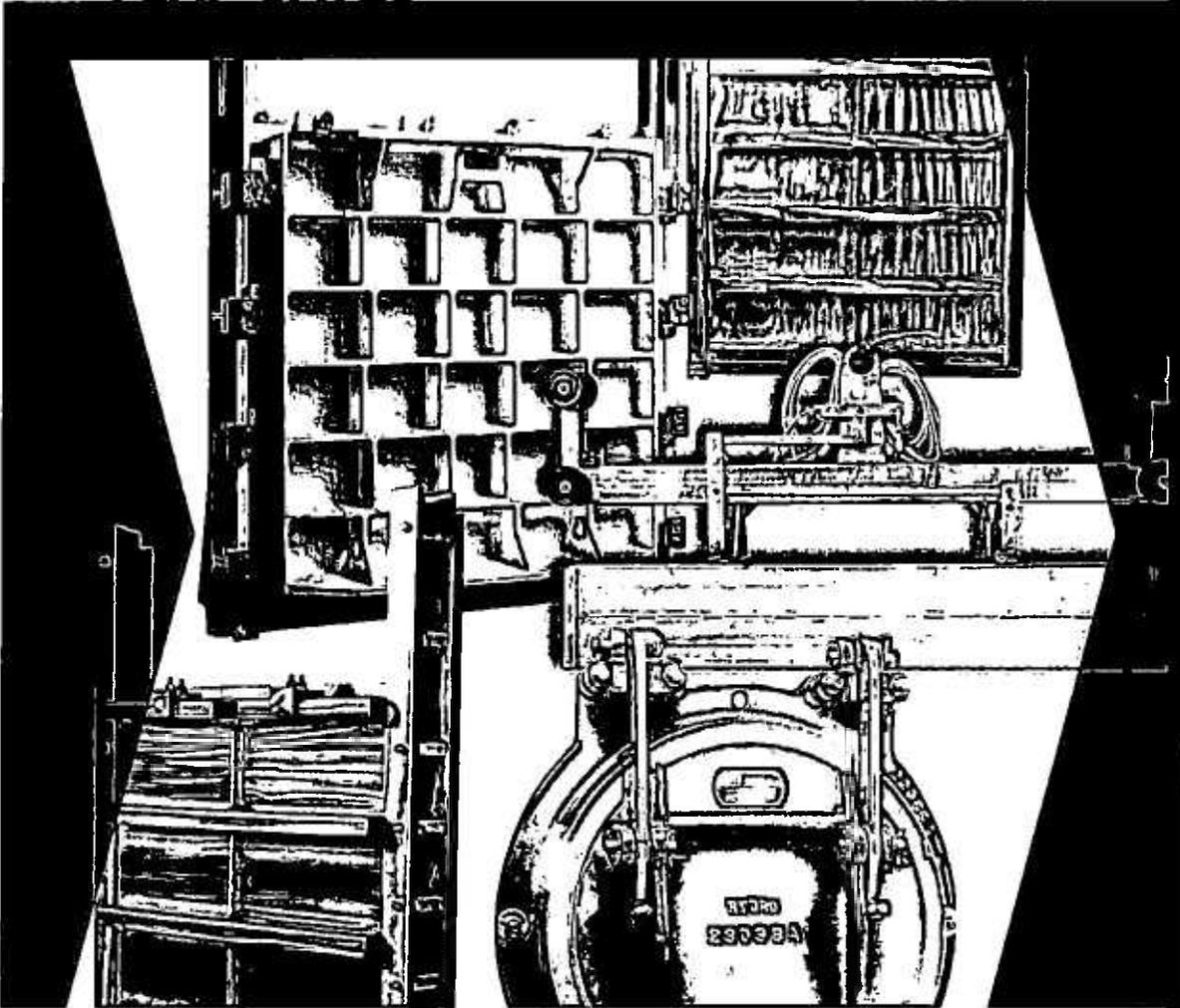
Attachment #1 – Hydro Gate Product Data

Attachment #2 – Red Valve CheckMate UltraFlex Product Data

# HYDRO GATE®

• MUELLER brand

## FLAP GATES



# HYDRO GATE®

a MUELLER brand

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# FLAP GATES

## Description

### DESCRIPTION

Hydro Gate® flap gates are made of cast iron or ductile iron, depending on the type of service. A small differential pressure on the back of the gate causes it to open automatically to allow discharge through levees, sewer lines or drainage conduits. When water on the face side of the gate rises above water on the back side, the gate closes automatically to prevent backflow.

Flap gates are equipped with flat back seats for attaching to wall, thimbles, new concrete headwalls, existing walls or pipe flanges. The seat or frame of the flap gate is attached to a wall or pipe flange and forms the opening through which water passes. Since the gate opens or closes automatically, a mechanical lifting device is not necessary.

Automatic drainage gates must be kept clean if they are to function correctly. The hinged flap acts as a natural skimmer to cause timber, logs or trash to catch between the flap and the seat at low flow. Periodic inspection and cleaning should be scheduled when the water flowing through the flap gate carries floating material.

To make the gate more self-cleaning, it should be mounted 12 to 18" above the apron in front of the gate. This allows room at the bottom for floating material to work its way out and makes the gate flap somewhat self-cleaning.

### SEAT (FRAMES)

A seat (or frame) is a one-piece casting. The seating face is cast and machined at an angle off vertical so that the hinged cover has a horizontal force component to completely seat the gate by gravity.

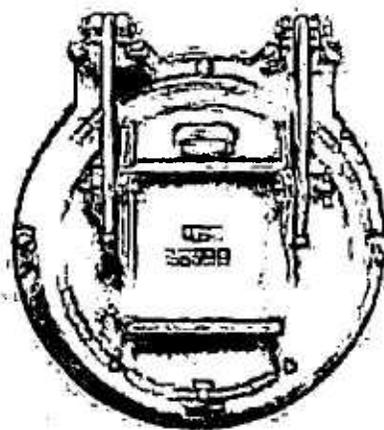
Corrosion-resistant seating faces are pneumatically impacted into dovetail grooves for heavy-duty gates. All seating faces (above 4" diameter) are machined flat and to a 63 micro-inch finish.

When rubber seals are specified, the gumdrop cross-section rubber seal is locked into a deep dovetail groove in the seat.

### FLAPS (COVERS)

Flaps are iron castings of reinforced flat plate design. Reinforcing ribs (both horizontal and vertical) are cast integrally along with bosses for the hinges.

Corrosion-resistant seating faces are attached as described in the previous section for frames.



24" HEAVY DUTY FLAP GATE

### APPLICATIONS

- Flood Control
- Municipal Projects
- Farm Levees
- Sewer Outfalls
- Industrial Waste Lines
- Water and Sewage Treatment Plants
- Tidal Drainage
- Irrigation Systems
- Pump Discharge Control

## Description

### DOUBLE-HINGE ACTION

For proper seating of a flap gate, double-hinge action is necessary. The main hinge action on any flap gate is about its upper pivot points. However, flexibility is required at the bottom pivot points to allow seating of the flap against the seat. All Hydro Gate® flap gates have this double action with bushings at each pivot point.

It is necessary that bottom hinge action be limited. Otherwise, the flap can turn completely over on itself and wedge back in the opening of the gate seat, rendering the gate useless. Heavy-duty circular opening flap gates are provided with hinge arms extending beyond the bottom pivot point. This limits the double-hinge action and prevents the flap from being rotated outward at the bottom. In addition, the bottom end of each hinge arm has a fine adjustment bolt to further limit the double-hinge action. Square or rectangular opening flap gates are also provided with extended links for fine adjustment even though the bottom of the flap cannot be turned into the gate opening as in the round gates.

### LUBRICATION OF PIVOT POINTS

Lubrication of pivot points on flap gates is usually not necessary. The construction of the hinge assembly permits only a few degrees of rotation at the bottom pivot points. The gate cover rotates about the upper pivot points through an arc of 90° or less. With this limited rotation, lubrication of bushings is usually not justified nor is it normally recommended. When lubrication of flap gate pivot points is desired, two methods can be used:

1. A permanently lubricated bushing is installed at the factory. If lubrication of pivot points is desired, the permanently lubricated bronze bushing is recommended; or
2. Links or hinge arms can be drilled for zerk-type grease fittings for use with ordinary grease guns.

### LOSS OF HEAD THROUGH FLAP GATES

Tests conducted on flap gates show that the loss of head due to the flap riding on the water is very small compared with other losses in the hydraulic structure. Of these head losses, the entrance loss is usually considerably more critical than loss at the flap gate on the outlet end of the conduit.

The Hydraulic Laboratory of the State University of Iowa conducted a series of tests to determine the amount of head lost by water discharging through Model 10C flap gates (formerly Armco-Calco). The gates — 18, 24 and 30" in diameter — were supplied from commercial stock.

The following passage is excerpted from the report of Floyd A. Nagler, associate professor of mechanics and hydraulics, who supervised the tests.

"Based on these experiments the following empirical formula was derived to express the loss in head through Calco Gates of varying sizes and with different velocities of flow:

$L$  = loss of head in feet  
 $v$  = velocity of flow through gate in feet per second  
 $d$  = diameter of outlet in feet  
 $e$  = base of natural logarithms  
 $g$  = acceleration of gravity, 32 ft/sec./sec.

$$L = \left( \frac{4v^2 e}{g} \right) \left( \frac{1.15v}{\sqrt{d}} \right)$$

It may be concluded from these experiments that the Calco gate in its hydraulic characteristics is all that the manufacturers have claimed for it. The small loss in head obtained through these gates demonstrates that their installation has little effect on the discharged capacity of drainage outlets."

Heavy-duty flap gates have heavier flaps or covers than the gate model tested. As a result, head losses through these gates may be slightly more than those indicated by the tests.

### ATTACHMENT TO CONCRETE WALL OR PIPE FLANGE

Since flap gates open when subjected to a back pressure, only a small unseating force is encountered. When a flap gate is under face or seating head, the force of the water pushes against the cover and only the weight of the gate itself is on the attaching bolts or anchors. For this reason, fasteners are needed only to hold the gate on the wall or flange. There is no hydrostatic force tending to separate the gate from the wall or flange.

In attaching a round heavy-duty flap gate to a pipe flange, the gate is partially drilled to match a 25 lb. ASME bolt circle with only a portion of the holes being used. The cost to full drill the gate seat, mate every hole in the flange, and furnish the additional corrosion-resistant bolts and install them is not justified.

Flanges must be installed perfectly flat. Any warpage of a flange is transferred to the gate seat, preventing the flap to seat properly, particularly at low differential head. (Perfectly flat is generally defined as within plus or minus  $\sqrt{64}$ " of a true theoretical flat plane.)

## Description

### ADJUSTABLE TOP PIVOT POINTS

For the adjustable pivot point on Hydro Gate® heavy-duty and medium-duty flap gates, four holes are drilled and tapped – two per side – in the flat ears at the top of the gate seat (see Figure 6-1). Threaded studs are screwed into these holes and are securely locked in position.

A double-earred adjustable pivot lug is then placed on these two studs, and hex nuts are placed on both sides of the bosses. Another double set of ears projects to the top of the pivot lug for mounting of the hinge arms. A bushing in the hinge arm works on the body of the assembly pin. This arrangement allows the assembly pins through all pivot points to be in double shear for added strength and also provides for minimum lateral movement of the flap during gate operation.

With the double-nut arrangement on each stud, the top pivot lug can be moved in and out from the wall to vary the location of the top pivot point with respect to the seating face of the gate. All adjusting can be accomplished without removing the gate flap cover from the gate, as is necessary for other pivot arrangements.

The force required to open the gate increases as the pivot lug is moved back toward the wall. When the gate is in a tidal zone or when the gate is partially submerged, the pivot lug can be moved back as far as possible so that the weight of the flap keeps the gate closed. Where less pressure is needed to operate the gate, the pivot lugs are moved farther away from the wall.

### STAINLESS STEEL BUMPER (OPTIONAL)

Gates mounted on a pump discharge pipe (not mounted on a head wall) or mounted in an area where excessive velocities occur should be specified to have a spring bumper (swing) to prevent the cover from being thrown over center over top of gate thus preventing the gate from closing automatically. It also prevents personal injury caused by a flap that is balanced or teetering over center. Designed for gate seat or wall mounting, depending on application or gate size.

### ANTI-SWAY BAR

The anti-sway bar creates a uniform and rigid hinging operation of the gate by tying together all four hinge points. This prevents the gate components from “shaking themselves” loose and progression to failure.

### LEAKAGE

Leakage through flap gates decreases as head increases. At very low heads, there may be insufficient force to fully effect a tight, intimate fit of the seats, and somewhat greater leakage is likely.

### OPENING PRESSURE

Any significant depth of water behind the gate will cause the cover to unseat a crack and allow drainage. The pivot lug can be adjusted for more or less sensitivity. When adjusted for less sensitivity, greater depth of water (back pressure) will be needed to crack the gate open. Generally, flap gates cannot hold more than a few inches of backwater for an extended length of time.

### SAFETY NOTICE

Gates (particularly smaller gates) in public areas should be fenced since children playing on or around them can lift the covers and be injured at the cover's pinch points.

