Purchasing Divison
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Centralized Expression of Interest
02 — Architect/Engr

Proc Folder: 697854

Doc Description: A/E Services- Palestine Hatchery Fish/Mussel Facility

Proc Type: Central Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No	Version
2020-03-09	2020-04-14 13:30:00	CEOI 0310 DNR2000000006	1

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Name, Address and Telephone Number:

Maker Office, LLC DBA : Horton Harper Architects LTD
812 Huron Road East, Suite 301
Cleveland, OH 44115
216.600.9028

04/14/20 11:37:14
WV Purchasing Division

FOR INFORMATION CONTACT THE BUYER

Guy Nisbet
(304) 558-2596
guy.l.nisbet@wv.gov

Signature X **FEIN #** 45-3946574 **DATE** 4.14.2020

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION

Expression of Interest (A&E SVC's)

In accordance with West Virginia Code: 5G-1-3, The West Virginia Purchasing Division is soliciting Expression(s) of Interest for the Agency, The Division of Natural Resources (WVDNR) from qualified firms to provide architectural/engineering services and any other related professional services to design and specify for construction of hatchery facilities including mussel rearing capabilities for the Palestine State Fish Hatchery located near Elizabeth in Wirt County, WV.

The project will include all necessary permitting including WV DEP, WV Culture and History, and any other required permits. per the bid requirements, specifications and terms and conditions as attached hereto.

* Online submissions of Expressions of Interest are Prohibited*

INVOICE TO	SHIP TO
DIVISION OF NATURAL RESOURCES PARKS & RECREATION-PEM SECTION 324 4TH AVE SOUTH CHARLESTON WV25305 US	DIVISION OF NATURAL RESOURCES PALESTINE HATCHERY ELIZABETH WV 26143 US

Line	Comm Ln Desc	Qty	Unit Issue
1	Civil engineering		

Comm Code	Manufacturer	Specification	Model #
81101500			

Extended Description :

Architectural/engineering services and contract administration for new fish/mussel facility at Palestine State Fish Hatchery, located in Wirt County, WV.

EXPRESSION OF INTEREST
Palestine State Fish Hatchery
Hatchery Building and Mussel Rearing Facility

TABLE OF CONTENTS:

SECTION ONE: GENERAL INFORMATION

1. **PURPOSE:** The Acquisitions and Contract Administration Section of the Purchasing Division ("Purchasing Division") is soliciting Expression(s) of Interest ("EOI" or "Bids") for Division of Natural Resources ("Agency"), from qualified firms to provide architectural/engineering services ("Vendors") as defined herein.

2. **PROJECT:** The mission or purpose of the project for which bids are being solicited is to provide architecture and engineering services to design and provide construction contract administration for the design and construction of hatchery facilities including mussel rearing capabilities for the Palestine State Fish Hatchery located near Elizabeth in Wirt County, WV. The project will include all necessary permitting including WV DEP, WV Culture and History, and any other required permits. ("Project").

3. **SCHEDULE OF EVENTS:**

Release of the EOI.....	March 9th, 2020
Written Questions Submission Deadline.	March 24th, 2020 at 9:00 AM. ET.
Addendum Issued	TBD
Expressions of Interest Opening Date.....	April 14th, 2020 at 1:30 PM. ET.
Evaluation Committee List of Three Highest Qualified Firms Provided.....	TBD
Estimated Date for Interviews of Three Firms.....	TBD
Price Negotiations Commence with Highest Ranked Firm	TBD

EXPRESSION OF INTEREST

Palestine State Fish Hatchery
Hatchery Building and Mussel Rearing Facility

SECTION TWO: INSTRUCTIONS TO VENDORS SUBMITTING BIDS

Instructions begin on the next page.

INSTRUCTIONS TO VENDORS SUBMITTING BIDS

1. REVIEW DOCUMENTS THOROUGHLY: The attached documents contain a solicitation for bids. Please read these instructions and all documents attached in their entirety. These instructions provide critical information about requirements that if overlooked could lead to disqualification of a Vendor's bid. All bids must be submitted in accordance with the provisions contained in these instructions and the Solicitation. Failure to do so may result in disqualification of Vendor's bid.

2. MANDATORY TERMS: The Solicitation may contain mandatory provisions identified by the use of the words "must," "will," and "shall." Failure to comply with a mandatory term in the Solicitation will result in bid disqualification.

3. PREBID MEETING: The item identified below shall apply to this Solicitation.

☑ A pre-bid meeting will not be held prior to bid opening

☐ A **MANDATORY PRE-BID** meeting will be held at the following place and time:

All Vendors submitting a bid must attend the mandatory pre-bid meeting. Failure to attend the mandatory pre-bid meeting shall result in disqualification of the Vendor's bid. No one individual is permitted to represent more than one vendor at the pre-bid meeting. Any individual that does attempt to represent two or more vendors will be required to select one vendor to which the individual's attendance will be attributed. The vendors not selected will be deemed to have not attended the pre-bid meeting unless another individual attended on their behalf.

An attendance sheet provided at the pre-bid meeting shall serve as the official document verifying attendance. Any person attending the pre-bid meeting on behalf of a Vendor must list on the attendance sheet his or her name and the name of the Vendor he or she is representing.

Additionally, the person attending the pre-bid meeting should include the Vendor's E-Mail address, phone number, and Fax number on the attendance sheet. It is the Vendor's responsibility to locate the attendance sheet and provide the required information. Failure to complete the attendance sheet as required may result in disqualification of Vendor's bid.

All Vendors should arrive prior to the starting time for the pre-bid. Vendors who arrive after the starting time but prior to the end of the pre-bid will be permitted to sign in but are charged with knowing all matters discussed at the pre-bid.

Questions submitted at least five business days prior to a scheduled pre-bid will be discussed at the pre-bid meeting if possible. Any discussions or answers to questions at the pre-bid meeting

are preliminary in nature and are non-binding. Official and binding answers to questions will be published in a written addendum to the Solicitation prior to bid opening.

4. VENDOR QUESTION DEADLINE: Vendors may submit questions relating to this Solicitation to the Purchasing Division. Questions must be submitted in writing. All questions must be submitted on or before the date listed below and to the address listed below in order to be considered. A written response will be published in a Solicitation addendum if a response is possible and appropriate. Non-written discussions, conversations, or questions and answers regarding this Solicitation are preliminary in nature and are nonbinding.

Submitted e-mails should have solicitation number in the subject line.

Question Submission Deadline: March 24th, 2020 at 9:00 AM. ET.

Submit Questions to: Guy Nisbet
2019 Washington Street, East
Charleston, WV 25305
Fax: (304) 558-4115 (Vendors should not use this fax number for bid submission)
Email: Guy.L.Nisbet@WV.Gov

5. VERBAL COMMUNICATION: Any verbal communication between the Vendor and any State personnel is not binding, including verbal communication at the mandatory pre-bid conference. Only information issued in writing and added to the Solicitation by an official written addendum by the Purchasing Division is binding.

6. BID SUBMISSION: All bids must be submitted electronically through wvOASIS or signed and delivered by the Vendor to the Purchasing Division at the address listed below on or before the date and time of the bid opening. Any bid received by the Purchasing Division staff is considered to be in the possession of the Purchasing Division and will not be returned for any reason. The Purchasing Division will not accept bids, modification of bids, or addendum acknowledgment forms via e-mail. Acceptable delivery methods include electronic submission via wvOASIS, hand delivery, delivery by courier, or facsimile.

The bid delivery address is:
Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

A bid that is not submitted electronically through wvOASIS should contain the information listed below on the face of the envelope or the bid may be rejected by the Purchasing Division.:

SEALED BID: WVDNR Palestine State Hatchery Building & Mussel Rearing Facility
BUYER: Guy Nisbet
SOLICITATION NO.:
BID OPENING DATE:
BID OPENING TIME: 1:30 PM. ET.
FAX NUMBER: 304.558.3970

The Purchasing Division may prohibit the submission of bids electronically through wvOASIS at its sole discretion. Such a prohibition will be contained and communicated in the wvOASIS system resulting in the Vendor's inability to submit bids through wvOASIS. Submission of a response to an Expression or Interest or Request for Proposal is not permitted in wvOASIS.

For Request For Proposal ("RFP") Responses Only: In the event that Vendor is responding to a request for proposal, the Vendor shall submit one original technical and one original cost proposal plus _____convenience copies of each to the Purchasing Division at the address shown above. Additionally, the Vendor should identify the bid type as either a technical or cost proposal on the face of each bid envelope submitted in response to a request for proposal as follows:

BID TYPE: (This only applies to CRFP)
☐ Technical
☐ Cost

7. BID OPENING: Bids submitted in response to this Solicitation will be opened at the location identified below on the date and time listed below. Delivery of a bid after the bid opening date and time will result in bid disqualification. For purposes of this Solicitation, a bid is considered delivered when confirmation of delivery is provided by wvOASIS (in the case of electronic submission) or when the bid is time stamped by the official Purchasing Division time clock (in the case of hand delivery).

Bid Opening Date and Time: April 14th, 2020 at 1:30 PM. ET.

Bid Opening Location: Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

8. ADDENDUM ACKNOWLEDGEMENT: Changes or revisions to this Solicitation will be made by an official written addendum issued by the Purchasing Division. Vendor should acknowledge receipt of all addenda issued with this Solicitation by completing an Addendum Acknowledgment Form, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

9. BID FORMATTING: Vendor should type or electronically enter the information onto its bid to prevent errors in the evaluation. Failure to type or electronically enter the information may result in bid disqualification.

10. ALTERNATE MODEL OR BRAND: Unless the box below is checked, any model, brand, or specification listed in this Solicitation establishes the acceptable level of quality only and is not intended to reflect a preference for, or in any way favor, a particular brand or vendor. Vendors may bid alternates to a listed model or brand provided that the alternate is at least equal to the model or brand and complies with the required specifications. The equality of any alternate being bid shall be determined by the State at its sole discretion. Any Vendor bidding an alternate model or brand should clearly identify the alternate items in its bid and should include manufacturer's specifications, industry literature, and/or any other relevant documentation demonstrating the

equality of the alternate items. Failure to provide information for alternate items may be grounds for rejection of a Vendor's bid.

☐ This Solicitation is based upon a standardized commodity established under W. Va. Code § 5A-3-61. Vendors are expected to bid the standardized commodity identified. Failure to bid the standardized commodity will result in your firm's bid being rejected.

11. EXCEPTIONS AND CLARIFICATIONS: The Solicitation contains the specifications that shall form the basis of a contractual agreement. Vendor shall clearly mark any exceptions, clarifications, or other proposed modifications in its bid. Exceptions to, clarifications of, or modifications of a requirement or term and condition of the Solicitation may result in bid disqualification.

12. COMMUNICATION LIMITATIONS: In accordance with West Virginia Code of State Rules §148-1-6.6, communication with the State of West Virginia or any of its employees regarding this Solicitation during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited without prior Purchasing Division approval. Purchasing Division approval for such communication is implied for all agency delegated and exempt purchases.

13. REGISTRATION: Prior to Contract award, the apparent successful Vendor must be properly registered with the West Virginia Purchasing Division and must have paid the $125 fee, if applicable.