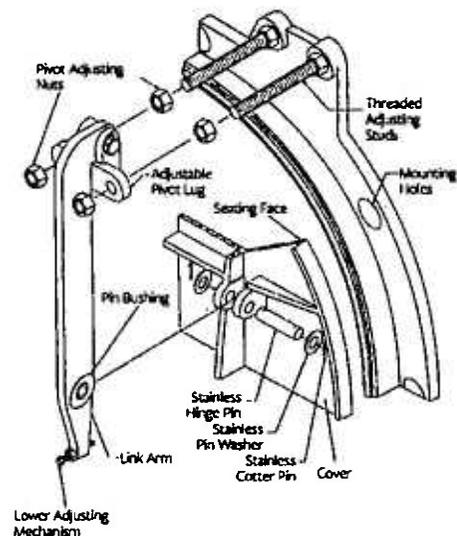
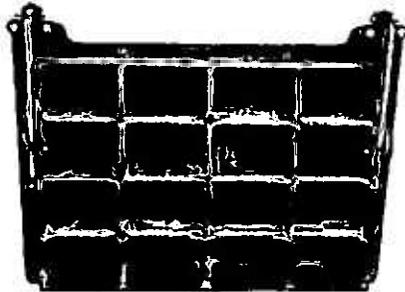


FIGURE 6-1  
ADJUSTABLE TOP PIVOT AND LINK ASSEMBLY

# HEAVY DUTY FLAP GATES

## Description



60" x 36" RECTANGULAR FLAP GATE INSTALLATION

### FEATURES

- Model 50G (Circular)
- Model 50 (Square or Rectangular)
- Sealing heads to 50"
- Round, square or rectangular opening
- Flat-back, corrosion-resistant fasteners
- Ductile iron links and lugs

## DESCRIPTION

Flat-back seats are for attaching the gate to a concrete wall pipe flange or wall thimble. The back of this gate seat is machined to a plane and drilled. Studs or anchor bolts should be of the same material as gate assembly bolts.

Heavy-duty flap gates have fully adjustable top pivot points. Through the use of two threaded studs, the top pivot point can be moved laterally from the wall to adjust the sensitivity of the gate or to compensate for slight misalignment in installation. The threaded studs with double-locking nuts allow adjustment to be accomplished without disassembly of the gate. By moving the top pivot point back, additional head is required to open the gate as the weight of the flap keeps the gate closed and reduces fluttering action caused by waves. Links or hinge arms are ductile iron and holes at pivot points are bronze bushed. The hinge pins through the links are in double shear due to double-eared pivot lugs at the top of the link and double bosses on the flap at the bottom. All fasteners are furnished in Type 316 stainless steel, for all environmental applications.

A lifting eye is cast integrally with the flap cover to permit manual operation or to hold the gate open. A rubber seating face is recommended in the gate seat. If the gate is attached to the discharge end of a pump where slamming action will occur. The seating face on the cover is bronze. This corrosion resistant face is machined to a plane and makes contact with the rubber on the seat when the gate is closed. The rubber face on the seat is set in a machined dovetail groove that holds it firmly in position without the aid of bolts, pins or adhesive. The rubber face acts as a cushion for the flap as it closes under moderate slamming action. These gates are exceptionally watertight under higher face pressures because of slight deformation of the rubber faces.

### FABRICATED HEAVY DUTY FLAP GATES

Our team has the capability to provide a fabricated version of the Heavy Duty Flap Gate for special applications. This type of gate can accommodate odd size requirements or enhanced corrosion resistance than the cast iron line. Fabricated Flap Gates are offered in aluminum, stainless steel, or carbon steel and are designed with rubber seating faces. The fabricated version of the flap gate is designed to have the same functionality and performance as the cast iron version.

## Dimensional Data

### MODEL SOC ROUND OPENING FOR HEADS TO 50 FT

OPENING SIZE DIA. (IN.)	DIAMETER (IN.)			PIVOT RADIUS (IN.)
	A	B	C	
6	9.00	4.50	5.25	3.31
8	13.00	5.50	8.25	17.75
10	13.50	6.75	9.50	14.00
12	16.00	8.00	9.75	15.25
14	19.00	9.50	10.25	16.75
15	21.25	10.63	12.50	19.75
16	22.25	11.13	12.50	20.31
18	23.50	11.75	13.00	21.25
20	24.75	12.50	15.75	25.00
21	27.50	13.75	16.25	26.25
24	29.00	14.00	16.50	27.38
27	32.00	16.00	19.25	31.25
	34.75	17.38	21.25	36.00

OPENING SIZE DIA. (IN.)	DIAMETER (IN.)			PIVOT RADIUS (IN.)
	A	B	C	
30	38.75	19.38	23.25	38.50
36	46.00	23.00	27.50	45.50
42	53.00	26.50	32.50	53.50
48	59.50	29.75	37.75	61.75
54	66.25	33.25	39.75	67.25
60	73.00	36.50	46.00	75.00
66	80.00	40.00	50.00	83.00
72	86.50	43.25	54.25	90.00
78	93.50	46.75	58.25	97.00
84	100.00	50.00	62.25	104.25
90	106.50	53.25	65.50	111.25
96	113.25	56.63	65.50	117.25
108	125.00	62.50	75.13	129.75

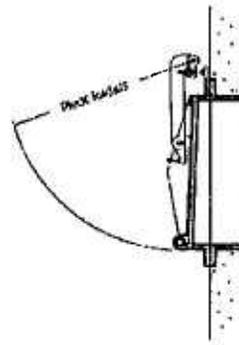
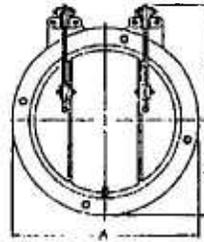


FIGURE 6-2  
HEAVY-DUTY FLAP GATE (MODEL SOC)

## Dimensional Data

### MODEL 50C ROUND OPENING FOR HEADS TO 50 FT

OPENING DIA. (IN.)	DIAMETER (IN.)			PIVOT RADIUS (IN.)
	A	B	C	
30 x 18	37.00	12.50	15.75	25.00
30 x 30	40.50	16.75	25.75	40.25
36 x 24	44.00	16.00	27.00	31.25
48 x 24	56.00	16.00	29.00	29.25
48 x 36	56.00	22.00	27.50	46.50
48 x 48	58.00	29.00	32.75	61.75

OPENING DIA. (IN.)	DIAMETER (IN.)			PIVOT RADIUS (IN.)
	A	B	C	
66 x 42	76.00	26.00	32.75	53.50
66 x 66	76.00	38.00	52.00	55.00
72 x 48	82.00	29.00	37.75	61.75
84 x 84	94.00	47.00	52.25	104.00
96 x 60	108.00	36.00	46.00	76.00
96 x 84	108.00	45.00	52.50	104.00

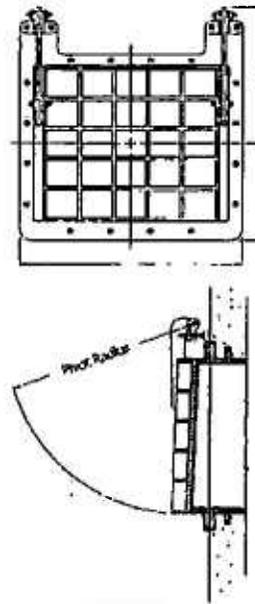


FIGURE 6-3  
HEAVY-DUTY FLAP GATE (MODEL 50)

## SPECIFICATIONS

### GENERAL

Flap gates and accessories shall be of the size, material and construction shown on the drawings and specified herein. They shall be Hydro Gate® heavy-duty flap gates or approved equal, with circular, square or rectangular openings. Similar installations shall have operated successfully for five years or more. All component parts shall be of the type material shown in the "Materials" section of this specification. The Material Combination Number applicable to each gate shall be shown in the "Gate Schedule."

### SEAT

The seat shall be flat back and shall be cast in one piece with a raised section around the perimeter of the waterway opening to mount the seating faces. The raised section shall provide a seating plane diverging top to bottom from the plane of the mounting flange to assist in positive closure of the cover. The seat shall be shaped to provide two bosses extended above the top of the waterway opening for mounting the pivot lugs. Pivot lug bosses shall be drilled and tapped for

## Specifications

mounting studs. The back of the seat shall be machined to a plane and drilled to mate the anchor or stud layout. Gates attached to concrete shall be mounted on anchor bolts and grouted in place.

### COVER

The cover shall be cast in one piece with necessary reinforcing ribs, a lifting eye for manual operation, and with bosses to provide a pivot point connection with the links. Bosses shall be designed to place the hinge pins in double shear when the gate is assembled.

### SEATING FACES

A full-width, dovetail slot shall be machined around the perimeter of the cover and the seat. Corrosion-resistant dovetail seating faces shall be mounted in the slot and held securely without use of screws or other fasteners. The seating faces shall be machined to a plane with a minimum .63 micro-inch finish.

Flap gates subjected to pump discharge slamming action shall have a rubber seating face on the seat. Rubber seating faces shall be mounted in a dovetail slot and held securely without use of pins or screws. The seating face on the cover shall be as specified in the previous section.

### PIVOT LUGS

Each pivot lug shall be cast in one piece. Lugs shall have double bosses to place the top hinge pins in double shear when they are assembled through the link. The lugs shall be adjustable in the horizontal plane without removal of the cover from the gate links. The adjustment shall allow the top pivot point to be moved toward the gate seat for reduced sensitivity of the cover, or moved away from the gate seat to provide opening with minimum differential head. Two corrosion-resistant studs shall be used to connect each pivot lug to the gate seat.

### LINKS

The links connecting the cover and pivot lugs shall be heavy duty and cast in one piece. Each link shall be provided with commercial grade, corrosion-resistant bushings at each pivot point. The bottom of the links shall be provided with an adjusting screw to properly align seating faces on the cover with respect to the seat. The links shall be designed to limit the double hinge action, preventing the cover from rotating sufficiently to become wedged in the open position.

### FASTENERS

All anchor bolts, assembly bolts, screws, studs and nuts shall be of ample size to safely withstand the forces created by operation of the gate under the heads shown in the "Gate Schedule". Quantity and size of the fasteners shall be recommended by the manufacturer. Anchor bolts shall be furnished with two nuts each to facilitate installation and alignment of the gates when attached to concrete.

### PAINTING

Machined surfaces shall be coated with a water-resistant, rust-preventive compound. All cast iron parts shall be shop cleaned and painted in accordance with the manufacturer's standard practice.

### DRAWINGS FOR APPROVAL

Drawings showing the dimensions and details required to locate and install the component assemblies shall be submitted for the engineer's approval prior to fabrication.

### INSTALLATION

Installation of all parts shall be done by the contractor in a workmanlike manner and in accordance with the manufacturer's instructions. It shall be the contractor's responsibility to handle, store and install the gate in strict accord with the manufacturer's drawings and recommendations.

### MATERIALS

Hydro Gate® Flap Gates are manufactured in one standard material combination, as listed below. Various components of the flap gate are available in other materials when absolutely required by the customer. Any material variations are subject to additional costs. Optional materials listed below are not necessarily all inclusive. Please contact our Engineering Department for any additional clarification on optional materials.

#### Seat and Cover

*Standard Materials:* Cast Iron, ASTM A126, Class B

*Optional Materials:* Austenitic Gray Iron (Ni-Resist), ASTM A436  
Ductile Iron, ASTM A536 Grade 80-55-06

#### Seating Faces

*Standard Materials:* Silicon Bronze, ASTM B98, Alloy 651

*Optional Materials:* Neoprene, ASTM D2000, Grade 1BE625

#### Pivot Lugs

*Standard Materials:* Ductile Iron, ASTM A536 Grade 80-55-06

*Optional Materials:* Austenitic Gray Iron (Ni-Resist), ASTM A436

#### Links

*Standard Materials:* Ductile Iron, ASTM A536 Grade 80-55-06

*Optional Materials:* Austenitic Gray Iron (Ni-Resist), ASTM A436  
Stainless Steel, ASTM A276, Type 304 or 316

#### Bushings

*Standard Materials:* Bronze, ASTM B584, Alloy 932

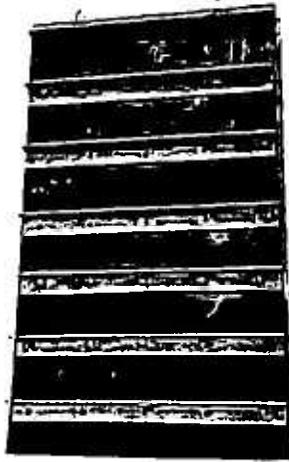
*Optional Materials:* Self-Lubricating Bronze, (various) Stainless Steel, ASTM A276, Type 304 or 316

#### Fasteners

*Standard Materials:* Stainless Steel, ASTM F593 (Bolts), Alloy Group 2, Type 316

# FLEXIBLE (RUBBER) FLAP GATES

## Description



## APPLICATIONS

- Very low unseating head requirements
- Pump discharge
- Coastal tide basin drainage
- Combined sewage overflow requirements

## DESCRIPTION

Flexible Flap Gates are manufactured with a stainless steel frame and a reinforced neoprene cover. To aid in the sealing of the gate, a flexible neoprene seal is mounted to the stainless steel frame.

These gates are quiet operating and require very little maintenance. Should debris collect behind the cover it is easily removed or flushed out. These gates are ideally suited for pump discharge and wave action. There are no hinge pins to wear out and they never need painting. The Flexible Flap Gate can be mounted to a fabricated wall thimble or to a concrete wall with the incorporation of a grout pad.

These gates are available in a variety of sizes. For the minimum and maximum gate sizes available, please consult our Engineering staff.

When specifying Hydro Gate® Flexible Flap Gates be sure to consider the characteristics of the water, the gate's function, the opening size and the maximum head requirements. Our Engineering staff is experienced in answering any of the questions you may have concerning the design and use of the Flexible Flap Gate.

## FEATURES

- Stainless steel frame (scot)
- Flexible fiber reinforced neoprene cover (flap), one inch thick for most applications
- Stainless steel reinforcing angles bolted to cover with full width stainless steel backer bar
- Resilient neoprene hollow bulb seal bolted to frame for seating scot
- Flexible continuous hinge integral with neoprene cover

## DESIGN AND APPLICATION FEATURES

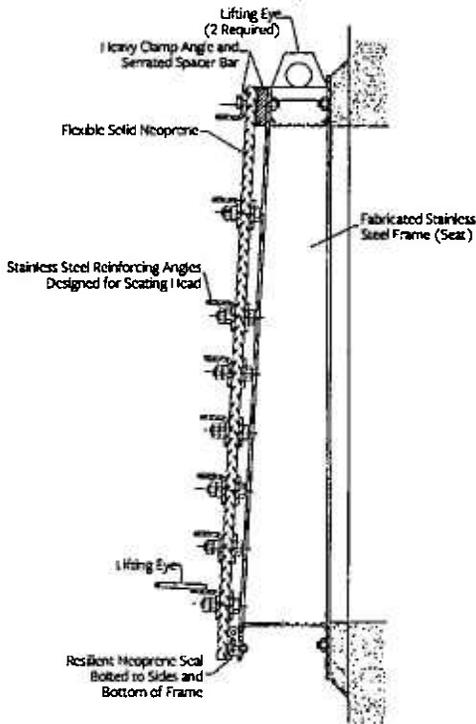
- Simple rugged design
- Low head loss, low cracking pressure, self draining
- Quiet operation, no slamming metal to metal
- Withstands pump discharge and reverse flow slamming and wave action
- Tolerates debris, cover molds around objects
- Corrosion resistant to most water born contaminants, resistant to algae and marine growth
- No painting, no lubrication, no broken hinges, links or worn pins
- Smooth design for easy flushing

Hydro Gate rubber flap gates are best suited for wall mounting on anchor bolts and grout pad. They can also be mounted on a fabricated or cast iron thimble; however, the back flange is unmachined which requires heavy layer of mastic or a thick soft gasket to seal the flange joint.

Gates larger (width or height) than 42" may require seaming and bonding of the rubber flap due to available rubber sheet width. Multiple gate openings or multiple gates may be used in lieu of a seamed rubber cover. Multiple gate openings prevent debris from catching in the frame members.

Contact our Engineering Department for recommendations for your specific application.

## Specifications



RUBBER FLAP GATE – SECTION VIEW

### SPECIFICATION FOR FLEXIBLE (RUBBER) FLAP GATE

Flexible flap gates shall be of size and material grades as specified herein and as shown on drawings and gate schedule. They shall be Hydro Gate™ Flexible Flap Gate or approved equal. They shall be square or rectangular or multiple opening style.

#### GATE SCHEDULE

QUANTITY REQUIRED	SIZE OF OPENING (IN.)	RACK TYPE	SEATING HEAD (FT)	REMARKS

#### FRAME

Frame shall be fabricated from stainless steel type 304. The frame shall have a diverging face top to bottom to assist in positive closure of the flap. The frame shall be provided with a rear attaching flange, holes to mount, and a concrete structure with a grout pad. Two lifting lugs shall be provided on the frame for handling and installation hanging.

#### COVER (FLAP)

The cover shall be fabricated from fabric reinforced neoprene rubber and type 304 stainless steel reinforcing angles attached to the rubber sheet with stainless steel through bolts and backing bars. The bolts shall be caulked or sealed to prevent leakage through the boltholes. The size and quantity of reinforcing beams shall be designed to withstand the maximum hydrostatic force applied to the gate. The hinge end of the cover shall be securely bolted to the frame with heaving clamping bars and bolts.

The rubber cover sheet shall be one piece without seams. The rubber thickness shall be sufficient to prevent excessive "ballooning" under hydrostatic pressure. Gate widths greater than available rubber sheet shall be furnished with multiple (side by side) openings.

The flap cover shall have a lifting lug at its lower end to facilitate lifting for cleaning.

#### HINGE

The hinge shall be flexible type integral with the flexible rubber cover.

#### SEATING SURFACES

Resilient hollow section or lip type rubber seals shall be attached to the divergent face of the gate frame with bolts and stainless steel retainer bars. The resilient seals shall provide a high degree of water tightness.

#### LIMITATIONS

We want to be sure that flexible flap gates will meet the requirements of the project. Before specifying gates wider than 60" and head pressures more than twice the gate height, contact our Engineering Department for design and material limits. Provide information about the type of service, type of water, maximum seating heads and mounting information.

# HYDRO GATE®

a MUELLER brand

OUR MISSION IS TO BE THE LEADING WATER CONTROL GATE MANUFACTURER IN THE WORLD, THROUGH CONTINUOUS DEVELOPMENT OF AN ORGANIZATION WHICH PROMOTES EXTRAORDINARY CUSTOMER SERVICE, SUPERIOR ENGINEERING, QUALITY PRODUCTS AND ON-TIME DELIVERY.

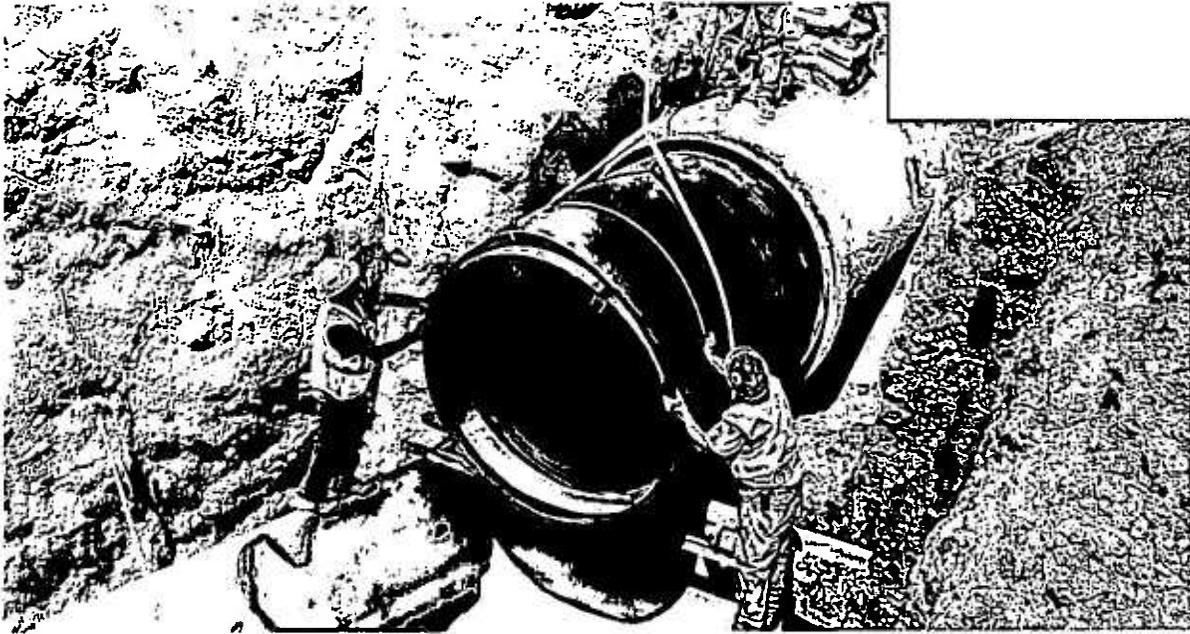
For more information about us or to view our full line of water products, please visit [www.hydrogate.com](http://www.hydrogate.com) or call Hydro Gate® customer service at 1.800.423.1323.

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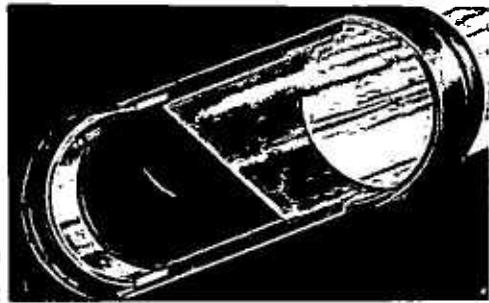
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**MUELLER**



Red Valve

CheckMate UltraFlex®: The World's Most Reliable In-Line Check Valve



# CheckMate UltraFlex®- Often Imitated, Never Equaled

## A Legacy of Leadership

Nearly 70 years ago, Red Valve was founded on a simple promise, to design and manufacture the highest quality engineered check valves, backed by an unsurpassed level of technical innovation and customer service.

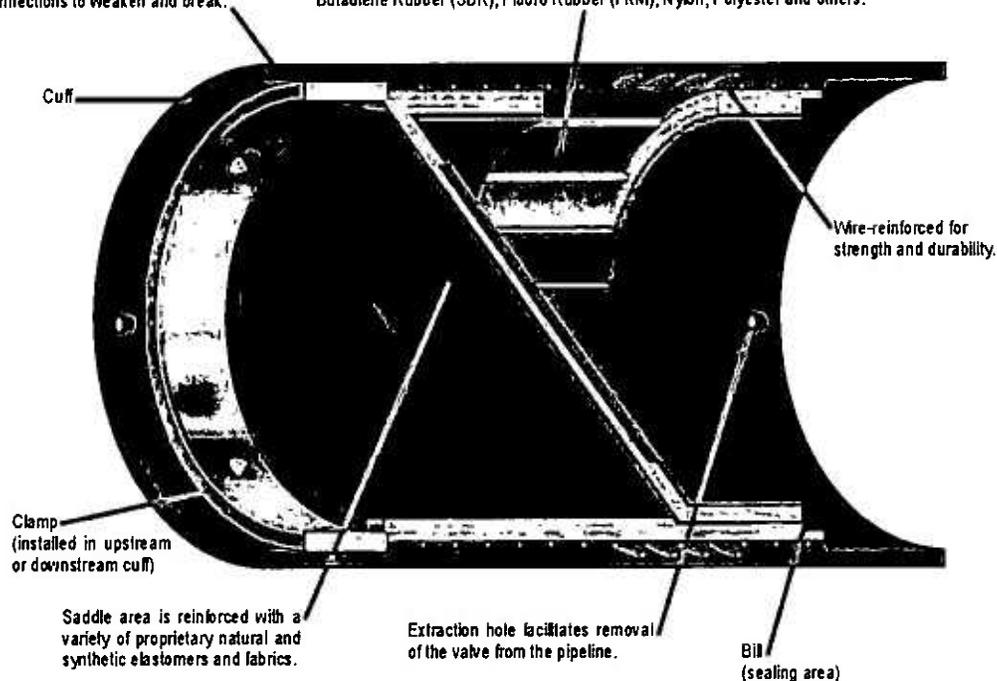
In 1984, the United States Environmental Protection Agency (EPA) commissioned Red Valve to develop and test an alternative to flap gate valves with the understanding that "increasing the reliability and performance of tide gates has a beneficial impact on the general pollution abatement program for the nation's waterways."

In response, Red Valve developed and patented the Tideflex® Duckbill Check Valve and CheckMate® In-Line Check Valve. Today, more than one million Tideflex® Duckbill Check Valves and CheckMate® In-Line Check Valves are in service around the world, reliably solving backflow problems.

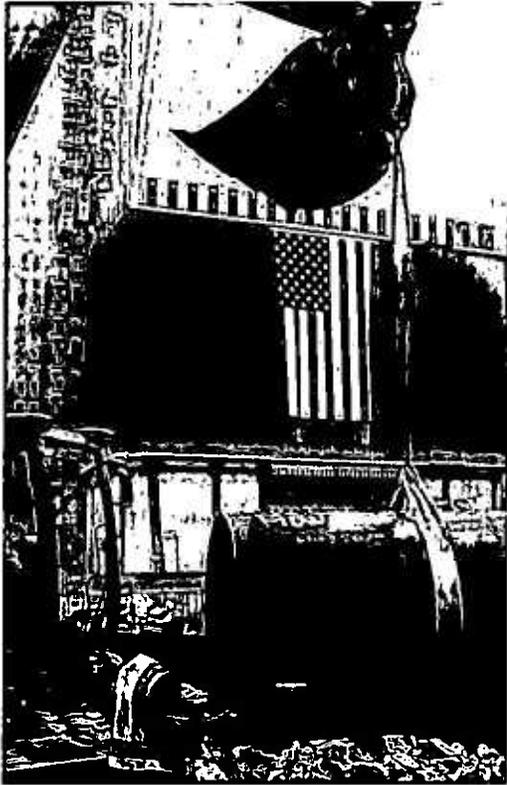
The CheckMate UltraFlex® Valve is a professional's choice for municipal and industrial applications - including stormwater, wastewater, highway run-off, combined sewer overflow (CSO), sanitary sewer overflow (SSO) and flood control. No other valve outperforms the CheckMate UltraFlex® for preventing unwanted backflow that can cause surcharging and flooding.

Multiple layers of elastomer and fabric reinforcing plies are vulcanized into a single unibody construction; no rivets or connections to weaken and break.

Every valve is reinforced with a variety of ply options depending on size and process conditions. Plies include a wide range of natural and synthetic elastomers and fabrics as well as proprietary elastomers such as Neoprene (CR), Ethylene Propylene Diene Terpolymer (EPDM), Styrene Butadiene Rubber (SBR), Fluoro Rubber (FKM), Nylon, Polyester and others.



2 | RedValve.com

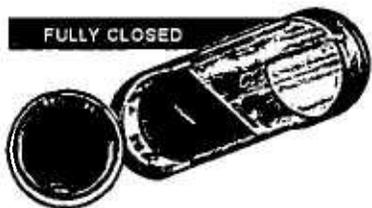
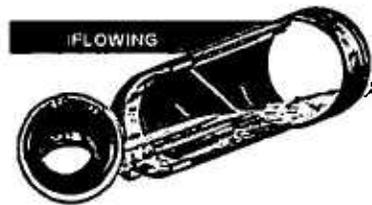


The key to the CheckMate UltraFlex® Valve's durability and longevity is Red Valve's unmatched elastomer application knowledge and engineering expertise.