14. UNIT PRICE: Unit prices shall prevail in cases of a discrepancy in the Vendor's bid.

15. PREFERENCE: Vendor Preference may be requested in purchases of motor vehicles or construction and maintenance equipment and machinery used in highway and other infrastructure projects. Any request for preference must be submitted in writing with the bid, must specifically identify the preference requested with reference to the applicable subsection of West Virginia Code § 5A-3-37, and must include with the bid any information necessary to evaluate and confirm the applicability of the requested preference. A request form to help facilitate the request can be found at:
http://www.state.wv.us/admin/purchase/vrc/Venpref.pdf.

15A. RECIPROCAL PREFERENCE: The State of West Virginia applies a reciprocal preference to all solicitations for commodities and printing in accordance with W. Va. Code § 5A-3-37(b). In effect, non-resident vendors receiving a preference in their home states, will see that same preference granted to West Virginia resident vendors bidding against them in West Virginia. Any request for reciprocal preference must include with the bid any information necessary to evaluate and confirm the applicability of the preference. A request form to help facilitate the request can be found at: http://www.state.wv.us/admin/purchase/vrc/Venpref.pdf.

16. SMALL, WOMEN-OWNED, OR MINORITY-OWNED BUSINESSES: For any solicitations publicly advertised for bid, in accordance with West Virginia Code §5A-3-37(a)(7) and W. Va. CSR § 148-22-9, any non-resident vendor certified as a small, women-owned, or minority-owned business under W. Va. CSR § 148-22-9 shall be provided the same preference made available to any resident vendor. Any non-resident small, women-owned, or

minority-owned business must identify itself as such in writing, must submit that writing to the Purchasing Division with its bid, and must be properly certified under W. Va. CSR § 148-22-9 prior to contract award to receive the preferences made available to resident vendors. Preference for a non-resident small, women-owned, or minority owned business shall be applied in accordance with W. Va. CSR § 148-22-9.

17. WAIVER OF MINOR IRREGULARITIES: The Director reserves the right to waive minor irregularities in bids or specifications in accordance with West Virginia Code of State Rules § 148-1-4.6.

18. ELECTRONIC FILE ACCESS RESTRICTIONS: Vendor must ensure that its submission in wvOASIS can be accessed and viewed by the Purchasing Division staff immediately upon bid opening. The Purchasing Division will consider any file that cannot be immediately accessed and viewed at the time of the bid opening (such as, encrypted files, password protected files, or incompatible files) to be blank or incomplete as context requires, and are therefore unacceptable. A vendor will not be permitted to unencrypt files, remove password protections, or resubmit documents after bid opening to make a file viewable if those documents are required with the bid. A Vendor may be required to provide document passwords or remove access restrictions to allow the Purchasing Division to print or electronically save documents provided that those documents are viewable by the Purchasing Division prior to obtaining the password or removing the access restriction.

19. NON-RESPONSIBLE: The Purchasing Division Director reserves the right to reject the bid of any vendor as Non-Responsible in accordance with W. Va. Code of State Rules § 148-1-5.3, when the Director determines that the vendor submitting the bid does not have the capability to fully perform, or lacks the integrity and reliability to assure good-faith performance."

20. ACCEPTANCE/REJECTION: The State may accept or reject any bid in whole, or in part in accordance with W. Va. Code of State Rules § 148-1-4.5. and § 148-1-6.4.b."

21. YOUR SUBMISSION IS A PUBLIC DOCUMENT: Vendor's entire response to the Solicitation and the resulting Contract are public documents. As public documents, they will be disclosed to the public following the bid/proposal opening or award of the contract, as required by the competitive bidding laws of West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq. and the Freedom of Information Act West Virginia Code §§ 29B-1-1 et seq.

DO NOT SUBMIT MATERIAL YOU CONSIDER TO BE CONFIDENTIAL, A TRADE SECRET, OR OTHERWISE NOT SUBJECT TO PUBLIC DISCLOSURE.

Submission of any bid, proposal, or other document to the Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal, or document. The Purchasing Division will disclose any document labeled "confidential," "proprietary," "trade secret," "private," or labeled with any other claim against public disclosure of the documents, to include any "trade secrets" as defined by West Virginia Code § 47-22-1 et seq. All submissions are subject to public disclosure without notice.

22. INTERESTED PARTY DISCLOSURE: West Virginia Code § 6D-1-2 requires that the vendor submit to the Purchasing Division a disclosure of interested parties to the contract for all contracts with an actual or estimated value of at least $1 Million. That disclosure must occur on the form prescribed and approved by the WV Ethics Commission prior to contract award. A copy of that form is included with this solicitation or can be obtained from the WV Ethics Commission. This requirement does not apply to publicly traded companies listed on a national or international stock exchange. A more detailed definition of interested parties can be obtained from the form referenced above.

23. WITH THE BID REQUIREMENTS: In instances where these specifications require documentation or other information with the bid, and a vendor fails to provide it with the bid, the Director of the Purchasing Division reserves the right to request those items after bid opening and prior to contract award pursuant to the authority to waive minor irregularities in bids or specifications under W. Va. CSR § 148-1-4.6. This authority does not apply to instances where state law mandates receipt with the bid.

EXPRESSION OF INTEREST

Palestine State Fish Hatchery
Hatchery Building and Mussel Rearing Facility

SECTION THREE: PROJECT SPECIFICATIONS

1. **Background:** The WVDNR owns and operates the Palestine State Fish Hatchery near Elizabeth, WV. The WVDNR wish to design and construct an approximately 9000 square foot hatchery building located at the existing property. The new facility will contain office space, lab space, fish and mussel rearing areas along with adequate storage. Design will also include the use of surface water from the on-site reservoir and a proposed well to be drilled for additional water supply. Vendors are being solicited to provide necessary professional engineering services to design the facilities, all necessary utility extensions, site work and environmental and other permitting as well as provide construction contract administration. The planned improvements may also include any other related work necessary for, or desired by the agency, at this location, as well as any other necessary ancillary work; all located near Elizabeth, Wirt County, West Virginia.

2. **Project and Goals:** The project goals and objectives are listed below. Vendors should discuss any anticipated concepts and proposed methods of approach for achieving each of the listed goals and objectives:

   2.1. **Goal/Objective 1:** Review existing site, plans, conditions and evaluate the site while communicating effectively with the owner to determine a plan that can be implemented in a manner that will minimize disruption and meet all objectives.

   2.2. **Goal/Objective 2:** As a portion of this process outlined in Objective 1, provide all necessary services to design the facilities described in this EOI in a manner that is consistent with The Division of Natural Resources needs, objectives, current law, and current code; while following the plan to design and execute the project within the project budget.

   2.3. **Goal/Objective 3:** Provide Construction Contract Administration Services with competent professionals that ensures the project is constructed and functions as designed.

3. **Qualifications, Experience, and Past Performance:** Vendors should provide information regarding its employees, such as staff qualifications and experience in completing similar projects; references; copies of any staff certifications or degrees applicable to this project; proposed staffing plan; descriptions of past projects completed entailing the location of the project, project manager name and contact information, type of project, and the project goals and objectives and how they were met.

EXPRESSION OF INTEREST
Palestine State Fish Hatchery
Hatchery Building and Mussel Rearing Facility

3.1 In addition to the above, the Vendor should provide information regarding the following:

a. The successful firm or team should demonstrate a clear procedure for communication with the owner during all phases of the project.

b. The successful firm or team should demonstrate a history of projects that met the owner's budget and a clear plan to ensure this project can be constructed within the project budget. This plan should be described in detail.

c. The successful firm or team should demonstrate a history of projects that have been constructed in the time allotted in the contract documents and a clear plan to ensure this project will be constructed within the agreed construction period. This plan should be described in detail.

d. The successful firm or team should demonstrate competent and acceptable experience in all expected professional disciplines necessary for the design and completion of the project.

4. **Oral Presentations/Interviews:** The Agency will conduct individual interviews with the three vendors that are determined to be the most qualified to provide the required service. During oral presentations/interviews, vendors may not alter or add to their submitted proposal, but only clarify information already submitted. A description of the materials and information to be presented is provided below:

4.1. Materials and Information Required at Oral Presentation/Interviews:

The Vendor must be prepared to discuss and clarify required items submitted with the EOI as indicated in Section 3, Item 3.

EXPRESSION OF INTEREST

Palestine State Fish Hatchery
Hatchery Building and Mussel Rearing Facility

SECTION FOUR: VENDOR PROPOSAL, EVALUATION, & AWARD

1. **Economy of Preparation:** EOIs should be prepared simply and economically, providing a straight-forward, concise description of the firm's abilities to satisfy the requirements and goals and objectives of the EOI. Emphasis should be placed on completeness and clarity of content. The response sections should be labeled for ease of evaluation.

2. **BIDS MUST NOT CONTAIN PRICE INFORMATION:** The State shall select the best value solution according to W. Va. Code §5G-1-3. In accordance with Code requirements, no "price" or "fee" information is permitted in the Vendor's EOI response.

3. **Evaluation and Award Process:** Expressions of Interest for projects estimated to cost $250,000 or more will be evaluated and awarded in accordance with W.Va. Code §5G-1-3. That Code section requires the following related to evaluation and award:

   3.1. **Selection Committee Evaluation and Negotiation:** A committee comprised of three to five representatives of the agency initiating the request shall:

      3.1.1. evaluate the statements of qualifications and performance data and other material submitted by the interested firms and select three firms which in their opinion are the best qualified to perform the desired service.

      3.1.2. conduct interviews with each of the three firms selected.

      3.1.3. rank the three selected firms in order of preference

      3.1.4. and commence scope of service and price negotiations with the highest qualified professional firm.

   If negotiations are successful, the contract documents will be forwarded to the WV Purchasing Division for review and approval, and then to the WV Attorney General's office for review and approval as to form. Once approved, a formal contract will be issued to the Vendor.

   Should the agency be unable to negotiate a satisfactory contract with the professional firm considered to be the most qualified at a fee determined to be fair and reasonable, the agency will then commence negotiations with the second most qualified firm, and so on, until an agreement is reached, or the solicitation is cancelled.

EXPRESSION OF INTEREST
Palestine State Fish Hatchery
Hatchery Building and Mussel Rearing Facility

3.2. **Three Firm Evaluation Rankings:** The Agency will evaluate the three firms that have been determined most qualified to perform the desired service. The evaluation criteria are defined in the Procurement Specifications section and based on a 100-point total score. Points shall be assigned based upon the Vendor's response to the evaluation criteria as follows:

• Qualifications, Experience, and Past Performance	40 Points Possible
• Goals and Objectives: – Anticipated Concepts and Methods of Approach	40 Points Possible
• Oral Interview	20 Points Possible
Total	100 Points

EXPRESSION OF INTEREST
Palestine State Fish Hatchery
Hatchery Building and Mussel Rearing Facility

SECTION FIVE: TERMS AND CONDITIONS

Terms and conditions begin on the next page.

GENERAL TERMS AND CONDITIONS:

1. CONTRACTUAL AGREEMENT: Issuance of a Award Document signed by the Purchasing Division Director, or his designee, and approved as to form by the Attorney General's office constitutes acceptance of this Contract made by and between the State of West Virginia and the Vendor. Vendor's signature on its bid signifies Vendor's agreement to be bound by and accept the terms and conditions contained in this Contract.