Unlike other in-line valves, CheckMate UltraFlex® Valves are hand-fabricated, using various natural and synthetic elastomers and fabric ply reinforcement, to create a unibody construction. There are no molded parts, mechanical fasteners or rivets that will loosen or catch debris, corrode and fail, making the valve maintenance-free. CheckMate UltraFlex® Valves boast extremely low head loss, allowing nearly 100% flow capacity. Their inherent design and construction makes them the most user-friendly in-line check valves on the market today.

**Features and Benefits:**

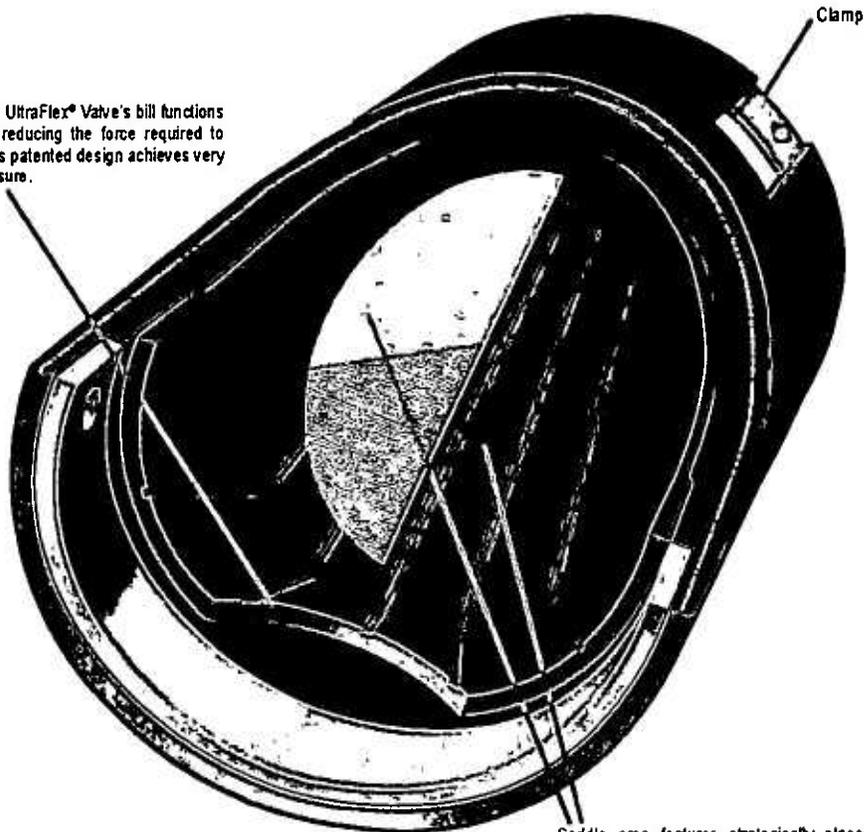
- Extremely low head loss
- No moving mechanical parts to corrode, catch debris or fail
- Heavy-duty elastomer unibody construction
- Quick and easy installation
- Seals much better around debris compared to flap gates
- Operates on differential pressure, totally passive
- Virtually no maintenance
- Self-draining, with as little as 1" of cracking pressure
- Silent, non-slamming
- Available in sizes 3-84" (75-2100mm)
- Extensive independent hydraulic testing



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# CheckMate UltraFlex®- Increasing Flow Efficiency

The Arc Notch in the UltraFlex® Valve's bill functions as a hinge, greatly reducing the force required to unseat the valve. This patented design achieves very low snap-open pressure.



Saddle area features strategically placed reinforcing grooves and segmented pads customized for each application.

## The Next Generation in Valve Technology

The patented CheckMate UltraFlex® In-Line Check Valve features strategically placed reinforcing grooves, segmented pads and an Arc Notch Bill. These advanced design features combine to significantly improve flow efficiency and reduce head loss, while providing reliable backflow protection.

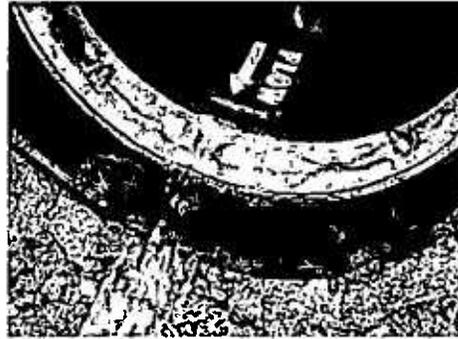
When upstream head pressure gets to a specific level, CheckMate UltraFlex® In-Line Check Valves are designed to snap or pop open, allowing the rapid discharge of flow.

The UltraFlex's® patented saddle grooves, segmented pads, Arc Notch and optimized construction allow the valve to open sooner. As a result, the pipeline and entire collection system drains faster.

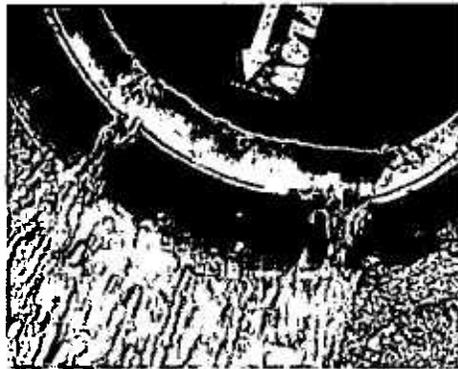
Because the CheckMate UltraFlex® Valve opens with less head pressure, pipeline capacity is significantly increased, while the chance for standing water to collect upstream of the valve is greatly eliminated.

4 | RedValve.com





The CheckMate UltraFlex® Valve will crack open with as little as 1" of head pressure.



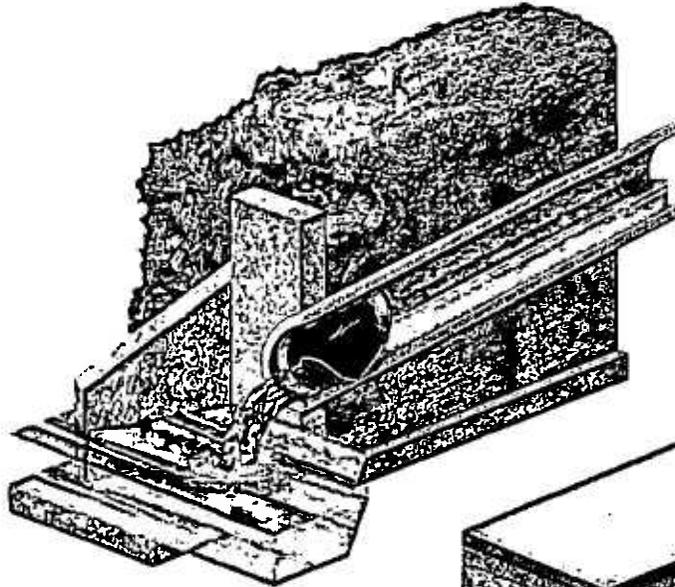
When the CheckMate UltraFlex® snaps open, the valve immediately achieves rapid discharge of flow.

#### UltraFlex® Boasts Lower Snap Pressure®

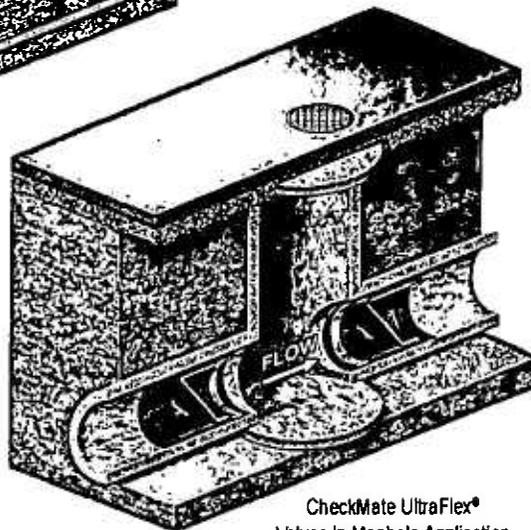
The CheckMate UltraFlex® Valve boasts a lower Snap Pressure® to open or unseat the valve, without compromising the valve's ability to seal. This greatly improves capacity in pipelines and the rapid drainage of upstream flow through the valve. With its patented design features, the CheckMate UltraFlex® In-Line Check Valve boasts a significantly improved flow efficiency due to reduced head pressure levels required to snap open the valve.

When upstream head reaches a certain level above pipe invert (for example, 8" head in a 24" valve), the UltraFlex® bill snaps open into a concave shape, allowing substantially more flow with the same amount of head. The valve will progressively open with increased head and flow. The CheckMate UltraFlex® can have up to 40% lower Snap Pressure® than a valve without the saddle grooves and Arc Notch.

# CheckMate UltraFlex® - Ultimate in Backflow Prevention



CheckMate UltraFlex® Valve in  
End of Pipe Application



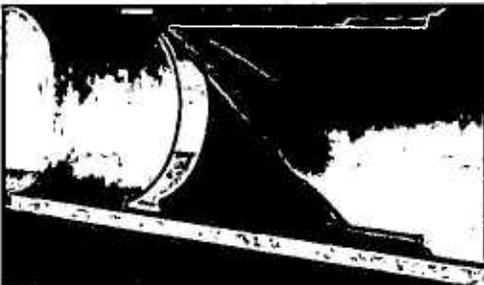
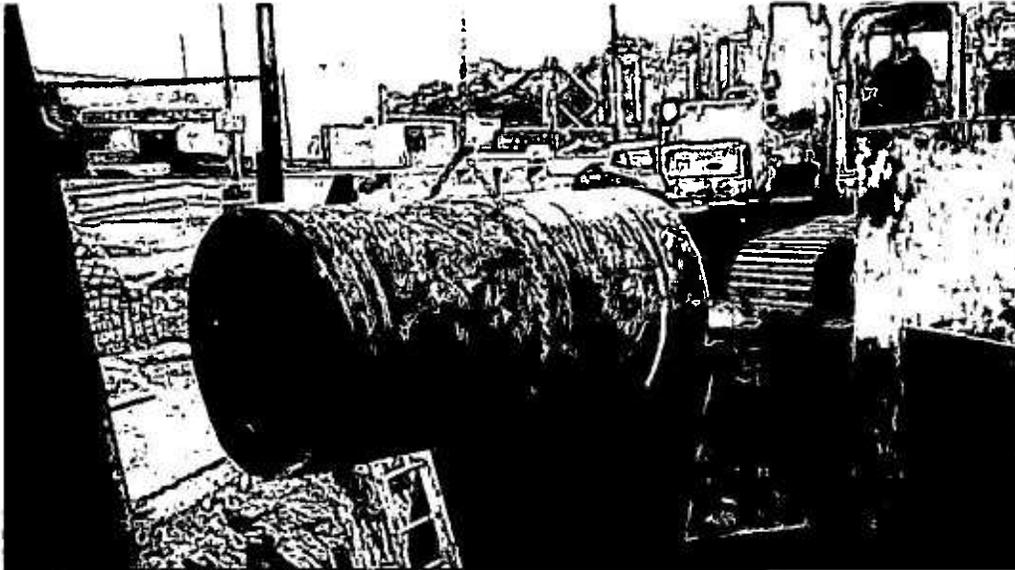
CheckMate UltraFlex®  
Valves In Manhole Application

## Accept No Substitutes!

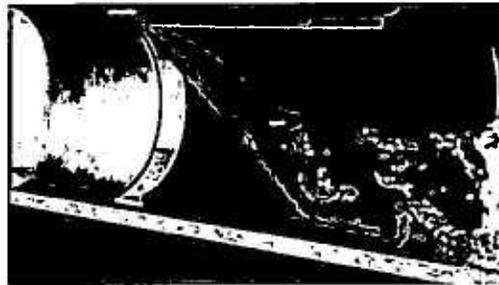
The innovative CheckMate UltraFlex® In-Line Check Valve has quickly become the specified choice for in-line residential, municipal and commercial areas where complete, dependable backflow prevention is critical. It has also become the valve of choice for municipal and industrial applications such as stormwater, wastewater, highway run-off, CSO, SSO and flood control, because it prevents unwanted backflow that can cause surges and flooding. In addition, the CheckMate® minimizes damage to wetlands, beaches and residential areas.

CheckMate UltraFlex® Valves are ideally suited for interceptor, manhole and outfall pipelines, as they allow flow to discharge with very little head loss and prevent backflow. The CheckMate UltraFlex® Valve's innovative in-line design allows it to easily be installed without modifications to existing structures, making it the perfect choice for both municipalities and commercial property owners. The valve also eliminates hydraulic surges to wastewater treatment plants, potentially saving municipalities millions of dollars in maintenance and treatment costs.

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The CheckMate® seats tightly to provide odor control.



The unibody CheckMate® also prevents backflow.

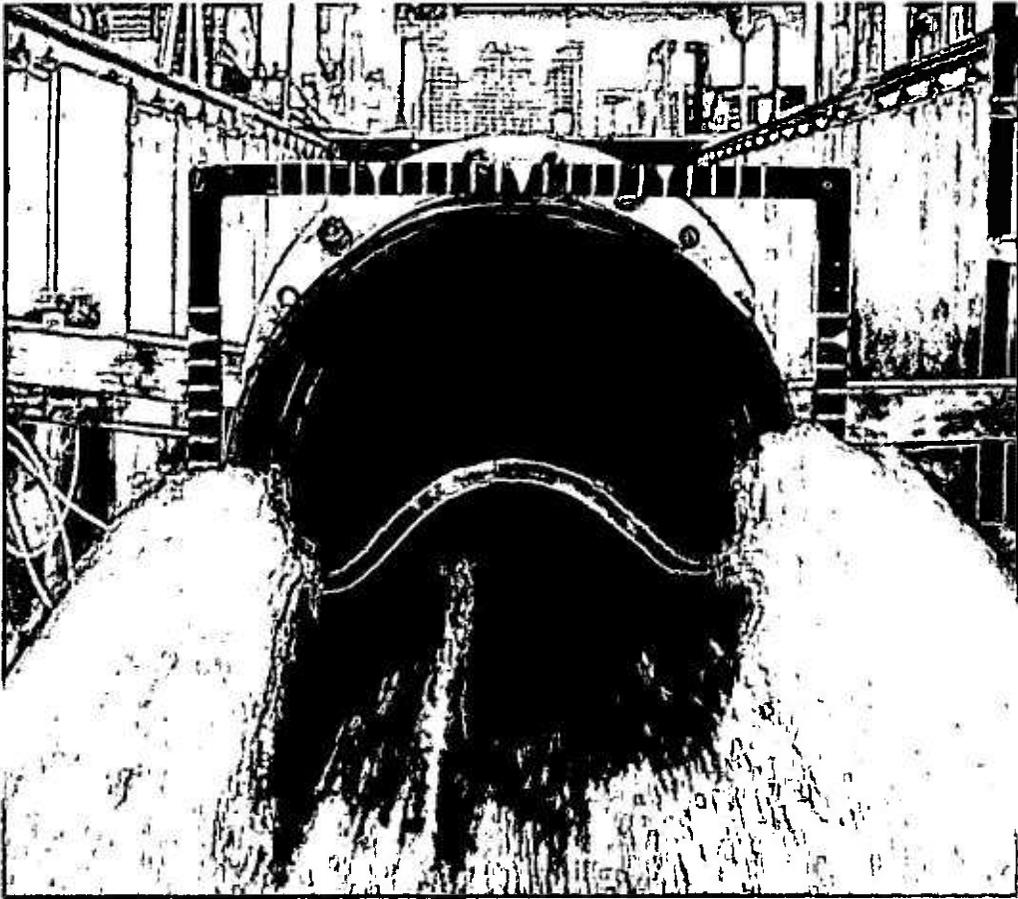
### CheckMate® Solves Odor Problems

When foul odors were plaguing a soybean-producing town in Illinois, officials turned to Red Valve for the most reliable, cost-effective solution. A chemical deodorizing system and a pump station were also evaluated, but far exceeded budget constraints. The CheckMate® In-Line Check Valve proved to be the perfect solution. The CheckMate® In-Line Valve was installed in 2012 and has worked flawlessly ever since, completely blocking the backdraft of the odor.

Best of all, there has been no maintenance expense. According to a public works official, "This is one of the most cost-effective solutions to a nagging quality-of-life problem the city has ever implemented. We are now looking at other parts of the combined sewer system that has a few small odor problems due to escaping sewer gas."

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# Independently Tested, Field Validated

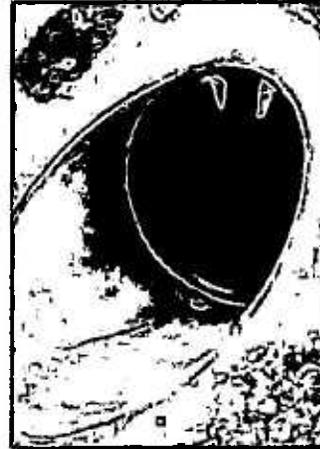


### Independent Hydraulic Testing

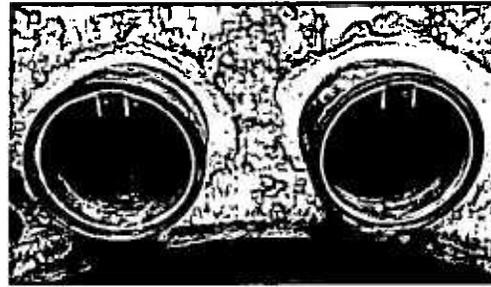
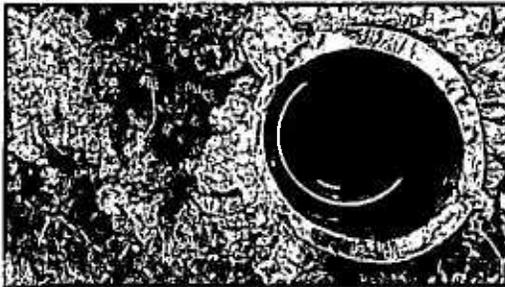
CheckMate UltraFlex® In-Line Check Valves are independently tested to determine their hydraulic characteristics in both free and submerged discharge applications. Published hydraulic data is validated through independent testing.

To supplement independent hydraulic testing, Red Valve continually conducts research and development and additional in-house testing to improve existing products and develop new products.

# Simple Design for Simple Installation



CheckMate UltraFlex® Valves are easily installed regardless of difficult pipe end geometry or pipes in poor end condition. There is no need to rebuild headwalls.



## Slips Into Existing Pipeline

The CheckMate UltraFlex® In-Line Check Valve is extremely easy to install, regardless of the existing environment or piping. Its inherent design makes it the most user-friendly in-line check valve on the market today. From the upstream or downstream end of the pipe, simply insert the valve into position and clamp it into place.

Typically, no modification to the pipe or structure is required to install a CheckMate UltraFlex®. Because the valve is recessed inside of the pipe, additional permitting is not required. The results are construction cost savings, reduced installation time and reduced operational costs.

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# A Wide Range of Shapes and Styles

## Elliptical and Arch Pipes

Elliptical and arch pipes for drainage and flood prevention projects have become popular, particularly in high water table areas with shallow surface gradients. CheckMate UltraFlex® In-Line Check Valves are the perfect solution as they can be customized to meet your specifications.



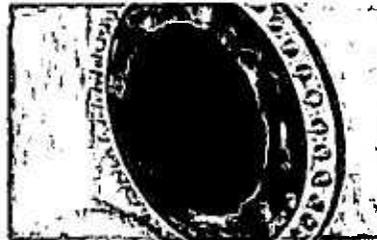
Arch Pipe CheckMate UltraFlex®



Elliptical Pipe CheckMate UltraFlex®

## Rubber Flanged

Rubber Flanged CheckMate UltraFlex® Check Valves can be manufactured with an integral rubber upstream or downstream flange. The flanged CheckMate UltraFlex® is inserted into the host pipe, then bolted to a mating flange or anchored to a concrete headwall. The flange can be circular with standard drilling; or circular, square or rectangular with custom flange drilling. The valve is supplied with retaining rings for mounting.



Upstream Flanged CheckMate UltraFlex®

## Thimble Inserts

A CheckMate UltraFlex® Thimble Insert is a CheckMate® Valve that is factory installed, clamped and pinned into a flanged or plain-end pipe. The Thimble Insert assembly is installed by inserting the CheckMate UltraFlex® into the I.D. of the host pipe. The Thimble Insert is available in flange or no-flange versions. A flange on a Thimble Insert can be upstream with circular, square, rectangular or custom flanges; or it can be located on the downstream side.



Thimble Extension CheckMate UltraFlex®

Plain end, no-flange thimble inserts are inserted into the host pipe and non-shrink grout is placed between the Thimble Insert O.D. and host pipe I.D. to form the seal. This can be done in circular pipe or in a square culvert.

Tandem Thimble Inserts can also be made for rectangular culverts. A variety of custom Thimble Insert configurations are also available.

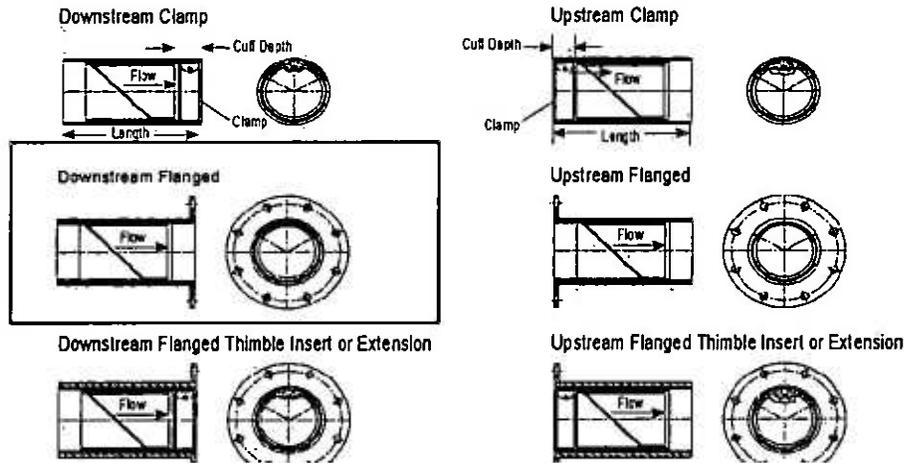
## Thimble Extensions

A CheckMate UltraFlex® Thimble Extension is mounted to a mating flange or concrete headwall. The CheckMate® portion extends beyond the concrete headwall. Thimble Extensions have an upstream flange. They can also be designed with a downward sloping pipe stub to gain additional head.



Tandem Thimble Insert CheckMate UltraFlex®

# Configurations and Custom Designs



CheckMate® can be made for any pipe I.D.  
Built to fit in sizes from 3-72" (75-1800mm).

Flange shape and bolt pattern can be customized.  
Flangeless thimble inserts are available.

		DIMENSIONS										
		NOMINAL PIPE SIZE I.D.		OVERALL LENGTH		NUMBER OF CLAMPS	CUFF DEPTH		BACKPRESSURE RATING		WEIGHT	
		Inches	Millimeters	Inches	Millimeters		Inches	Millimeters	Feet	Meters	Lbs	Kg
3"	75	5.1	130	1	1.5	38	10	3.0	0.7	0.3		
		7.0	201	1	1.5	38	10	3.0	1.5	0.7		
4"	100	7.9	201	1	1.5	38	85	26.0	3	1.5		
5"	125	9.5	241	1	1.5	38	83	25.3	4	2		
6"	150	11.0	279	1	2.0	51	83	25.3	9	4		
7"	175	12.6	325	1	2.0	51	79	24.1	11	5		
8"	200	15.2	386	1	2.0	51	79	24.1	13	6		
9"	225	15.4	391	1	2.0	51	75	22.9	17	8		
10"	250	16.1	409	1	2.0	51	71	21.6	20	10		
12"	300	19.6	503	1	2.0	51	68	20.1	37	17		
14"	350	25.6	655	1	4.0	102	64	20.0	110	50		
15"	381	25.2	655	1	4.0	102	62	18.9	120	55		
16"	400	28.5	726	1	4.0	102	60	18.3	133	62		
18"	450	31.0	787	1	4.0	102	56	17.1	143	65		
20"	500	42.1	1069	2	8.0	203	53	16.2	223	102		
24"	600	47.5	1207	2	8.0	203	45	13.7	304	137		
26"	650	50.0	1270	2	8.0	203	42	12.8	370	168		
28"	700	52.0	1321	2	8.0	203	40	12.2	434	197		
30"	750	54.9	1395	2	8.0	203	38	11.6	500	227		
36"	900	62.3	1582	2	8.0	203	30	9.1	628	286		
42"	1050	70.6	1793	2	8.0	203	28	8.5	1423	646		
48"	1200	79.0	2007	2	8.0	203	26	7.9	1801	817		
54"	1350	86.4	2195	2	8.0	203	20	6.1	2700	1225		
60"	1500	96.8	2453	2	9.0	229	18	5.5	3315	1504		
72"	1800	119.0	3023	3	12.0	305	15	4.6	6100	2767		

\*Shorter lengths available.

\*\*Back pressure measured from pipe invert.  
Higher back pressure ratings available. Consult factory.

\*\*\*Weights are approximate and do not include crating.

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**EXHIBIT C**  
**COST PROPOSAL AND TERMS OF PAYMENT**

The Project Manual issued in June 2024 and Addendums No. 1 (dated August 14, 2024), No. 2 (dated August 23, 2024) and No. 3 (dated September 9, 2024) are incorporated as part of Exhibit B by reference. The Contractor's Bid Form is attached.

Reserve Contingency Fund: \$300,000 - Reserve Contingency Fund to be used exclusively at the discretion of NHDES to fund necessary, unexpected conditions through NHDES-approved Change Orders that may be issued under the terms of this Agreement and which add to the Scope of Work.

The Total Contract Price Limitation includes the bid amount submitted by the Contractor plus the Reserve Contingency Fund.

Total Contract Price Limitation: \$5,273,540.00

Funding is provided as follows:

03-44-44-440010-2657-102-500731 \$2,083,083.39

Dept. of Environmental Services, -- LITTLE BOG POND DAM & LOWER TRIO POND DAM RECONSTRUCTION PROJECT --, ARPA Projects

03-44-44-440030-9309-034-500161 \$3,190,456.61

Dept. of Environmental Services, --LITTLE BOG POND DAM & LOWER TRIO POND DAM RECONSTRUCTION PROJECT-- , Capital Projects

SECTION 00301 – BID FORM

PROJECT IDENTIFICATION: LITTLE BOG POND DAM & LOWER TRIO POND DAM RECONSTRUCTION PROJECT

Article 1 – BID RECIPIENT

- 1.01 THIS BID IS SUBMITTED TO: the New Hampshire Department of Environmental Services, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095, here in after referred to as the Owner.
- 1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with OWNER in the form Included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

Article 2 – BIDDER'S ACKNOWLEDGEMENTS

- 2.01 Bidder accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.
- 2.02 Bidder acknowledges that execution of a contract is subject to receipt of all state and federal permits necessary to complete the work. If permits are not received, the bid security will be returned to the Successful Bidder.