2. DEFINITIONS: As used in this Solicitation/Contract, the following terms shall have the meanings attributed to them below. Additional definitions may be found in the specifications included with this Solicitation/Contract.

2.1. "Agency" or **"Agencies"** means the agency, board, commission, or other entity of the State of West Virginia that is identified on the first page of the Solicitation or any other public entity seeking to procure goods or services under this Contract.

2.2. "Bid" or **"Proposal"** means the vendors submitted response to this solicitation.

2.3. "Contract" means the binding agreement that is entered into between the State and the Vendor to provide the goods or services requested in the Solicitation.

2.4. "Director" means the Director of the West Virginia Department of Administration, Purchasing Division.

2.5. "Purchasing Division" means the West Virginia Department of Administration, Purchasing Division.

2.6. "Award Document" means the document signed by the Agency and the Purchasing Division, and approved as to form by the Attorney General, that identifies the Vendor as the contract holder.

2.7. "Solicitation" means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.

2.8. "State" means the State of West Virginia and/or any of its agencies, commissions, boards, etc. as context requires.

2.9. "Vendor" or **"Vendors"** means any entity submitting a bid in response to the Solicitation, the entity that has been selected as the lowest responsible bidder, or the entity that has been awarded the Contract as context requires.

3. CONTRACT TERM; RENEWAL; EXTENSION: The term of this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below:

☑ **Term Contract**

Initial Contract Term: Initial Contract Term: This Contract becomes effective on AWARD and extends for a period of Two (2) year(s).

Renewal Term: This Contract may be renewed upon the mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any request for renewal should be delivered to the Agency and then submitted to the Purchasing Division thirty (30) days prior to the expiration date of the initial contract term or appropriate renewal term. A Contract renewal shall be in accordance with the terms and conditions of the original contract. Unless otherwise specified below, renewal of this Contract is limited to Two (2) successive one (1) year periods or multiple renewal periods of less than one year, provided that the multiple renewal periods do not exceed the total number of months available in all renewal years combined. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only)

☐ **Alternate Renewal Term** – This contract may be renewed for _____ successive _____ year periods or shorter periods provided that they do not exceed the total number of months contained in all available renewals. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only)

Delivery Order Limitations: In the event that this contract permits delivery orders, a delivery order may only be issued during the time this Contract is in effect. Any delivery order issued within one year of the expiration of this Contract shall be effective for one year from the date the delivery order is issued. No delivery order may be extended beyond one year after this Contract has expired.

☐ **Fixed Period Contract:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and must be completed within _____ days.

☐ **Fixed Period Contract with Renewals:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and part of the Contract more fully described in the attached specifications must be completed within _____ days. Upon completion of the work covered by the preceding sentence, the vendor agrees that maintenance, monitoring, or warranty services will be provided for _____ year(s) thereafter.

☐ **One Time Purchase:** The term of this Contract shall run from the issuance of the Award Document until all of the goods contracted for have been delivered, but in no event will this Contract extend for more than one fiscal year.

☐ **Other:** See attached.

4. NOTICE TO PROCEED: Vendor shall begin performance of this Contract immediately upon receiving notice to proceed unless otherwise instructed by the Agency. Unless otherwise specified, the fully executed Award Document will be considered notice to proceed.

5. QUANTITIES: The quantities required under this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below.

☐ **Open End Contract:** Quantities listed in this Solicitation are approximations only, based on estimates supplied by the Agency. It is understood and agreed that the Contract shall cover the quantities actually ordered for delivery during the term of the Contract, whether more or less than the quantities shown.

☐ **Service:** The scope of the service to be provided will be more clearly defined in the specifications included herewith.

☑ **Combined Service and Goods:** The scope of the service and deliverable goods to be provided will be more clearly defined in the specifications included herewith.

☐ **One Time Purchase:** This Contract is for the purchase of a set quantity of goods that are identified in the specifications included herewith. Once those items have been delivered, no additional goods may be procured under this Contract without an appropriate change order approved by the Vendor, Agency, Purchasing Division, and Attorney General's office.

6. EMERGENCY PURCHASES: The Purchasing Division Director may authorize the Agency to purchase goods or services in the open market that Vendor would otherwise provide under this Contract if those goods or services are for immediate or expedited delivery in an emergency. Emergencies shall include, but are not limited to, delays in transportation or an unanticipated increase in the volume of work. An emergency purchase in the open market, approved by the Purchasing Division Director, shall not constitute of breach of this Contract and shall not entitle the Vendor to any form of compensation or damages. This provision does not excuse the State from fulfilling its obligations under a One Time Purchase contract.

7. REQUIRED DOCUMENTS: All of the items checked below must be provided to the Purchasing Division by the Vendor as specified below.

☐ **BID BOND (Construction Only):** Pursuant to the requirements contained in W. Va. Code § 5-22-1(c), All Vendors submitting a bid on a construction project shall furnish a valid bid bond in the amount of five percent (5%) of the total amount of the bid protecting the State of West Virginia. The bid bond must be submitted with the bid.

☐ **PERFORMANCE BOND:** The apparent successful Vendor shall provide a performance bond in the amount of 100% of the contract. The performance bond must be received by the Purchasing Division prior to Contract award.

☐ **LABOR/MATERIAL PAYMENT BOND:** The apparent successful Vendor shall provide a labor/material payment bond in the amount of 100% of the Contract value. The labor/material payment bond must be delivered to the Purchasing Division prior to Contract award.

In lieu of the Bid Bond, Performance Bond, and Labor/Material Payment Bond, the Vendor may provide certified checks, cashier's checks, or irrevocable letters of credit. Any certified check, cashier's check, or irrevocable letter of credit provided in lieu of a bond must be of the same amount and delivered on the same schedule as the bond it replaces. A letter of credit submitted in lieu of a performance and labor/material payment bond will only be allowed for projects under $100,000. Personal or business checks are not acceptable. Notwithstanding the foregoing, West Virginia Code § 5-22-1 (d) mandates that a vendor provide a performance and labor/material payment bond for construction projects. Accordingly, substitutions for the performance and labor/material payment bonds for construction projects is not permitted.

☐ **MAINTENANCE BOND:** The apparent successful Vendor shall provide a two (2) year maintenance bond covering the roofing system. The maintenance bond must be issued and delivered to the Purchasing Division prior to Contract award.

☐ **LICENSE(S) / CERTIFICATIONS / PERMITS:** In addition to anything required under the Section of the General Terms and Conditions entitled Licensing, the apparent successful Vendor shall furnish proof of the following licenses, certifications, and/or permits upon request and in a form acceptable to the State. The request may be prior to or after contract award at the State's sole discretion.

☐

☐

☐

☐

The apparent successful Vendor shall also furnish proof of any additional licenses or certifications contained in the specifications regardless of whether or not that requirement is listed above.

8. INSURANCE: The apparent successful Vendor shall furnish proof of the insurance identified by a checkmark below and must include the State as an additional insured on each policy prior to Contract award. The insurance coverages identified below must be maintained throughout the life of this contract. Thirty (30) days prior to the expiration of the insurance policies, Vendor shall provide the Agency with proof that the insurance mandated herein has been continued. Vendor must also provide Agency with immediate notice of any changes in its insurance policies, including but not limited to, policy cancelation, policy reduction, or change in insurers. The apparent successful Vendor shall also furnish proof of any additional insurance requirements contained in the specifications prior to Contract award regardless of whether or not that insurance requirement is listed in this section.

Vendor must maintain:

☑ **Commercial General Liability Insurance** in at least an amount of: $1,000,000.00 per occurrence.

☑ **Automobile Liability Insurance** in at least an amount of: $500,000.00 per occurrence.

☑ **Professional/Malpractice/Errors and Omission Insurance** in at least an amount of: $1,000,000.00 per occurrence. Notwithstanding the forgoing, Vendor's are not required to list the State as an additional insured for this type of policy.

☐ **Commercial Crime and Third Party Fidelity Insurance** in an amount of: _____ per occurrence.

☐ **Cyber Liability Insurance** in an amount of: _____ per occurrence.

☐ **Builders Risk Insurance** in an amount equal to 100% of the amount of the Contract.

☐ **Pollution Insurance** in an amount of: _____ per occurrence.

☐ **Aircraft Liability** in an amount of: _____ per occurrence.

☑ In accordance with State Supplemental Conditions to AIA 201-2017 if applicable.

☐

☐

☐

Notwithstanding anything contained in this section to the contrary, the Director of the Purchasing Division reserves the right to waive the requirement that the State be named as an additional insured on one or more of the Vendor's insurance policies if the Director finds that doing so is in the State's best interest.

9. WORKERS' COMPENSATION INSURANCE: The apparent successful Vendor shall comply with laws relating to workers compensation, shall maintain workers' compensation insurance when required, and shall furnish proof of workers' compensation insurance upon request.

10. [Reserved]

11. LIQUIDATED DAMAGES: This clause shall in no way be considered exclusive and shall not limit the State or Agency's right to pursue any other available remedy. Vendor shall pay liquidated damages in the amount specified below or as described in the specifications:

☐ _____ for _____

☐ Liquidated Damages Contained in the Specifications

12. ACCEPTANCE: Vendor's signature on its bid, or on the certification and signature page, constitutes an offer to the State that cannot be unilaterally withdrawn, signifies that the product or service proposed by vendor meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise indicated, and signifies acceptance of the terms and conditions contained in the Solicitation unless otherwise indicated.

13. PRICING: The pricing set forth herein is firm for the life of the Contract, unless specified elsewhere within this Solicitation/Contract by the State. A Vendor's inclusion of price adjustment provisions in its bid, without an express authorization from the State in the Solicitation to do so, may result in bid disqualification. Notwithstanding the foregoing, Vendor must extend any publicly advertised sale price to the State and invoice at the lower of the contract price or the publicly advertised sale price.

14. PAYMENT IN ARREARS: Payment in advance is prohibited under this Contract. Payment may only be made after the delivery and acceptance of goods or services. The Vendor shall submit invoices, in arrears.

15. PAYMENT METHODS: Vendor must accept payment by electronic funds transfer and P-Card. (The State of West Virginia's Purchasing Card program, administered under contract by a banking institution, processes payment for goods and services through state designated credit cards.)

16. TAXES: The Vendor shall pay any applicable sales, use, personal property or any other taxes arising out of this Contract and the transactions contemplated thereby. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.

17. ADDITIONAL FEES: Vendor is not permitted to charge additional fees or assess additional charges that were not either expressly provided for in the solicitation published by the State of West Virginia or included in the unit price or lump sum bid amount that Vendor is required by the solicitation to provide. Including such fees or charges as notes to the solicitation may result in rejection of vendor's bid. Requesting such fees or charges be paid after the contract has been awarded may result in cancellation of the contract.

18. FUNDING: This Contract shall continue for the term stated herein, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise made available, this Contract becomes void and of no effect beginning on July 1 of the fiscal year for which funding has not been appropriated or otherwise made available.

19. CANCELLATION: The Purchasing Division Director reserves the right to cancel this Contract immediately upon written notice to the vendor if the materials or workmanship supplied do not conform to the specifications contained in the Contract. The Purchasing Division Director may also cancel any purchase or Contract upon 30 days written notice to the Vendor in accordance with West Virginia Code of State Rules § 148-1-5.2.b.