Article 3 – BIDDER'S REPRESENTATIONS

- 3.01 In submitting this Bid, Bidder represents, as set forth in the Agreement, that:
  - A. Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda; receipt of which is hereby acknowledged:

<u>Addendum No.</u>	<u>Addendum Date</u>
<u>1</u>	<u>08/14/2024</u>
<u>2</u>	<u>08/23/2024</u>
<u>3</u>	<u>09/09/2024</u>

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- B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs.
- E. Based on the information and observations referred to in Paragraph 3.01.D above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- F. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- G. Bidder has given Resident Project Representative (RPR) written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by RPR is acceptable to Bidder.
- H. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

**Article 4 – BIDDER'S CERTIFICATION**

**4.01 Bidder certifies that:**

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding;

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- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
  2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
  3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
  4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.
- E. The Bidder accepts the state's terms and conditions that apply to the particular bid and any resulting purchase order or contract by filling out and signing Form P-37 and that any other terms and conditions submitted by the bidder are null and void;
- F. The Bidder will be subject to the terms and conditions stated on the purchase order relating to purchase; and
- G. The Bidder offers to sell to the state of New Hampshire the commodities or services indicated at the price or prices quoted and in compliance with the requirements and specifications of the bid.
- H. In addition to the foregoing, the Bidder shall, as part of his or her Bid submission, certify by notarized affidavit, signed under oath, that neither the Bidder, nor any of its subsidiaries, affiliates or principal officers:
1. Has, within the past 2 years, been convicted of, or pleaded guilty to, a violation of RSA 356:2, RSA 356:4, or any state or federal law or county or municipal ordinance prohibiting specified bidding practices, or involving antitrust violations, which has not been annulled;
  2. Has been prohibited, either permanently or temporarily, from participating in any public works project pursuant to RSA 638:20;
  3. Has previously provided false, deceptive, or fraudulent information on a vendor code number application form, or any other document submitted to the state of New Hampshire, which information was not corrected as of the time of the filing a bid, proposal, or quotation;

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4. Is currently debarred from performing work on any project of the federal government or the government of any state;
5. Has, within the past 2 years, failed to cure a default on any contract with the federal government or the government of any state;
6. Is presently subject to any order of the New Hampshire Department of Labor, the New Hampshire Department of Employment Security, or any other state department, agency, board, or commission, finding that the applicant is not in compliance with the requirements of the laws or rules that the department, agency, board, or commission is charged with implementing;
7. Is presently subject to any sanction or penalty finally issued by the New Hampshire Department of Labor, the New Hampshire Department of Employment Security, or any other state department, agency, board, or commission, which sanction or penalty has not been fully discharged or fulfilled;
8. Is currently serving a sentence or is subject to a continuing or unfulfilled penalty for any crime or violation noted in this section;
9. Has failed or neglected to advise the Owner of any conviction, plea of guilty, or finding relative to any crime or violation noted in this section, or of any debarment, within 30 days of such conviction, plea, finding, or debarment; or
10. Has been placed on the debarred parties list specified in Adm 606.11 within the past year.

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Article 5 – BASIS OF BID

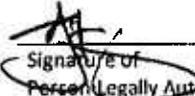
5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

Bidder proposes to furnish all materials and complete the Scope of Work described in general in these Bid Documents and more specifically as described in the Technical Specifications of the Contract Documents and as illustrated on the Contract Drawings for the sum of

Five million two hundred seventy-  
three thousand five hundred forty (5,273,540.00)  
(Words) dollars. (Numerals)

Bidder hereby agrees that requests for progress payments will be made on the basis of percentage of work complete by item for the items listed on the Schedule of Values, which follows on the following pages of this Bid Form. Bidder shall complete the Schedule of Values as part of the bid process. Bidder agrees that percentages of work completed are subject to approval by the Resident Project Representative (RPR) and the Bureau, or their authorized representative and that the decision of the Bureau regarding the percentage completed will be the sole basis for progress payments.

Bidder hereby agrees that the Terms and Conditions of the Agreement under which the work will be executed will be those as specified in Division 1 of the Contract Documents.

  
\_\_\_\_\_  
Signature of  
Person Legally Authorized  
to Enter into Contractual  
Agreement For Bidder

TRAVIS J. KINGSBURY  
Printed or Typed Name

KINGSBURY COMPANES, LLC.  
Printed or Typed Name  
of Company  
or Corporation

09/12/2024  
Date Signed

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LITTLE BOG POND DAM & LOWER TRIO POND DAM RECONSTRUCTION PROJECT

BID ITEMS					
ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	IN DOLLARS AND CENTS	
				UNIT PRICE	TOTAL PRICE
<b>GENERAL CONDITIONS</b>					
1	Mobilization/Demobilization, Bonds & Permits <u>Five hundred twenty thousand dollars</u> (Lump Sum Price written in words)	Lump Sum	NA	NA	\$ <u>520,000</u>
<b>GENERAL SITE IMPROVMENTS</b>					
2	Site Preparation/Clearing & Grubbing <u>Two hundred eighty thousand dollars</u> (Lump Sum Price written in words)	Lump Sum	NA	NA	\$ <u>280,000</u>
3	Soil Erosion and Sedimentation Controls <u>Eighty thousand dollars</u> (Lump Sum Price written in words)	Lump Sum	NA	NA	\$ <u>80,000</u>
4	Control of Water and Temporary Cofferdam <u>Seven hundred thousand dollars</u> (Lump Sum Price written in words)	Lump Sum	NA	NA	\$ <u>700,000</u>
5	General Site Demolition <u>One hundred seventy thousand dollars</u> (Lump Sum Price written in words)	Lump Sum	NA	NA	\$ <u>170,000</u>
6	Site Restoration <u>One hundred forty thousand dollars</u> (Lump Sum Price written in words)	Lump Sum	NA	NA	\$ <u>140,000</u>
<b>EMBANKMENT DAM EARTHWORK</b>					
7	Common Excavation <u>Fifty dollars</u> (Unit Price written in words)	Cubic Yard	3,630	\$ <u>50</u>	\$ <u>181,500</u>
8	Class III Riprap <u>One hundred eighty three dollars</u> (Unit Price written in words)	Cubic Yard	425	\$ <u>183</u>	\$ <u>77,775</u>

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LITTLE BOG POND DAM & LOWER TRIO POND DAM RECONSTRUCTION PROJECT

BID ITEMS					
ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	IN DOLLARS AND CENTS	
				UNIT PRICE	TOTAL PRICE
9	Class VII Riprap <u>One hundred ninety-six dollars.</u> (Unit Price written in words)	Cubic Yard	375	\$ <u>196</u>	\$ <u>73,500</u>
10	Reuse Onsite Riprap <u>One hundred seventy-three dollars.</u> (Unit Price written in words)	Cubic Yard	160	\$ <u>173</u>	\$ <u>27,680</u>
11	Common Fill <u>One hundred five dollars.</u> (Unit Price written in words)	Cubic Yard	845	\$ <u>105</u>	\$ <u>88,725</u>
12	Low Permeability Fill <u>One hundred twenty dollars.</u> (Unit Price written in words)	Cubic Yard	1,610	\$ <u>120</u>	\$ <u>193,200</u>
13	Drainage Stone <u>One hundred eighty-nine dollars.</u> (Unit Price written in words)	Cubic Yard	270	\$ <u>189</u>	\$ <u>51,030</u>
14	Bedding Stone <u>Two hundred fifty-four dollars.</u> (Unit Price written in words)	Cubic Yard	55	\$ <u>254</u>	\$ <u>13,970</u>
15	Filter Sand <u>One hundred eighty dollars.</u> (Unit Price written in words)	Cubic Yard	330	\$ <u>180</u>	\$ <u>59,400</u>
16	Furnish and Place Loam <u>One hundred forty-eight dollars.</u> (Unit Price written in words)	Cubic Yard	890	\$ <u>148</u>	\$ <u>131,720</u>
17	Geotextile <u>Ten dollars.</u> (Unit Price written in words)	Square Yard	1,150	\$ <u>10</u>	\$ <u>11,500</u>

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LITTLE BOG POND DAM & LOWER TRIO POND DAM RECONSTRUCTION PROJECT

BID ITEMS					
ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	IN DOLLARS AND CENTS	
				UNIT PRICE	TOTAL PRICE
<b>STRUCTURAL</b>					
18	Reinforced Concrete <u>One thousand five hundred fifty dollars.</u> (Unit Price written in words)	Cubic Yard	840	\$ <u>1550</u>	\$ <u>1,302,000</u>
19	Spillway Underdrain System and Cleanouts <u>Sixty five thousand dollars.</u> (Lump Sum Price written in words)	Lump Sum	NA	NA	\$ <u>65,000</u>
20	Steel Guardrail <u>Three hundred ninety dollars.</u> (Unit Price written in words)	Linear Foot	175	\$ <u>390</u>	\$ <u>68,250</u>
<b>MISCELLANEOUS</b>					
21	Staples <u>One hundred forty five thousand dollars.</u> (Lump Sum Price written in words)	Lump Sum	NA	NA	\$ <u>145,000</u>
22	Operator Bridge <u>One hundred thirty-six thousand dollars.</u> (Lump Sum Price written in words)	Lump Sum	NA	NA	\$ <u>136,000</u>
23	Seeding and Temporary Erosion Control <u>Five Dollars</u> (Unit Price written in words)	Square Yard	5,420	\$ <u>5</u>	\$ <u>27,100</u>
24	Articulated Concrete Block <u>Ninety Eight dollars</u> (Unit Price written in words)	Square Foot	155	\$ <u>98</u>	\$ <u>15,190</u>

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LITTLE BOG POND DAM & LOWER TRIO POND DAM RECONSTRUCTION PROJECT

BID ITEMS					
ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	IN DOLLARS AND CENTS	
				UNIT PRICE	TOTAL PRICE
<b>TRIO PONDS ROAD IMPROVEMENTS</b>					
TPR-1	Trio Ponds Road Bridge <i>One hundred sixty-five thousand dollars.</i> <small>(Lump Sum Price written in words)</small>	Lump Sum	NA	NA	\$ <u>165,000</u>
TPR-2	Trio Ponds Road Improvements <i>Two hundred fifty thousand dollars.</i> <small>(Lump Sum Price written in words)</small>	Lump Sum	NA	NA	\$ <u>250,000</u>
<b>CONSTRUCTION CHANGE ORDERS</b>					
CO-1	Construction Change Orders <i>Three hundred thousand dollars.</i> <small>(Lump Sum Price written in words)</small>	Allowance	NA	NA	\$ <u>300,000</u>

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Contractor Initials *[Signature]*  
Date 10/2/24

LITTLE BOG POND DAM & LOWER TRIO POND DAM RECONSTRUCTION PROJECT

All specific cash allowances are included in the price(s) set forth above and have been computed in accordance with Article 9 of the General Conditions.

Unit Prices have been computed in accordance with paragraph 109.01B of the General Conditions.

Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities provided, determined as provided in the Contract Documents.

**Article 6 – TIME OF COMPLETION**

6.01 Bidder agrees that the Work will be substantially complete on or before June 19<sup>th</sup>, 2026 and will be completed and ready for final payment in accordance with 109.06.10 of the General Conditions on or before July 3<sup>rd</sup>, 2026.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified above, which shall be stated in the Agreement.

**Article 7 – ATTACHMENTS TO THIS BID**

7.01 The following documents are submitted with and made a condition of this Bid:

- ✓ A. Required Bid security in the form of Bid Bond (Specification Section 00310 – Bid Bond (Penal Sum), Payment Bond and Performance Bond, identified in Section 00200 – Instructions to Bidders in the form of a certified or bank check or bid bond;
- ✓ B. List of Proposed Subcontractors;
- ✓ C. List of Proposed Suppliers;
- ✓ D. List of Project References;
- ✓ E. Noncollusion Affidavit.
- ✓ F. Proposed Schedule for Project Completion

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LITTLE BOG POND DAM & LOWER TRIO POND DAM RECONSTRUCTION PROJECT

Article 8 – DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

SUBMITTED on August 12, 2024.

If Bidder is:

An Individual

Name (typed or printed): TRANS J. KINGSBURY  
By: [Signature] (Individual's signature)  
Doing business as: Kingsbury Companies, LLC  
Business address: 50 Canton Rd  
Middlesex, VT 05602  
Phone No.: 802 496 7825 FAX No.: 802 419 3110



A Partnership

Partnership Name: N/A (SEAL)  
By: \_\_\_\_\_  
(Signature of general partner -- attach evidence of authority to sign)  
Name (typed or printed): \_\_\_\_\_  
Business address: \_\_\_\_\_  
Phone No.: \_\_\_\_\_ FAX No.: \_\_\_\_\_

A Corporation

Corporation Name: N/A (SEAL)  
State of Incorporation: \_\_\_\_\_  
Type (General Business, Professional, Service, Limited Liability): \_\_\_\_\_  
By: \_\_\_\_\_  
(Signature – attach evidence of authority to sign)  
Name (typed or printed): \_\_\_\_\_  
Title: \_\_\_\_\_ (CORPORATE SEAL)  
Attest \_\_\_\_\_  
(Signature of Corporate Secretary)  
Business address: \_\_\_\_\_  
Phone No.: \_\_\_\_\_ FAX No.: \_\_\_\_\_

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LITTLE BOG POND DAM & LOWER TRIO POND DAM RECONSTRUCTION PROJECT

Date of Qualification to do business is \_\_\_\_\_

A Joint Venture

Joint Venturer Name: N/A (SEAL)

By: \_\_\_\_\_  
(Signature of joint venture partner – attach evidence of authority to sign)

Name (typed or printed): \_\_\_\_\_

Title: \_\_\_\_\_

Business address: \_\_\_\_\_

Phone No.: \_\_\_\_\_ FAX No.: \_\_\_\_\_

Joint Venturer Name: N/A (SEAL)

By: \_\_\_\_\_  
(Signature – attach evidence of authority to sign)

Name (typed or printed): \_\_\_\_\_

Title: \_\_\_\_\_

Business address: \_\_\_\_\_

Phone No.: \_\_\_\_\_ FAX No.: \_\_\_\_\_

Phone and FAX Number, and Address for receipt of official communications:

\_\_\_\_\_  
\_\_\_\_\_

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Notarized Affidavit

On this the 12 day of AUGUST, 2024, before the undersigned officer, personally appeared TOMAS J. KINGSBURY (print name), PRESIDENT (title), who acknowledged himself to be the person who executed the foregoing instrument for the purpose therein contained.