20. TIME: Time is of the essence with regard to all matters of time and performance in this Contract.

21. APPLICABLE LAW: This Contract is governed by and interpreted under West Virginia law without giving effect to its choice of law principles. Any information provided in specification manuals, or any other source, verbal or written, which contradicts or violates the West Virginia Constitution, West Virginia Code or West Virginia Code of State Rules is void and of no effect.

22. COMPLIANCE WITH LAWS: Vendor shall comply with all applicable federal, state, and local laws, regulations and ordinances. By submitting a bid, Vendor acknowledges that it has reviewed, understands, and will comply with all applicable laws, regulations, and ordinances.

> **SUBCONTRACTOR COMPLIANCE:** Vendor shall notify all subcontractors providing commodities or services related to this Contract that as subcontractors, they too are required to comply with all applicable laws, regulations, and ordinances. Notification under this provision must occur prior to the performance of any work under the contract by the subcontractor.

23. ARBITRATION: Any references made to arbitration contained in this Contract, Vendor's bid, or in any American Institute of Architects documents pertaining to this Contract are hereby deleted, void, and of no effect.

24. MODIFICATIONS: This writing is the parties' final expression of intent. Notwithstanding anything contained in this Contract to the contrary no modification of this Contract shall be binding without mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any change to existing contracts that adds work or changes contract cost, and were not included in the original contract, must be approved by the Purchasing Division and the Attorney General's Office (as to form) prior to the implementation of the change or commencement of work affected by the change.

25. WAIVER: The failure of either party to insist upon a strict performance of any of the terms or provision of this Contract, or to exercise any option, right, or remedy herein contained, shall not be construed as a waiver or a relinquishment for the future of such term, provision, option, right, or remedy, but the same shall continue in full force and effect. Any waiver must be expressly stated in writing and signed by the waiving party.

26. SUBSEQUENT FORMS: The terms and conditions contained in this Contract shall supersede any and all subsequent terms and conditions which may appear on any form documents submitted by Vendor to the Agency or Purchasing Division such as price lists, order forms, invoices, sales agreements, or maintenance agreements, and includes internet websites or other electronic documents. Acceptance or use of Vendor's forms does not constitute acceptance of the terms and conditions contained thereon.

27. ASSIGNMENT: Neither this Contract nor any monies due, or to become due hereunder, may be assigned by the Vendor without the express written consent of the Agency, the Purchasing Division, the Attorney General's office (as to form only), and any other government agency or office that may be required to approve such assignments.

28. WARRANTY: The Vendor expressly warrants that the goods and/or services covered by this Contract will: (a) conform to the specifications, drawings, samples, or other description furnished or specified by the Agency; (b) be merchantable and fit for the purpose intended; and (c) be free from defect in material and workmanship.

29. STATE EMPLOYEES: State employees are not permitted to utilize this Contract for personal use and the Vendor is prohibited from permitting or facilitating the same.

30. PRIVACY, SECURITY, AND CONFIDENTIALITY: The Vendor agrees that it will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the Agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the Agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in http://www.state.wv.us/admin/purchase/privacy/default.html.

31. YOUR SUBMISSION IS A PUBLIC DOCUMENT: Vendor's entire response to the Solicitation and the resulting Contract are public documents. As public documents, they will be disclosed to the public following the bid/proposal opening or award of the contract, as required by the competitive bidding laws of West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq. and the Freedom of Information Act West Virginia Code §§ 29B-1-1 et seq.

DO NOT SUBMIT MATERIAL YOU CONSIDER TO BE CONFIDENTIAL, A TRADE SECRET, OR OTHERWISE NOT SUBJECT TO PUBLIC DISCLOSURE.

Submission of any bid, proposal, or other document to the Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal, or document. The Purchasing Division will disclose any document labeled "confidential," "proprietary," "trade secret," "private," or labeled with any other claim against public disclosure of the documents, to include any "trade secrets" as defined by West Virginia Code § 47-22-1 et seq. All submissions are subject to public disclosure without notice.

32. LICENSING: In accordance with West Virginia Code of State Rules § 148-1-6.1.e, Vendor must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agency or political subdivision. Obligations related to political subdivisions may include, but are not limited to, business licensing, business and occupation taxes, inspection compliance, permitting, etc. Upon request, the Vendor must provide all necessary releases to obtain information to enable the Purchasing Division Director or the Agency to verify that the Vendor is licensed and in good standing with the above entities.

SUBCONTRACTOR COMPLIANCE: Vendor shall notify all subcontractors providing commodities or services related to this Contract that as subcontractors, they too are required to be licensed, in good standing, and up-to-date on all state and local obligations as described in this section. Obligations related to political subdivisions may include, but are not limited to, business licensing, business and occupation taxes, inspection compliance, permitting, etc. Notification under this provision must occur prior to the performance of any work under the contract by the subcontractor.

33. ANTITRUST: In submitting a bid to, signing a contract with, or accepting a Award Document from any agency of the State of West Virginia, the Vendor agrees to convey, sell, assign, or transfer to the State of West Virginia all rights, title, and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to Vendor.

34. VENDOR CERTIFICATIONS: By signing its bid or entering into this Contract, Vendor certifies (1) that its bid or offer was made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, person or entity submitting a bid or offer for the same material, supplies, equipment or services; (2) that its bid or offer is in all respects fair and without collusion or fraud; (3) that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; and (4) that it has reviewed this Solicitation in its entirety; understands the requirements, terms and conditions, and other information contained herein.

Vendor's signature on its bid or offer also affirms that neither it nor its representatives have any interest, nor shall acquire any interest, direct or indirect, which would compromise the performance of its services hereunder. Any such interests shall be promptly presented in detail to the Agency. The individual signing this bid or offer on behalf of Vendor certifies that he or she is authorized by the Vendor to execute this bid or offer or any documents related thereto on Vendor's behalf; that he or she is authorized to bind the Vendor in a contractual relationship; and that, to the best of his or her knowledge, the Vendor has properly registered with any State agency that may require registration.

35. VENDOR RELATIONSHIP: The relationship of the Vendor to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by this Contract. The Vendor as an independent contractor is solely liable for the acts and omissions of its employees and agents. Vendor shall be responsible for selecting, supervising, and compensating any and all individuals employed pursuant to the terms of this Solicitation and resulting contract. Neither the Vendor, nor any employees or subcontractors of the Vendor, shall be deemed to be employees of the State for any purpose whatsoever. Vendor shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension, or other deferred compensation plans, including but not limited to, Workers' Compensation and Social Security obligations, licensing fees, etc. and the filing of all necessary documents, forms, and returns pertinent to all of the foregoing.

Vendor shall hold harmless the State, and shall provide the State and Agency with a defense against any and all claims including, but not limited to, the foregoing payments, withholdings, contributions, taxes, Social Security taxes, and employer income tax returns.

36. INDEMNIFICATION: The Vendor agrees to indemnify, defend, and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for services rendered by any subcontractor, person, or firm performing or supplying services, materials, or supplies in connection with the performance of the Contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the Vendor, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use, or disposition of any data used under the Contract in a manner not authorized by the Contract, or by Federal or State statutes or regulations; and (3) Any failure of the Vendor, its officers, employees, or subcontractors to observe State and Federal laws including, but not limited to, labor and wage and hour laws.

37. PURCHASING AFFIDAVIT: In accordance with West Virginia Code §§ 5A-3-10a and 5-22-1(i), the State is prohibited from awarding a contract to any bidder that owes a debt to the State or a political subdivision of the State, Vendors are required to sign, notarize, and submit the Purchasing Affidavit to the Purchasing Division affirming under oath that it is not in default on any monetary obligation owed to the state or a political subdivision of the state.

38. ADDITIONAL AGENCY AND LOCAL GOVERNMENT USE: This Contract may be utilized by other agencies, spending units, and political subdivisions of the State of West Virginia; county, municipal, and other local government bodies; and school districts ("Other Government Entities"), provided that both the Other Government Entity and the Vendor agree. Any extension of this Contract to the aforementioned Other Government Entities must be on the same prices, terms, and conditions as those offered and agreed to in this Contract, provided that such extension is in compliance with the applicable laws, rules, and ordinances of the Other Government Entity. A refusal to extend this Contract to the Other Government Entities shall not impact or influence the award of this Contract in any manner.

39. CONFLICT OF INTEREST: Vendor, its officers or members or employees, shall not presently have or acquire an interest, direct or indirect, which would conflict with or compromise the performance of its obligations hereunder. Vendor shall periodically inquire of its officers, members and employees to ensure that a conflict of interest does not arise. Any conflict of interest discovered shall be promptly presented in detail to the Agency.

40. REPORTS: Vendor shall provide the Agency and/or the Purchasing Division with the following reports identified by a checked box below:

☑ Such reports as the Agency and/or the Purchasing Division may request. Requested reports may include, but are not limited to, quantities purchased, agencies utilizing the contract, total contract expenditures by agency, etc.

☐ Quarterly reports detailing the total quantity of purchases in units and dollars, along with a listing of purchases by agency. Quarterly reports should be delivered to the Purchasing Division via email at purchasing.requisitions@wv.gov.

41. BACKGROUND CHECK: In accordance with W. Va. Code § 15-2D-3, the Director of the Division of Protective Services shall require any service provider whose employees are regularly employed on the grounds or in the buildings of the Capitol complex or who have access to sensitive or critical information to submit to a fingerprint-based state and federal background inquiry through the state repository. The service provider is responsible for any costs associated with the fingerprint-based state and federal background inquiry.

After the contract for such services has been approved, but before any such employees are permitted to be on the grounds or in the buildings of the Capitol complex or have access to sensitive or critical information, the service provider shall submit a list of all persons who will be physically present and working at the Capitol complex to the Director of the Division of Protective Services for purposes of verifying compliance with this provision. The State reserves the right to prohibit a service provider's employees from accessing sensitive or critical information or to be present at the Capitol complex based upon results addressed from a criminal background check.

Service providers should contact the West Virginia Division of Protective Services by phone at (304) 558-9911 for more information.

42. PREFERENCE FOR USE OF DOMESTIC STEEL PRODUCTS: Except when authorized by the Director of the Purchasing Division pursuant to W. Va. Code § 5A-3-56, no contractor may use or supply steel products for a State Contract Project other than those steel products made in the United States. A contractor who uses steel products in violation of this section may be subject to civil penalties pursuant to W. Va. Code § 5A-3-56. As used in this section:

a. "State Contract Project" means any erection or construction of, or any addition to, alteration of or other improvement to any building or structure, including, but not limited to, roads or highways, or the installation of any heating or cooling or ventilating plants or other equipment, or the supply of and materials for such projects, pursuant to a contract with the State of West Virginia for which bids were solicited on or after June 6, 2001.

b. "Steel Products" means products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated or otherwise similarly processed, or processed by a combination of two or more or such operations, from steel made by the open heath, basic oxygen, electric furnace, Bessemer or other steel making process. The Purchasing Division Director may, in writing, authorize the use of foreign steel products if:

c. The cost for each contract item used does not exceed one tenth of one percent (.1%) of the total contract cost or two thousand five hundred dollars ($2,500.00), whichever is greater. For the purposes of this section, the cost is the value of the steel product as delivered to the project; or

d. The Director of the Purchasing Division determines that specified steel materials are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet contract requirements.

43. PREFERENCE FOR USE OF DOMESTIC ALUMINUM, GLASS, AND STEEL: In Accordance with W. Va. Code § 5-19-1 et seq., and W. Va. CSR § 148-10-1 et seq., for every contract or subcontract, subject to the limitations contained herein, for the construction, reconstruction, alteration, repair, improvement or maintenance of public works or for the purchase of any item of machinery or equipment to be used at sites of public works, only domestic aluminum, glass or steel products shall be supplied unless the spending officer determines, in writing, after the receipt of offers or bids, (1) that the cost of domestic aluminum, glass or steel products is unreasonable or inconsistent with the public interest of the State of West Virginia, (2) that domestic aluminum, glass or steel products are not produced in sufficient quantities to meet the contract requirements, or (3) the available domestic aluminum, glass, or steel do not meet the contract specifications. This provision only applies to public works contracts awarded in an amount more than fifty thousand dollars ($50,000) or public works contracts that require more than ten thousand pounds of steel products.

The cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than twenty percent (20%) of the bid or offered price for foreign made aluminum, glass, or steel products. If the domestic aluminum, glass or steel products to be supplied or produced in a

"substantial labor surplus area", as defined by the United States Department of Labor, the cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than thirty percent (30%) of the bid or offered price for foreign made aluminum, glass, or steel products. This preference shall be applied to an item of machinery or equipment, as indicated above, when the item is a single unit of equipment or machinery manufactured primarily of aluminum, glass or steel, is part of a public works contract and has the sole purpose or of being a permanent part of a single public works project. This provision does not apply to equipment or machinery purchased by a spending unit for use by that spending unit and not as part of a single public works project.

All bids and offers including domestic aluminum, glass or steel products that exceed bid or offer prices including foreign aluminum, glass or steel products after application of the preferences provided in this provision may be reduced to a price equal to or lower than the lowest bid or offer price for foreign aluminum, glass or steel products plus the applicable preference. If the reduced bid or offer prices are made in writing and supersede the prior bid or offer prices, all bids or offers, including the reduced bid or offer prices, will be reevaluated in accordance with this rule.

44. INTERESTED PARTY SUPPLEMENTAL DISCLOSURE: W. Va. Code § 6D-1-2 requires that for contracts with an actual or estimated value of at least $1 million, the vendor must submit to the Agency a supplemental disclosure of interested parties reflecting any new or differing interested parties to the contract, which were not included in the original pre-award interested party disclosure, within 30 days following the completion or termination of the contract. A copy of that form is included with this solicitation or can be obtained from the WV Ethics Commission. This requirement does not apply to publicly traded companies listed on a national or international stock exchange. A more detailed definition of interested parties can be obtained from the form referenced above.

45. PROHIBITION AGAINST USED OR REFURBISHED: Unless expressly permitted in the solicitation published by the State, Vendor must provide new, unused commodities, and is prohibited from supplying used or refurbished commodities, in fulfilling its responsibilities under this Contract.

ADDITIONAL TERMS AND CONDITIONS
(Architectural and Engineering Contracts Only)

1. PLAN AND DRAWING DISTRIBUTION: All plans and drawings must be completed and available for distribution at least five business days prior to a scheduled pre-bid meeting for the construction or other work related to the plans and drawings.

2. PROJECT ADDENDA REQUIREMENTS: The Architect/Engineer and/or Agency shall be required to abide by the following schedule in issuing construction project addenda. The Architect/Engineer shall prepare any addendum materials for which it is responsible, and a list of all vendors that have obtained drawings and specifications for the project. The Architect/Engineer shall then send a copy of the addendum materials and the list of vendors to the State Agency for which the contract is issued to allow the Agency to make any necessary modifications. The addendum and list shall then be forwarded to the Purchasing Division buyer by the Agency. The Purchasing Division buyer shall send the addendum to all interested vendors and, if necessary, extend the bid opening date. Any addendum should be received by the Purchasing Division at least fourteen (14) days prior to the bid opening date.

3. PRE-BID MEETING RESPONSIBILITIES: The Architect/Engineer shall be available to attend any pre-bid meeting for the construction or other work resulting from the plans, drawings, or specifications prepared by the Architect/Engineer.

4. AIA DOCUMENTS: All construction contracts that will be completed in conjunction with architectural services procured under Chapter 5G of the West Virginia Code will be governed by the attached AIA documents, as amended by the Supplementary Conditions for the State of West Virginia, in addition to the terms and conditions contained herein. The terms and conditions of this document shall prevail over anything contained in the AIA Documents or the Supplementary Conditions.

5. GREEN BUILDINGS MINIMUM ENERGY STANDARDS: In accordance with West Virginia Code § 22-29-4, all new building construction projects of public agencies that have not entered the schematic design phase prior to July 1, 2012, or any building construction project receiving state grant funds and appropriations, including public schools, that have not entered the schematic design phase prior to July1, 2012, shall be designed and constructed complying with the ICC International Energy Conservation Code, adopted by the State Fire Commission, and the ANSI/ASHRAE/IESNA Standard 90.1-2007: Provided, That if any construction project has a commitment of federal funds to pay for a portion of such project, this provision shall only apply to the extent such standards are consistent with the federal standards.

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

Westleigh Harper, Owner
(Name, Title)

WESTLEIGH HARPER, OWNER
(Printed Name and Title)

812 Huron Road E, Suite 301, Cleveland, OH 44115
(Address)

216.600.9028
(Phone Number) / (Fax Number)

wharper@hortonharper.com
(email address)

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

Maker Office, LLC DBA: Horton Harper Architects, LTD
(Company)

Westleigh Harper, Owner
(Authorized Signature) (Representative Name, Title)

WESTLEIGH HARPER, OWNER
(Printed Name and Title of Authorized Representative)

4.14.2020
(Date)

216.600.9028
(Phone Number) (Fax Number)

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.:

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:
(Check the box next to each addendum received)

- [X] Addendum No. 1
- [ ] Addendum No. 2
- [ ] Addendum No. 3
- [ ] Addendum No. 4
- [ ] Addendum No. 5
- [ ] Addendum No. 6
- [ ] Addendum No. 7
- [ ] Addendum No. 8
- [ ] Addendum No. 9
- [ ] Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Maker Office, LLC DBA: Horton Harper Architects, LTD
Company

Authorized Signature

4.14.2020
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

West Virginia Ethics Commission

Disclosure of Interested Parties to Contracts

Pursuant to *W. Va. Code* § 6D-1-2, a state agency may not enter into a contract, or a series of related contracts, that has/have an actual or estimated value of $1 million or more until the business entity submits to the contracting state agency a Disclosure of Interested Parties to the applicable contract. In addition, the business entity awarded a contract is obligated to submit a supplemental Disclosure of Interested Parties reflecting any new or differing interested parties to the contract within 30 days following the completion or termination of the applicable contract.

For purposes of complying with these requirements, the following definitions apply:

"Business entity" means any entity recognized by law through which business is conducted, including a sole proprietorship, partnership or corporation, but does not include publicly traded companies listed on a national or international stock exchange.

"Interested party" or *"Interested parties"* means:

(1) A business entity performing work or service pursuant to, or in furtherance of, the applicable contract, including specifically sub-contractors;
(2) the person(s) who have an ownership interest equal to or greater than 25% in the business entity performing work or service pursuant to, or in furtherance of, the applicable contract. (This subdivision does not apply to a publicly traded company); and
(3) the person or business entity, if any, that served as a compensated broker or intermediary to actively facilitate the applicable contract or negotiated the terms of the applicable contract with the state agency. (This subdivision does not apply to persons or business entities performing legal services related to the negotiation or drafting of the applicable contract.)

"State agency" means a board, commission, office, department or other agency in the executive, judicial or legislative branch of state government, including publicly funded institutions of higher education: Provided, that for purposes of W. Va. Code § 6D-1-2, the West Virginia Investment Management Board shall not be deemed a state agency nor subject to the requirements of that provision.

The contracting business entity must complete this form and submit it to the contracting state agency prior to contract award and to complete another form within 30 days of contract completion or termination.

This form was created by the State of West Virginia Ethics Commission, 210 Brooks Street, Suite 300, Charleston, WV 25301-1804. Telephone: (304)558-0664; fax: (304)558-2169; e-mail: ethics@wv.gov; website: www.ethics.wv.gov.

West Virginia Ethics Commission

Disclosure of Interested Parties to Contracts

(Required by *W. Va. Code* § 6D-1-2)

Name of Contracting Business Entity: Maker Office, LLC **Address:** 812 Huron Road East, #301 Cleveland, OH 44115

DBA: Horton Harper Architects, LTD

Name of Authorized Agent: Westleigh Harper **Address:** 812 Huron Road East, #301 Cleveland, OH 44115

Contract Number: 216.600.9028 **Contract Description:** Architecture & Engineering Services

Governmental agency awarding contract: WV Department of Natural Resources

☐ **Check here if this is a Supplemental Disclosure**

List the Names of Interested Parties to the contract which are known or reasonably anticipated by the contracting business entity for each category below *(attach additional pages if necessary)*:

1. **Subcontractors or other entities performing work or service under the Contract**
   ☑ Check here if none, otherwise list entity/individual names below.

2. **Any person or entity who owns 25% or more of contracting entity (not applicable to publicly traded entities)**
   ☐ Check here if none, otherwise list entity/individual names below.
   50% Westleigh Harper
   50% Michael Horton

3. **Any person or entity that facilitated, or negotiated the terms of, the applicable contract (excluding legal services related to the negotiation or drafting of the applicable contract)**
   ☑ Check here if none, otherwise list entity/individual names below.

Signature: _____ Date Signed: 4.13.2020

Notary Verification

State of Ohio, County of Lake:

I, Westleigh Harper, the authorized agent of the contracting business entity listed above, being duly sworn, acknowledge that the Disclosure herein is being made under oath and under the penalty of perjury.

Taken, sworn to and subscribed before me this 13th day of April 2020.

Valeri Varga
Notary Public's Signature

To be completed by State Agency:

Date Received by State Agency: _____

Date submitted to Ethics Commission: _____

Governmental agency submitting Disclosure: _____

Revised June 8, 2018

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

CONSTRUCTION CONTRACTS: Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

ALL CONTRACTS: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (*W. Va. Code* §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Maker Office, LLC DBA: Horton Harper Architects LTD

Authorized Signature: _____ Date: 4.13.20

State of Ohio

County of Lake, to-wit:

Taken, subscribed, and sworn to before me this 13th day of April, 2020

My Commission expires January 25, 2025.