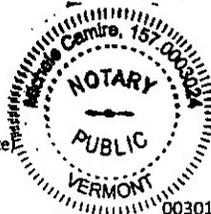
IN WITNESS WHEREOF, I hereunto set my hand and official seal.

*[Handwritten Signature]*

Michele Camire VP of Finance  
enter name notary public/JOP, select title

My Commission Expires:

1/31/2025 (date)



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**+BID BOND**

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

**BIDDER (Name and Address):**  
Kingsbury Companies, LLC  
58 Center Road  
Middlesex, VT 05602

**SURETY (Name and Address of Principal Place of Business):**  
Great Midwest Insurance Company  
800 Gessner, Suite 600  
Houston, TX 77024

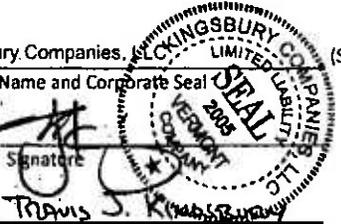
**OWNER (Name and Address):**  
The New Hampshire Department of Environmental Services - Dam Bureau  
29 Hazen Drive  
Concord, NH 03302

**BID**  
Bid Due Date: 9/12/2024  
Description (Project Name and Include Location): Little Bog Pond Dam and Lower Trio Pond Dam Reconstruction  
Project NHDES #D185003 & #D185002

**BOND**  
Bond Number:  
Date (Not earlier than Bid due date): 9/12/2024  
Penal sum Five Percent of Bid Attached \$ 5%  
(Words) (Figures)

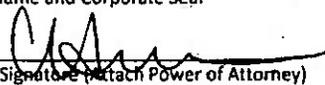
Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

**BIDDER**  
Kingsbury Companies, LLC (Seal)  
Bidder's Name and Corporate Seal  
By:   
Signature  
TRAVIS J. KINGSBURY  
Print Name



PRESIDENT  
Title

Attest:   
Signature  
ESTIMATOR  
Title

**SURETY**  
Great Midwest Insurance Company (Seal)  
Surety's Name and Corporate Seal  
By:   
Signature (Attach Power of Attorney)  
Christina Henderson  
Print Name

Attorney-In-Fact  
Title

Attest:   
Signature  
Customer Service Agent  
Title

Note: Above addresses are to be used for giving any required notice. Provide execution by any additional parties, such as joint venturers, if necessary.

PENAL SUM FORM

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
  - 3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
  - 3.2 All Bids are rejected by Owner, or
  - 3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

JULY 2024

00310-2

POWER OF ATTORNEY

Great Midwest Insurance Company

KNOW ALL MEN BY THESE PRESENTS, that GREAT MIDWEST INSURANCE COMPANY, a Texas Corporation, with its principal office in Houston, TX, does hereby constitute and appoint:

ADAM C. OSHA, CHRISTINA HENDERSON, ELIZABETH HARLOW, AMANDA RUDIO, PEGGY A. HUNT, DEBORAH J. POLJACIK, JESSICA SALADINO

its true and lawful Attorney(s)-In-Fact to make, execute, seal and deliver for, and on its behalf as surety, any and all bonds, undertakings or other writings obligatory in nature of a bond.

This authority is made under and by the authority of a resolution which was passed by the Board of Directors of GREAT MIDWEST INSURANCE COMPANY, on the 1st day of October, 2018 as follows:

Resolved, that the President, or any officer, be and hereby is, authorized to appoint and empower any representative of the Company or other person or persons as Attorney-In-Fact to execute on behalf of the Company any bonds, undertakings, policies, contracts of indemnity or other writings obligatory in nature of a bond not to exceed Fifteen Million dollars (\$15,000,000.00), which the Company might execute through its duly elected officers, and affix the seal of the Company thereto. Any said execution of such documents by an Attorney-In-Fact shall be as binding upon the Company as if they had been duly executed and acknowledged by the regularly elected officers of the Company. Any Attorney-In-Fact, so appointed, may be removed in the Company's sole discretion and the authority so granted may be revoked as specified in the Power of Attorney.

Resolved, that the signature of the President and the seal of the Company may be affixed by facsimile on any power of attorney granted, and the signature of the Secretary, and the seal of the Company may be affixed by facsimile to any certificate of any such power and any such power or certificate bearing such facsimile signature and seal shall be valid and binding on the Company. Any such power so executed and sealed and certificate so executed and sealed shall, with respect to any bond of undertaking to which it is attached, continue to be valid and binding on the Company.

IN WITNESS THEREOF, GREAT MIDWEST INSURANCE COMPANY, has caused this instrument to be signed by its President, and its Corporate Seal to be affixed this 11th day of February, 2021.

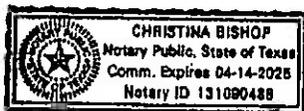


GREAT MIDWEST INSURANCE COMPANY

BY Mark W. Haushill  
Mark W. Haushill  
President

ACKNOWLEDGEMENT

On this 11th day of February, 2021, before me, personally came Mark W. Haushill to me known, who being duly sworn, did depose and say that he is the President of GREAT MIDWEST INSURANCE COMPANY, the corporation described in and which executed the above instrument; that he executed said instrument on behalf of the corporation by authority of his office under the By-laws of said corporation.



BY Christina Bishop  
Christina Bishop  
Notary Public

CERTIFICATE

I, the undersigned, Secretary of GREAT MIDWEST INSURANCE COMPANY, A Texas Insurance Company, DO HEREBY CERTIFY that the original Power of Attorney of which the foregoing is a true and correct copy, is in full force and effect and has not been revoked and the resolutions as set forth are now in force.

Signed and Sealed at Houston, TX this 12th Day of September, 2024



BY Leslie K. Sheunty  
Leslie K. Sheunty  
Secretary

\*WARNING: Any person who knowingly and with intent to defraud any insurance company or other person, files and application for insurance of claim containing any materially false information, or conceals for the purpose of misleading, information concerning any fact material thereto, commits a fraudulent insurance act, which is a crime and subjects such person to criminal and civil penalties.

# State of New Hampshire

## Department of State

### CERTIFICATE

I, David M. Scanlan, Secretary of State of the State of New Hampshire, do hereby certify that KINGSBURY COMPANIES, LLC is a Vermont Limited Liability Company registered to do business in New Hampshire as KCOS NH on April 09, 2012. I further certify that all fees and documents required by the Secretary of State's office have been received and is in good standing as far as this office is concerned.

Business ID: 669037

Certificate Number: 0006779971



IN TESTIMONY WHEREOF,  
I hereto set my hand and cause to be affixed  
the Seal of the State of New Hampshire,  
this 19th day of September A.D. 2024.

A handwritten signature in black ink, appearing to read "David M. Scanlan".

David M. Scanlan  
Secretary of State

**CERTIFICATE OF AUTHORITY/VOTE**  
(Limited Liability Company)

I, Travis J. Kingsbury, hereby certify that:  
(Name of Sole Member/Manager of Limited Liability Company, Contract Signatory – Print Name)

1. I am the Sole Member/Manager of the Company of Kingsbury Companies, LLC  
(Name of Limited Liability Company)

2. I hereby further certify and acknowledge that the State of New Hampshire will rely on this certification as evidence that I have full authority to bind Kingsbury Companies, LLC  
(Name of Limited Liability Company)

and that no corporate resolution, shareholder vote, or other document or action is necessary to grant me such authority.

[Signature]  
(Contract Signatory)  
10/02/2024  
(Date)



STATE OF VERMONT  
COUNTY OF Washington

On this the 20 day of September 2024, before me Michele Camire,  
(Day) (Month) (Yr) (Name of Notary Public / Justice of the Peace)

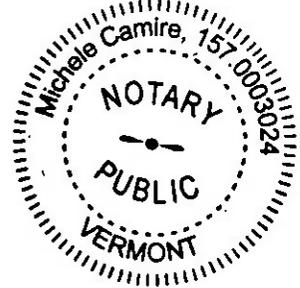
the undersigned officer, personally appeared Travis J. Kingsbury, known to me (or  
(Contract Signatory – Print Name)

satisfactorily proven) to be the person whose name is subscribed to the within instrument and acknowledged that he/she executed the same for the purposes therein contained. In witness whereof, I hereunto set my hand and official seal.

(NOTARY SEAL)

[Signature]  
(Notary Public / Justice of the Peace - Signature)

Commission Expires: 1/31/2025





KINGCOM-01

HENCH1

## CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

9/26/2024

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Digital Insurance LLC- Rutland, VT 98 Merchants Row Rutland, VT 05701	<b>CONTACT NAME:</b> PHONE (A/C, No, Ext): (802) 775-2311		FAX (A/C, No): (802) 775-8246
	<b>E-MAIL ADDRESS:</b>		
<b>INSURED</b> Kingsbury Companies LLC Kingsbury Construction Co 58 Center Road Middlesex, VT 05602	<b>INSURER(S) AFFORDING COVERAGE</b>		<b>NAIC #</b>
	<b>INSURER A : CNA Insurance Company Group</b>		
	<b>INSURER B : Nautilus Insurance Company</b>		<b>17370</b>
	<b>INSURER C :</b>		
	<b>INSURER D :</b>		
	<b>INSURER E :</b>		
<b>INSURER F :</b>			

## COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:	X		7063492464	1/1/2024	1/1/2025	EACH OCCURRENCE	\$ 1,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	\$ 100,000
							MED EXP (Any one person)	\$ 15,000
							PERSONAL & ADV INJURY	\$ 1,000,000
							GENERAL AGGREGATE	\$ 2,000,000
							PRODUCTS - COMP/OP AGG	\$ 2,000,000
								\$
A	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS ONLY			7063492447	1/1/2024	1/1/2025	COMBINED SINGLE LIMIT (Ea accident)	\$ 1,000,000
							BODILY INJURY (Per person)	\$
							BODILY INJURY (Per accident)	\$
							PROPERTY DAMAGE (Per accident)	\$
								\$
								\$
A	<input type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> EXCESS LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS-MADE DED <input checked="" type="checkbox"/> RETENTION \$ 0			7063492433	1/1/2024	1/1/2025	EACH OCCURRENCE	\$ 5,000,000
							AGGREGATE	\$ 5,000,000
								\$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N	N/A	7063492450	1/1/2024	1/1/2025	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER	E.L. EACH ACCIDENT \$ 1,000,000
								E.L. DISEASE - EA EMPLOYEE \$ 1,000,000
								E.L. DISEASE - POLICY LIMIT \$ 1,000,000
B	Pollution Liability			CPP2034465-13	4/7/2024	4/7/2025	Aggregate	2,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)  
 The New Hampshire Department of Environmental Services and GEI Consultants, Inc are named additional insureds with respect to general liability when required in written contract RE: Little Bog Pond Dam and Lower Trio Pond Dam Reconstruction Project NHDES #D185003 & #D185002

## CERTIFICATE HOLDER

## CANCELLATION

The New Hampshire Department of Environmental Services  
 29 Hazen Drive  
 Concord, NH 03302

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Company Name: Kingsbury Companies, LLC

Project Name: Little Bog Pond Dam & Lower Trio Pond Dam Reconstruction Project

Project Number: RFP DES 2025-02

## WORK CERTIFICATE

for all Contractors before beginning work on public projects

### Certification Requirements of RSA 21-I:80 and RSA 228:4-b

By New Hampshire law, before any work is done on any major state project or any work on any highway, bridge or other construction, reconstruction, alteration or maintenance project, each contractor, subcontractor, and independent contractor shall complete and sign this form and provide the following:

1. Attach a certificate of your current Workers' Compensation Insurance coverage, naming NH Department of Environmental Services, 29 Hazen Drive - PO Box 95, Concord, NH 03302-0095 as the certificate holder. Workers' Compensation insurance policies must show *a specific endorsement for the State of New Hampshire*.

**Per NH RSA 228:4-b. Workers' Compensation Insurance must cover all individuals performing work on site and shall remain in effect for the duration of the contractor's work on the project. No excluded individual, owner, or officer may perform work on site, without exception. All persons performing work on site must have workers' compensation coverage on file with the NH Department of Labor.**

2. Provide below an estimate of the total number of workers anticipated to be employed on the project during the contract period, and a number of days (8-hour periods), applied to each insurance classification code applicable to the work to be performed:

Number of workers	Days	Classification code & description of work
1	180	5606 - Executive Supervisor : Project Superintendent.
1	90	5606 - Executive Supervisor : Project Manager
4	130	6013 - Dam : Excavation : Heavy equipment operators for dam exc & backfill
4	130	6217 - Excavate & Drivers : Heavy equipment operators & truck drivers & Labors

[Attach additional sheets as necessary]

3. Provide proof of compliance with NH Department of Labor safety program requirements under RSA 281-A:64, in the following form:

- a. By signing and submitting this form, you agree to provide employees with safe employment; to furnish personal protective equipment, safety appliances and safeguards; to ensure that such equipment, appliances and safeguards are used regularly; and to adopt work methods and procedures which will protect the life, health, and safety of employees.