AFFIX SEAL HERE

NOTARY PUBLIC Valerie Vargo


Springfield Hatchery D-B (incubation system)


Baker Fish Hatchery Design (circular tanks)


Walla Walla Hatchery D-B (construction)


Melvin R. Sampson Hatchery Building D-B (construction)

Palestine Hatchery & Mussel Rearing Facility

Expression of Interest

SUBMITTED ON APRIL 14, 2020

Solicitation CEOI 0310 DNR2000000006

SUBMITTED TO:

STATE OF WEST VIRGINIA — MONTANI SEMPER LIBERI

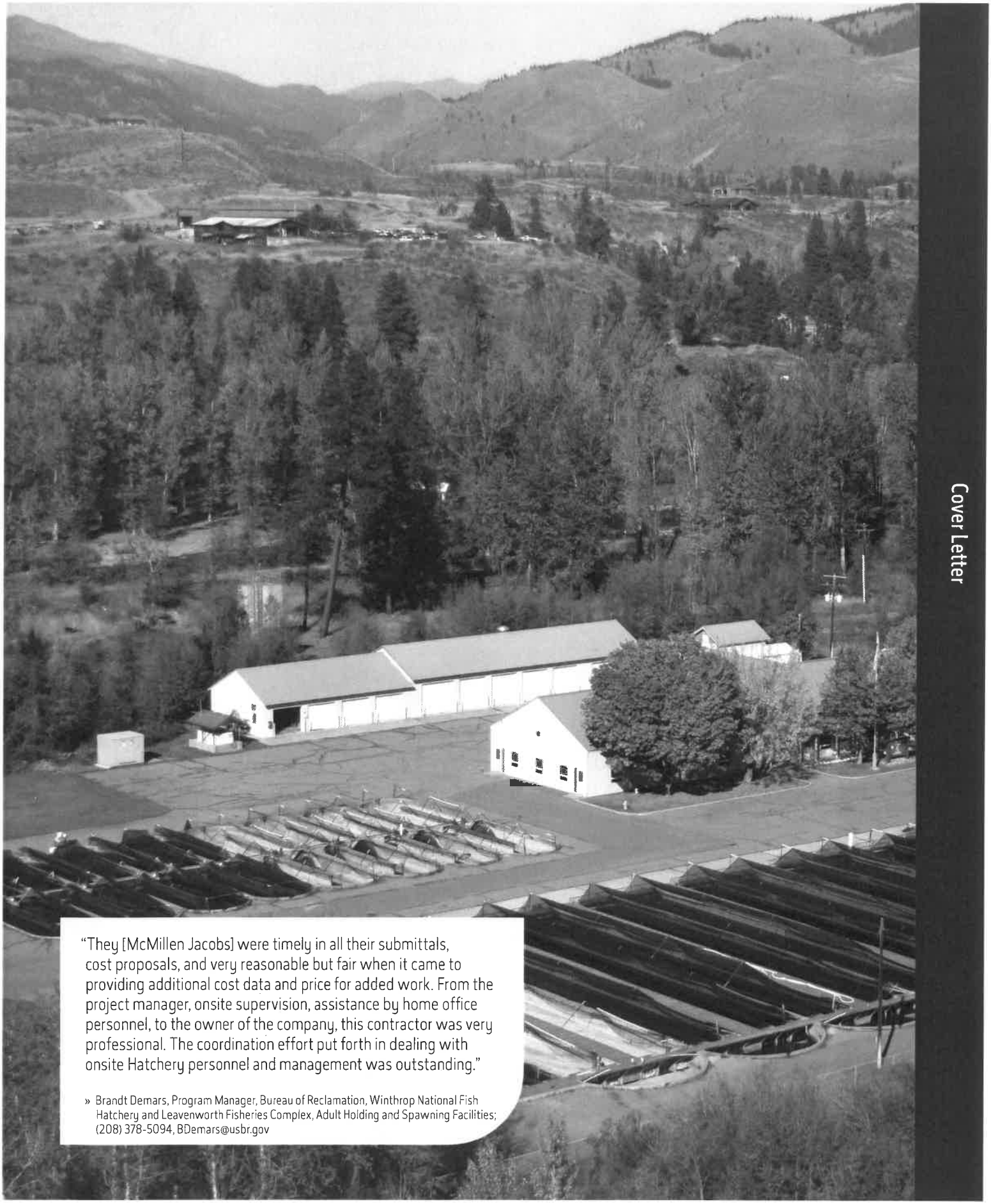
McMILLEN JACOBS ASSOCIATES

HORTON HARPER ARCHITECTS


Baker Fish Hatchery Design (spawning beaches and hatchery building)


Hotchkiss Hatchery D-B (raceway ponds)

TABLE OF CONTENTS



"They [McMillen Jacobs] were timely in all their submittals, cost proposals, and very reasonable but fair when it came to providing additional cost data and price for added work. From the project manager, onsite supervision, assistance by home office personnel, to the owner of the company, this contractor was very professional. The coordination effort put forth in dealing with onsite Hatchery personnel and management was outstanding."

» Brandt Demars, Program Manager, Bureau of Reclamation, Winthrop National Fish Hatchery and Leavenworth Fisheries Complex, Adult Holding and Spawning Facilities; (208) 378-5094, BDemars@usbr.gov

McMILLEN JACOBS ASSOCIATES

HORTON HARPER ARCHITECTS

April 14, 2020

HAND DELIVERED

W. Virginia Division of Natural Resources (DNR)
Guy Nisbet, Purchasing Division
(304)558-2596
Guy.L.Nisbet@Wv.gov

Subject: Proposal for McMillen Jacobs Associates in association with Horton Harper Architects Solicitation CEOI 0310 DNR2000000006; Palestine Hatchery Design

Dear Mr. Nisbet:

McMillen LLC, dba McMillen Jacobs Associates is pleased to submit our proposal for the Palestine Hatchery Project. We are confident that McMillen Jacobs and Horton Harper Architects represents the best team to meet the needs of this project. Our team provides the following benefits:

- Local presence along with industry leading aquaculture technology expertise.
- Because our team is experience in early planning, design, construction, as well as operations and maintenance, we offer a unique perspective in our designs.
- We are currently or have recently completed hatchery facilities with elements relevant to the Palestine Facility including:
  - $14.7 M Springfield Hatchery (Design, Construction, and Startup)
  - $20.8 M Melvin R. Sampson Hatchery (Design, Construction, and Startup)
  - $3.2 M Spokane Tribal Hatchery (Design, Construction, and Startup)
  - $19.6 M Crystal Springs Hatchery (Design and Permitting)
  - $21.2M Walla Walla Hatchery (Design, Construction, and Startup)
- McMillen Jacobs is currently working on the Swan Cove Restoration Project in Virginia using experts in a variety of office from the east coast to the west coast. Therefore, we are able to integrate a number of offices successfully.
- Key Team Members bring an average of over 20 years of experience in the industry.
- Customer service is our priority—80% of our work is from repeat clients.

We are eager to combine our extensive relevant knowledge and experience with the expertise of hatchery design to deliver a successful project to the State of West Virginia. If you have additional questions, please feel free to call or email us at maramcmillen@mcmjac.com or mortmcmillen@mcmjac.com, or call at (208) 869-4007 (Mara) (208) 830-1394 (Mort)

Sincerely,

Mara McMillen

Mara McMillen
President of McMillen LLC,
dba McMillen Jacobs Associates
maramcmillen@mcmjac.com

Morton D. McMillen

Morton D. McMillen, PE
Executive VP of McMillen LLC,
dba McMillen Jacobs Associates
mortmcmillen@mcmjac.com

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.:
CEOI 0310 DNR2000000006

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:
(Check the box next to each addendum received)

[x]	Addendum No. 1	[ ]	Addendum No. 6
[ ]	Addendum No. 2	[ ]	Addendum No. 7
[ ]	Addendum No. 3	[ ]	Addendum No. 8
[ ]	Addendum No. 4	[ ]	Addendum No. 9
[ ]	Addendum No. 5	[ ]	Addendum No. 10

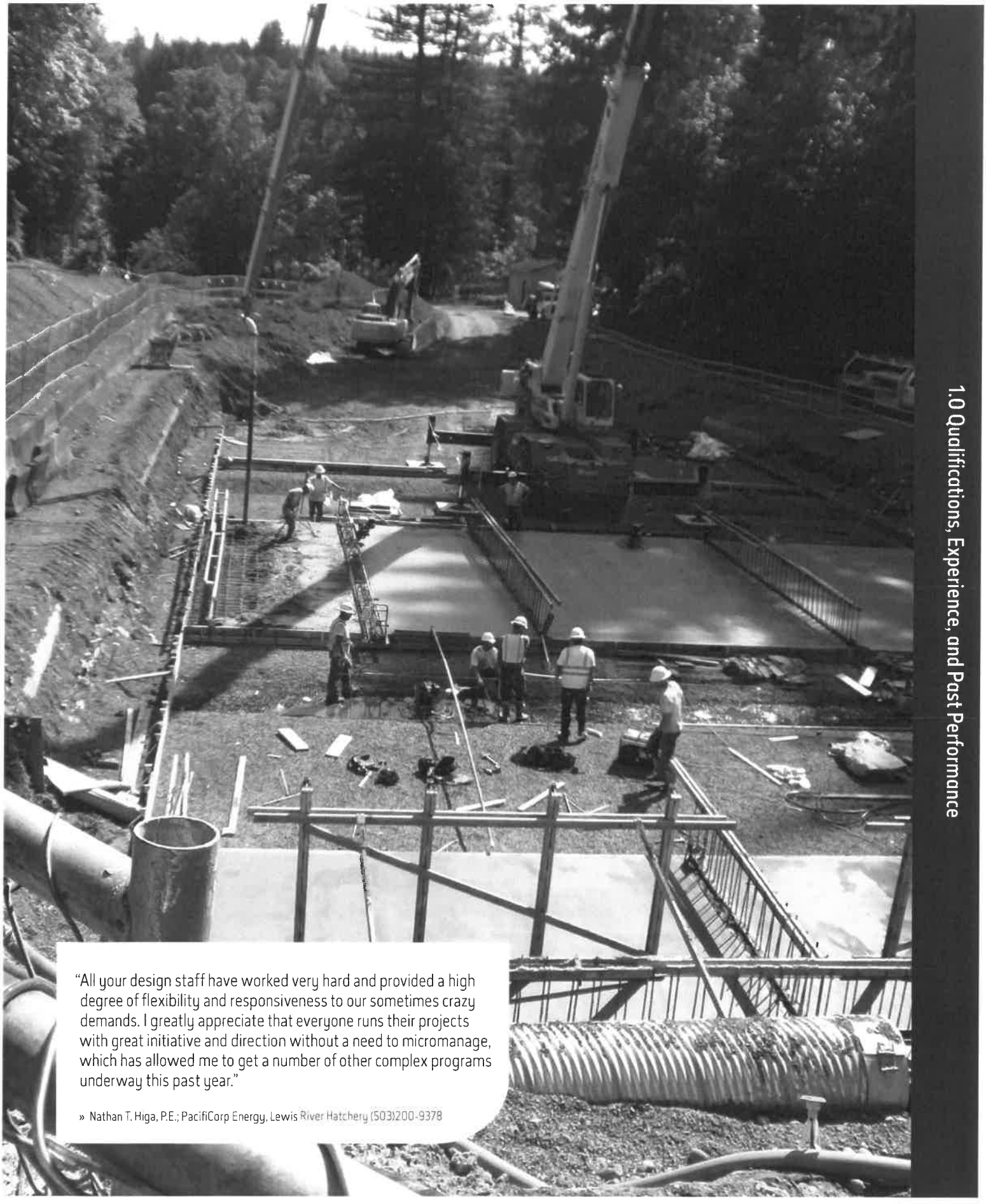
I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

McMillen LLC, dba McMillen Jacobs Associates
Company

Mara McMillen
Authorized Signature

4/14/20
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.
Revised 6/8/2012



"All your design staff have worked very hard and provided a high degree of flexibility and responsiveness to our sometimes crazy demands. I greatly appreciate that everyone runs their projects with great initiative and direction without a need to micromanage, which has allowed me to get a number of other complex programs underway this past year."

» Nathan T. Higa, P.E.; PacifiCorp Energy, Lewis River Hatchery (503)200-9378

1.0 Qualifications, Experience, & Past Performance

1.1 McMillen Jacobs Associates

McMillen Jacobs is a full-service environmental, engineering, and self-performing construction firm in the water resources, fisheries, heavy civil, and hydropower markets. Key personnel with McMillen Jacobs have built their entire careers in aquaculture, working on fish hatchery and production facilities—for cool, cold, and warm water species. Our management team averages over 25 years of experience providing planning, engineering, construction services, and operations support for aquaculture and fisheries projects. McMillen Jacobs has participated in either the new development or rehabilitation of over 70 hatchery facilities—many of which have similar elements to the Palestine Hatchery and Mussel Rearing Facility.

We have conducted habitat studies, taxonomic analyses, ecological studies, and various biological research studies of threatened, endangered, and sensitive fish species as well as non-listed species and stocks including but not limited to Bull Trout, Cutthroat Trout, Rainbow Trout (redband, steelhead), Largemouth Bass, Walleye, Perch, Sturgeon, as well as Chinook, Coho, Sockeye, and Chum salmon. Our key personnel have designed, constructed, and operated adult trapping, holding, spawning, and rearing facilities. This experience has also at times included planning and designing access roads, hatchery buildings, housing and influent/effluent treatment systems.

Our in-house expertise also includes the many components required for hatchery modernization and long-term operations strategies, including well and surface water supply systems, pumps, piping, chilling systems, production raceways, circular tanks, electrical power and controls systems, and support facilities. McMillen Jacobs maintains in-house capabilities in assessment of water sources and discharge requirements, indoor (tank) and outdoor (pond) culture environments as well as flow-through and Recirculation Aquaculture System (RAS) technology. Our extensive RAS experience includes mechanical filtration, biological filtration, ultraviolet (UV) and ozone disinfection, gas stabilization, lighting and temperature control for a variety of fish species in both warm and cold water culture conditions.

Proven Performance
Aquaculture Facility Experience

Our in-house expertise includes work on over 70 aquaculture facilities including:

- Well and surface water supply systems
- Pumps and piping
- Water treatment specialty filtration, degassing, oxygenation, and reuse systems (PRAS & RAS)
- Chilling systems and heat exchangers, temperature control, and energy recovery
- Production raceways
- Holding ponds
- Incubation facilities
- Diversion structures
- Intake gates with a variety of screening capabilities
- Circular tanks and partial/full recirculating aquaculture systems
- Electrical power and controls systems
- Support facilities such as offices, residence buildings, maintenance shops, etc.

While McMillen Jacobs will serve as the prime consultant responsible for the overall success of the project, we have also selected Horton Harper Architects to serve as the lead architect for the project. We are confident that together, we are the best choice to deliver the Palestine Hatchery and Mussel Rearing Facility.

1.2 Horton Harper Architects

Horton Harper Architects is located in Cleveland, Ohio—just 3 hours from the project site and are familiar with the conditions and environment surrounding this project. They provide cost-effective and efficient designs for a wide range of industrial, mixed-use, multi-family and public works projects. They have become specialists in developing

buildings that meet budget requirements, fill the desired function of the building, meet the technical requirements, and bring added benefits to owners with modern efficiencies with a collaborative design process. They are experienced with solving issues during the project such as zoning requirements, soil stability, sustainability guidelines to keep projects moving ahead and ultimately executed to meet client's timelines. As an added value, Horton Harper's construction division is able to verify accurate construction costs and offer constructability reviews during the design of the project. Their understanding of how drawings and specifications are utilized on the construction site directly impact the way they execute documents for ease-of-use and design critical assemblies.

With many of their projects being located in areas which have a high level of stakeholder review, often requiring navigation through a myriad of departmental approvals and presentations, Horton Harper's team is prepared to manage the Palestine Fish & Mussel Hatchery through the state and local approval process.

1.3 Staffing Plan

McMillen Jacobs has assembled a highly technical team of professionals with the specialized qualifications required to successfully execute this project. Our team members are registered professional engineers in several states and, through reciprocity, will be able to obtain licenses in West Virginia if necessary. Their specific credentials can be found in their respective bios provided on the following page. This section will explain the structure of our team, introduce our key team members, and establish the anticipated roles and responsibilities. Figure 1-1 presents McMillen Jacobs' proposed project team and identifies clear lines of communication and a path of resolution if needed.

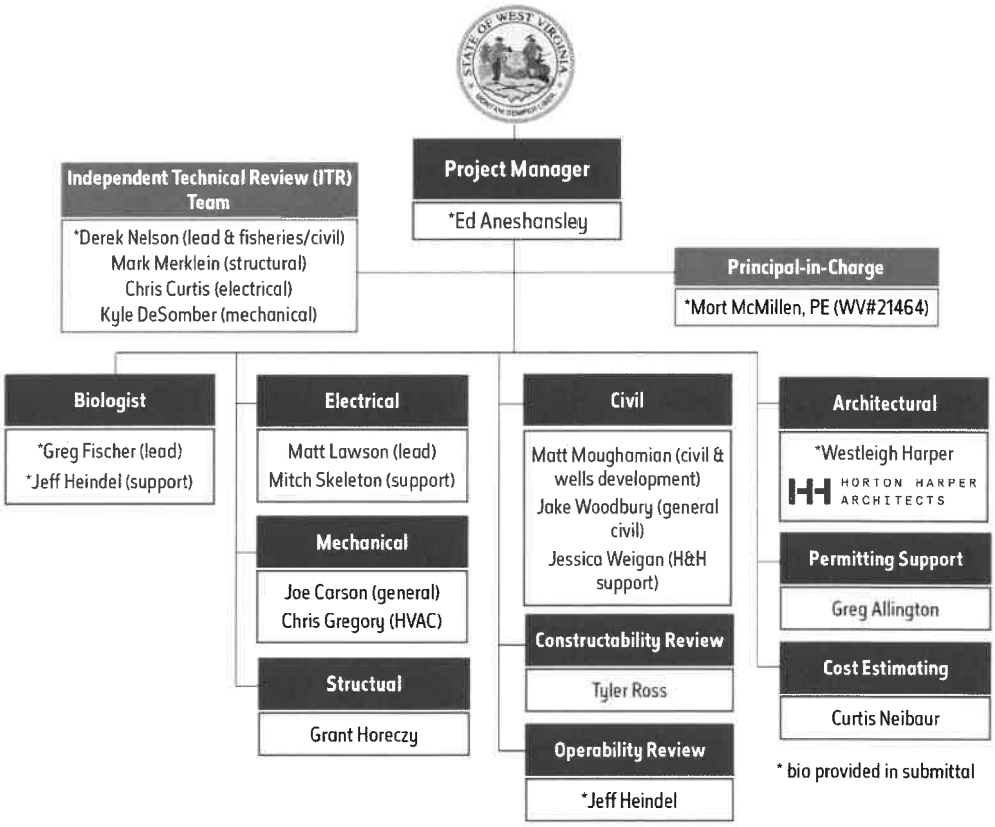


Figure 1-1 - Organizational Chart

The qualifications and experience of our key personnel below provides the evidence that this team is fully capable of completing the scope of work.

1.4 Key Team Member Qualifications

In this section we have provided a short introduction for each of the Key Personnel on our team. Our Key Personnel have contributed to the success of over 70 aquaculture projects in their careers which have been dedicated to fisheries and aquaculture. McMillen Jacobs brings a **unique perspective** because, as a team, our staff have not only planned and designed aquaculture systems, but they are industry leaders in developing innovative aquaculture technology the and hatchery techniques that have led to revolutionary change in the way we culture aquatic organisms today. Additional information is available upon request. In accordance with the instructions we received from the State of West Virginia DNR, we have provided the following for our Key Personnel:

- A list of degrees and/or registrations.
- A list of sample projects including a brief description*, the type of project, the location, and the project goals/objectives and how they were met.
- Client references with the name, email, and phone number.

**For more detail on these projects, see Section 1.6.*

Ed Aneshansley

Project Manager
Specialty: Recirculation Aquaculture

20 Years of Experience

Education:

- ✓ MPS, Agricultural and Biological Engineering, Cornell University
- ✓ BS, Natural Resources, University of Maine
- ✓ NY Sea Grant Scholar
- ✓ Thesis: (Walleye/RAS)

Professional Licenses

- ✓ PE: MA, WI
- ✓ PE Pending: WV, WA

Our Project Manager, Ed Aneshansley, has a biological engineering background that allows him to model and design complex metabolic processes while meeting specific operating and performance criteria for a wide variety of applications.

He has dedicated his 20+ year career to the advancement of Recirculation Aquaculture System (RAS) and Partial Reuse Aquaculture System (PRAS) technologies. He has accomplished this through education, research and commercial scale application of RAS technology throughout the U.S. and abroad. His project management scope includes bio programming, production modelling, product husbandry and management, system design, site development, construction support and supervision, start-up services, and aftermarket service and support. His construction services experience directly related to RAS gives him a unique set of qualifications.