Do you have 15 or more employees working in New Hampshire? (check one) Yes \_\_\_ or No

IF YES, you agree to administer a joint loss management committee composed of following named persons:

Employer representatives: \_\_\_\_\_

IF YES, you are required to prepare a written safety program and file a Safety Summary Form with the NH Department of Labor under regulations Lab 515.16 and Lab 602.02. This requirement applies to all employers, including non-resident employers. Businesses with 15 or more employees working in New Hampshire need to file the Safety Summary Form only once. If you have questions about the Safety Summary Form or your company's needs, please contact a New Hampshire Department of Labor Safety inspector at (603) 271-6850 or (603) 271-6297.

By signing and submitting this form, you are providing a sworn statement that workers' compensation coverage shall remain in effect, covering each person controlled or directed by you to work on the project, for the duration of his or her anticipated work on the project. You further acknowledge and confirm that you will not permit or direct any person excluded from your insurance coverage to work on the project. Any person who fails to comply or who falsifies information is subject to a civil penalty of up to \$2,500 plus \$100 per person per day of noncompliance and shall not be allowed to bid or work on state projects for up to 5 years.

Travis J. Kingsbury / President

Printed Name and Title of Authorized Agency Official

[Signature]  
Signature of Authorized Agency Official

Date: 10/02/2024

Company Name: Kingsbury Companies, LLC

Address: 58 Center Rd, Middlesex, VT 05602

Telephone number: 802 496 7205 E-mail address: admin@Kingsburyco.com

**\*\* This Form and all supporting documentation shall be returned to the Prime Contractor, who shall forward it with each subcontractor approval submission to NHDES.**

**PAYMENT BOND**

**KNOW ALL MEN BY THESE PRESENTS:** that

Kingsbury Companies, LLC

(Name of Contractor)

58 Center Road, Middlesex, VT 05602

(Address of Contractor)

a Corporation, hereinafter called Principal,

(Corporation, Partnership or Individual)

and Great Midwest Insurance Company

(Name of Surety)

800 Gessner, Suite 600, Houston, TX 77024

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

The New Hampshire Department of Environmental Services - Dam Bureau

(Name of Owner)

29 Hazen Drive, Concord, NH 03302

(Address of Owner)

hereinafter called **OWNER** and unto all persons, firms, and corporations who or which may furnish labor, or who furnish materials to perform as described under the contract and to their successors and assigns, in the total aggregate penal sum Five Million Two Hundred Seventy Three Thousand Five Hundred Forty and No/100s Dollars, (\$ 5,273,540.00 ) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

**THE CONDITION OF THIS OBLIGATION** is such that whereas, the Principal entered into a certain contract with the **OWNER**, dated the 15th day of October

20 24, a copy of which is hereto attached and made a part hereof for the construction of: Little Bog Pond Dam and Lower Trio Pond Dam Reconstruction Project  
NHDES #D185003 & #D185002

**NOW, THEREFORE**, if the Principal shall promptly make payment to all persons, firms, and corporations furnishing materials for or performing labor in the prosecution of the **WORK** provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such **WORK**, and for all labor cost incurred in such **WORK** including that be a subcontractor, and to any mechanic or materialman lienholder whether it acquires its lien by operation of State or Federal Law; then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, that beneficiaries or claimants hereunder shall be limited to the subcontractors, and persons, firms, and corporations having a direct contract with the PRINCIPAL or its SUBCONTRACTORS.

PROVIDED FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER that no suit or action shall be commenced hereunder by any claimant: (a) Unless claimant, other than one having a direct contract with the PRINCIPAL shall have given written notice to any two of the following: The PRINCIPAL, the OWNER, or the SURETY above named within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the PRINCIPAL, OWNER, or SURETY, at any place where an office is regularly maintained for the transaction business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer. (b) After the expiration of one (1) year following the date on which PRINCIPAL ceased work on said CONTRACT, it being understood, however, that if any limitation embodied in the BOND is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

PROVIDED, FURTHER, that it is expressly agreed that this BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the Contract not increasing the contract price more than 20 percent, so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the Contract as so amended. The term "Amendment", wherever used in this BOND and whether referring to this BOND, the contract or the loan Documents shall include any alteration, addition, extension or modification of any character whatsoever.

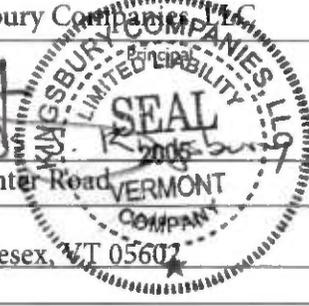
PROVIDED FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in \_\_\_\_\_ counterparts, each one of  
(number)

which shall be deemed an original, this 15th day of October, 2024.

ATTEST:

By: [Signature]  
(Principal) Secretary  
(SEAL)

Kingsbury Companies, LLC  
Principal  
BY [Signature]  
58 Center Road  
Middlesex, VT 05602  


By: Michele Comiso  
Witness as to Principal  
58 Center Road  
(Address)  
Middlesex, VT 05602

Great Midwest Insurance Company  
(Surety)

ATTEST:

By: [Signature]  
Witness as to Surety  
1011 North Main Street, Suite 4  
White River Junction, VT 05001  
(Address)

BY [Signature]  
Attorney-in-Fact  
1011 North Main Street, Suite 4  
(Address)  
White River Junction, VT 05001

**NOTE:** Date of **BOND** must not be prior to date of Contract.  
If **CONTRACTOR** is partnership, all partners should execute **BOND**.

**IMPORTANT:** Surety companies executing **BONDS** must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of New Hampshire.

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**PERFORMANCE BOND**

**KNOW ALL MEN BY THESE PRESENTS:** that  
Kingsbury Companies, LLC

58 Center Road, Middlesex, <sup>(Name of Contractor)</sup> VI 05602

<sup>(Address of Contractor)</sup>

a Corporation, hereinafter called Principal,  
<sup>(Corporation, Partnership or Individual)</sup>

and Great Midwest Insurance Company

800 Gessner, Suite 600, Houston, TX <sup>(Name of Surety)</sup> 77024

<sup>(Address of Surety)</sup>

hereinafter called Surety, are held and firmly bound unto  
The New Hampshire Department of Environmental Services - Dam Bureau

29 Hazen Drive, Concord, NH <sup>(Name of Owner)</sup> 03302

<sup>(Address of Owner)</sup>

hereinafter called **OWNER**, in the total aggregate penal sum  
of Five Million Two Hundred Seventy Three Thousand  
Five Hundred Forty and No/100s Dollars, \$ ( 5,273,540.00 )

in lawful money of the United States, for the payment of which sum well and truly to be made,  
we bind ourselves, our heirs, executors, administrators successors, and assigns, jointly and  
severally, firmly by these presents.

**THE CONDITION OF THIS OBLIGATION** is such that whereas, the Principal entered into a  
certain contract with the **OWNER**, dated 15th day of October 20 24 , a

copy of which is hereto attached and made a part hereof for the construction of:  
Little Bog Pond Dam and Lower Trio Pond Dam Reconstruction Project

NHDES #D185003 & #D185002

**NOW, THEREFORE**, if the Principal shall well, truly and faithfully perform its duties, all the undertakings,  
covenants, terms, conditions, and agreements of said contract during the original term thereof, and any  
extension thereof which may be granted by the **OWNER**, with or without notice to the Surety and during  
the one year guaranty period, and if the **PRINCIPAL** shall satisfy all claims and demands incurred under  
such contract, and shall fully indemnify and save harmless the **OWNER** from all costs and damages  
which it may suffer by reason of failure to do so, and shall reimburse and repay the **OWNER** all outlay  
and expense which the **OWNER** may incur in making good any default, then this obligation shall be void:  
otherwise to remain in full force and effect.

**PROVIDED, FURTHER**, that the said surety, for value received hereby stipulates and agrees that no  
change, extension of time, alteration or addition to the terms of the contract or to **WORK** to be  
performed thereunder or the specifications accompanying same shall in any way affect its obligation on

this **BOND**, and it does hereby waive notice of any such change, extension of time alteration or addition to the terms of the contract or to the **WORK** or to the specifications.

**PROVIDED, FURTHER**, that it is expressly agreed that this **BOND** shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the Contract not increasing the contract price more than 20 percent, so as to bind the **PRINCIPAL** and the **SURETY** to the full and faithful performance of the Contract as so amended. The term "Amendment", wherever used in this **BOND** and whether referring to this **BOND**, the contract or the loan Documents shall include any alteration, addition, extension or modification of any character whatsoever.

**PROVIDED, FURTHER**, that no final settlement between the **OWNER** and the **CONTRACTOR** shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

**IN WITNESS WHEREOF**, this instrument is executed in \_\_\_\_\_ counterparts, each one of (number)

which shall be deemed an original, this \_\_\_\_\_ 15th \_\_\_\_\_ day of \_\_\_\_\_ October \_\_\_\_\_, 20 24 \_\_\_\_\_

**ATTEST:**

By: [Signature]  
(Principal) Secretary

(SEAL)

BY [Signature]  
Kingsbury Companies, Inc.  
Principal  
SEAL  
2005  
58 Center Road  
Middlesex, VT 05602  
VERMONT  
COMPANY  
[Address]

By: Michele Camire  
Witness as to Principal  
58 Center Road  
(Address)  
Middlesex, VT 05602

Great Midwest Insurance Company  
(Surety)

BY [Signature]  
Attorney - in - Fact  
1011 North Main Street, Suite 4  
(Address)  
White River Junction, VT 05001

**ATTEST:**

By [Signature]  
Witness as to Surety  
1011 North Main Street, Suite 4  
White River Junction, VT 05001  
(Address)

**NOTE:** Date of **BOND** must not be prior to date of Contract.  
If **CONTRACTOR** is Partnership, all partners should execute **BOND**

**IMPORTANT:** Surety companies executing **BONDS** must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of New Hampshire.

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POWER OF ATTORNEY

Great Midwest Insurance Company

KNOW ALL MEN BY THESE PRESENTS, that GREAT MIDWEST INSURANCE COMPANY, a Texas Corporation, with its principal office in Houston, TX, does hereby constitute and appoint:

ADAM C. OSHA, CHRISTINA HENDERSON, ELIZABETH HARLOW, AMANDA RUDIO, PEGGY A. HUNT, DEBORAH J. POLJACIK, JESSICA SALADINO

its true and lawful Attorney(s)-In-Fact to make, execute, seal and deliver for, and on its behalf as surety, any and all bonds, undertakings or other writings obligatory in nature of a bond.

This authority is made under and by the authority of a resolution which was passed by the Board of Directors of GREAT MIDWEST INSURANCE COMPANY, on the 1st day of October, 2018 as follows:

Resolved, that the President, or any officer, be and hereby is, authorized to appoint and empower any representative of the Company or other person or persons as Attorney-In-Fact to execute on behalf of the Company any bonds, undertakings, policies, contracts of indemnity or other writings obligatory in nature of a bond not to exceed Fifteen Million dollars (\$15,000,000.00), which the Company might execute through its duly elected officers, and affix the seal of the Company thereto. Any said execution of such documents by an Attorney-In-Fact shall be as binding upon the Company as if they had been duly executed and acknowledged by the regularly elected officers of the Company. Any Attorney-In-Fact, so appointed, may be removed in the Company's sole discretion and the authority so granted may be revoked as specified in the Power of Attorney.

Resolved, that the signature of the President and the seal of the Company may be affixed by facsimile on any power of attorney granted, and the signature of the Secretary, and the seal of the Company may be affixed by facsimile to any certificate of any such power and any such power or certificate bearing such facsimile signature and seal shall be valid and binding on the Company. Any such power so executed and sealed and certificate so executed and sealed shall, with respect to any bond of undertaking to which it is attached, continue to be valid and binding on the Company.

IN WITNESS THEREOF, GREAT MIDWEST INSURANCE COMPANY, has caused this instrument to be signed by its President, and its Corporate Seal to be affixed this 11th day of February, 2021.

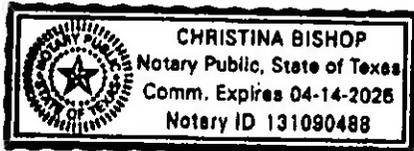


GREAT MIDWEST INSURANCE COMPANY

BY [Signature] Mark W. Haushill President

ACKNOWLEDGEMENT

On this 11th day of February, 2021, before me, personally came Mark W. Haushill to me known, who being duly sworn, did depose and say that he is the President of GREAT MIDWEST INSURANCE COMPANY, the corporation described in and which executed the above instrument; that he executed said instrument on behalf of the corporation by authority of his office under the By-laws of said corporation.



BY [Signature] Christina Bishop Notary Public

CERTIFICATE

I, the undersigned, Secretary of GREAT MIDWEST INSURANCE COMPANY, A Texas Insurance Company, DO HEREBY CERTIFY that the original Power of Attorney of which the foregoing is a true and correct copy, is in full force and effect and has not been revoked and the resolutions as set forth are now in force.

Signed and Sealed at Houston, TX this 15th Day of October, 2024



BY [Signature] Leslie K. Shaunty Secretary

WARNING: Any person who knowingly and with intent to defraud any insurance company or other person, files and application for insurance of claim containing any materially false information, or conceals for the purpose of misleading, information concerning any fact material thereto, commits a fraudulent insurance act, which is a crime and subjects such person to criminal and civil penalties.