Project Experience

- **USFWS Region 2; Leavenworth National Fish Hatchery*, WA – Senior Project Manager.** Provided PRAS design and mechanical for facility utilizing circular tank technology for Spring Chinook Salmon Smolt production. *(2020)*
- **Freshwater Institute, WV - Project Manager, Design Lead, Production Manager and Installation Supervisor.** Design-build for commercial-scale RAS production facility. *(2000)*
- **USFWS Region 3; Iron River National Fish Hatchery, WI - Senior Project Manager**. Aquaculture design and mechanical lead for a surface water supply treatment system and brook trout breeding program design. *(2020)*
- **Ideal Fish Inc.; Private RAS, CT – Owner's Rep, Senior Project Manager**. Design and construction support with start-up and commissioning for a 175-MT BAP-certified commercial warm/brackish water European Seabass production facility. *(2019)*
- **University of Rhode Island, Kingston, RI - Senior Project Manager.** RAS design and mechanical lead for the conversion of flow-through trout and salmon research facility to RAS. Also provided installation supervision, start-up, training, and aftermarket support. *(2013)*
- **Bridgeport School of Aquaculture, CT - Senior Project Manager.** RAS design and mechanical lead for an aquaculture teaching and demonstration wing on the campus. Contained 20 independent RAS systems, each having operational flexibility of fresh/salt-water, warm/cold-water. Also provided construction supervision. *(2010)*
- **USDA; National Cool and Coldwater Aquaculture Demonstration Facility, ME - Project Manager.** Designed RAS equipment and supervised manufacturer installation of Atlantic Salmon RAS genetics and breeding facility. *(2008)*
- **USFWS; Klamath Falls NFH Sucker Rearing Facility, OR – Project Manager.** Alternatives Analysis to develop a facility to produce 60,000 releasable (2-yr-old) suckers per year. *(2019 – 2020)*

References

- Brian J. Vinci, Director, Freshwater Institute. Shepherdstown, West Virginia. Mobile: 240-217-1963, bvinci@conservationfund.org
- Eric Pedersen, President and CEO, Ideal Fish. Waterbury, Connecticut. Mobile: 203-598-8364, e.pedersen@idealfish.com

Mort McMillen, PE

Principal-in-Charge
Specialty: Planning, Design, and Construction of Hatchery Facilities

33 Years of Experience

Education:

- ✓ MS, Civil Engineering

Professional Licenses

- ✓ **PE, West Virginia** [redacted]
- ✓ PE: AK, AZ, CA, CO, HI, ID, IN, MD, NE, NV, NY, OH, OR, PA, SD, WA, WY
- ✓ P.Eng.: British Columbia
- ✓ NCEES

Mort McMillen is the founder of McMillen LLC, which is now the McMillen Jacobs' water resources division and is a Registered Professional Engineer in West Virginia with over 33 years of experience. Mr. McMillen has participated in 83 fish hatchery projects and led the feasibility studies, master planning, design development, presentation submittals and coordination with agencies, and overall execution. Mr. McMillen has been instrumental in the development of new or renovations of fish hatchery facilities which have included adult trapping, holding, spawning, and rearing facilities. Elements have included raceways, circular tanks, access roads, water treatment/re-use (PRAS) systems, incubators, site civil preparations, housing, and administrative buildings. He has worked extensively with Indian Tribes, BPA, USFWS, local stakeholders, and agencies to navigate the complex issues involved with fish hatcheries.

Project Experience

- **IDFG; Springfield Fish Hatchery*, Springfield, ID - Project Manager.** Design and construction of a new hatchery to achieve the production goal of up to 1.0M sockeye smolts for release to three lakes. Mr. McMillen worked collaboratively with IDFG to execute our "Design-to-Budget" approach and was actively involved during the planning, design-build, and start-up and commissioning phases helping to ensure the project was finished on time and within budget. The project included the construction of a 17,400-square-foot hatchery building, 3,400-square-foot admin office, 22 new concrete raceways (95 feet long), 22-foot tall head box structure, development of the water supply and drainpipe lines with 3 new potable wells, rehab of 3 existing wells, and nearly 1 mile of piping. *($14.6M; 2011 – 2013)*
- **Puget Sound Energy; Baker Fish Hatchery, WA – Project Manager.** This new hatchery facility included all hydraulic, civil, structural, mechanical, geotechnical, and electrical/instrumentation design. As part of a subsequent project, Mr. McMillen led the design of a new spring collection system designed to collect the hatchery water supply while providing protection from landslide through the use of underground collector pipes and conveyance systems. Starting with a detailed hydraulic analysis, McMillen Jacobs completed the site layout and facility design including modifications to the intake structure, new raw water pipeline, flow metering, headtank and Lakos sand separator building, hatchery building, outdoor rearing raceways, adult holding and spawning, storage building, clarifier, and INH chlorine / dechlorination treatment facility. *($2.5M Design; 10/2007 – 09/2010)*
- **Klamath River Renewal Corp; Fall Creek Hatchery – Owner's Engineer.** The Klamath River Renewal Project includes removal of four dams along the Klamath River. As part of the overall Project, the existing Iron Gate Fish Hatchery (IGFH) production will be moved to the Fall Creek Hatchery site. The existing hatchery site will be modified to upgrade existing facilities and construct new facilities for Coho and Fall Run Chinook Salmon production. *(2019 – Ongoing)*
- Other examples include: Yakama Nation and BPA-Melvin R. Sampson Coho Hatchery Design-Build Project*, CTUIR & BPA-Walla Walla Hatchery Design-Build*, Spokane Tribal Hatchery*, USFWS-Carson, Hotchkiss, Leavenworth*, Quinault, Lyons Ferry Tanks, & Magic Valley Raceway Mods Fish Hatcheries, Shoshone Bannock Tribe-Crystal Springs Fish Hatchery*, PacifiCorp-Speelyai modifications, and WDFW-Naselle Renovations.

References

- Jeanne McFall, Principal Engineer (Former IDFG); RivHab, PLLC; 208.401-6129; jeanne@rivhab.net re: Springfield Hatchery D-B
- Dave Jenness PMP; Sr. Project Manager Puget Sound Energy; (425) 462-3932; Dave.jenness@pse.com
- John Duhamel, Former CEO and Project Manager, Copper Valley Electric Association, Allison Creek Hydroelectric Design-Build Project; duhamel@cvalaska.net

Derek Nelson

QA/QC Lead
Specialty: Civil/ Biology/PM & QA/QC Process

25 Years of Experience

Education:

- ✓ BS, Civil Engineering
- ✓ BS, Biology, Fisheries

Professional Licenses

- ✓ PE: AK, ID, IA, MI, NV, ND, OR, PA, UT, WA, WI
- ✓ P.Eng.: British Colombia, Saskatchewan
- ✓ NCEES

Derek Nelson specializes in general heavy civil, fisheries, wildlife, and ecology. Experience includes biological field work and analysis, 6 years in heavy civil construction, designs for over 40 projects at hatchery facilities, and developing criteria for the handling and processing of various cold and cool freshwater species.

His diverse experience and depth of technical knowledge provides a unique perspective to provide oversight and QA/QC on the modernization and upgrade of Hatchery projects. He has performed existing infrastructure evaluation, multi-year facility capital improvement plans, alternatives analysis through final design, and construction support.

He has led multi-discipline teams to develop the design and construction support for entire new hatchery facilities as well as renovations to existing.

Project Experience

- **Bureau of Reclamation; Leavenworth National Fish Hatchery*, Pilot Circular Tank and Solids Handling Project, WA - Project Manager.** Derek led the multi-discipline team through 30%, 60%, 90% and final signed stamped construction documents on a tight schedule to meet capital funding requirements. Elements included the PRAS systems, effluent water treatment and solids capture systems, a pre-engineered metal building design, electrical systems including backup generation, SCADA, and utility power upgrades.
- **BPA/CTUIR; Walla Walla Hatchery* EPC Project, OR - Project Manager and Design Lead.** Mr. Nelson led full design, support the EIS process, prepare the Biological Assessment, obtain necessary permits, and provide geotechnical support. His team is currently performing construction and will lead the commissioning, one-year of technical support.
- **Spokane Tribe of Indians; Lake Roosevelt White Sturgeon Conservation Hatchery, WA – Project Engineer.** The project required a study to determine the infrastructure necessary to support the Upper Columbia White Sturgeon Conservation Aquaculture Program. Evaluated 7 hatcheries. Mr. Nelson provided engineering, conceptual layouts, and document preparation. In the D-B phase* he managed the design of additional rearing space with evaluation of utilizing second pass water through a pumped system to provide flow to circular tanks.
- **USFWS; Sawtooth Hatchery Well Project, ID – Site Civil Design / Project Manager.** Design provided an increased reliable water supply for fish rearing and incubation and adult holding. Evaluation and performance testing of 5 existing production wells and establishing 2 new production wells and associated piping. Mr. Nelson managed the design for the design-build project. Mr. Nelson provided the piping, degassing, and site civil design while providing oversight on the well development, electrical, and structural components of the project. He provided coordination with construction to ensure the design intent was met while overcoming unforeseen conditions.
- **USFWS; Lyons Ferry Circular Tank Project and Divider Wall Project, WA – Project Manager.** Provided 8 circular tanks to maintain separation from different stocks of steelhead. Design included hydraulic analysis to ensure proper flows could be achieved to the tanks, structural design of the cover and foundations, mechanical design of the tanks, pipe routing, and water controls, along with heavy civil to provide excavation and grading to provide proper storm drainage at the site. Mr. Nelson managed civil, mechanical, electrical, and structural disciplines.
- **Shoshone-Bannock Tribes; Crystal Springs Hatchery*, Springfield, ID – Design Manager**. Mr. Nelson was the engineer-of-record. The project involved a new hatchery facility for up to 1 million spring Chinook smolts and remote acclimation and adult fish trap.
- **Kalispel Tribe of Indians; Kalispel Hatchery D-B Modifications, WA – Project Manager.** Mr. Nelson managed hatchery upgrades; HMP, and surface water pump station upgrades. The objective is converting the existing warm water bass hatchery to a cold-water hatchery capable of rearing and incubating a triploid Rainbow Trout stock for tribal harvest opportunities. Included 2 new groundwater wells with additional piping to allow re-use of production water. Effluent piping was routed and new circular tanks incubators, and early rearing troughs were developed.
- **Saskatchewan Wildlife Assets Management; Fort Qu'Appelle Fish Culture Station Engineering Study, Saskatchewan – Engineering Lead & Project Manager.** Developed infrastructure alternatives for modernization and expansion of a 100-year-old multi-species fish hatchery. Alternatives suggested for modernization included iron filtration and management technologies, water reuse, expanded captive broodstock holding facilities, energy efficiency upgrades, monitoring and alarm system upgrades, and de-velopment of a new outdoor ponds system. Developed conceptual layouts and water distribution piping design and cost estimates.

References

- Chris Starr, USFWS LSRCP Project Coordinator, (208) 378 5329; chris_starr@fws.gov
- Brad Senatra, COR, US Fish & Wildlife Service, Region 1, 7 & 8 Division of Engineering; (503) 231-2089; brad_senatra@fws.gov
- David Child, Project Manager, Leavenworth Fisheries Complex, Columbia-Pacific Northwest, Interior Region 9, Bureau of Reclamation, Columbia-Cascades Area Office, Technical Projects Group; dchild@usbr.gov; (509) 573-8045

Greg Fischer

Biologist

Specialty: Aquaculture Facilities

26 Years of Experience

Education:

- ✓ BS, Fisheries & Wildlife Management

Professional Licenses

- ✓ American Fisheries Society Biologist

Mr. Fischer has 26 years of experience with more than 20 different species of warm, cool, and cold-water fish species and their biological needs. He delivers expert, hands-on advice regarding aquaculture and fish hatchery biological design with experience in all aspects of hatchery operations from design through construction to daily operation. He is widely recognized as an expert in new technologies such as Recirculating Aquaculture Systems (RAS) and related equipment and operation. He has personally been involved with the design and construction of over 15 fish hatchery or aquaculture facilities in North America.

Project Experience

- **State of Georgia, Go Fish Georgia Center, GA.** Hatchery production and visitor center exhibits which included a variety of warmwater and cool water fish species including largemouth bass, smallmouth bass, Sewaunee bass, blackbass, lake sturgeon, American shad and several species of forage fish. Included systems for broodstock, incubation, production, indoor tanks and outdoor ponds. Provided biological information and assisted with bio programming and review of facility designs.
- **Fort Qu'Appelle Hatchery Engineering Study, Saskatchewan.** Governmental walleye production facility for conservation stocking. Included egg incubation systems, water supply, facility layout, outdoor ponds and bio programming to provide yearly cohorts of walleye for stocking program. Provided biological information and oversite to project engineers and designers.
- **Little Traverse Bay Band of Odawa Indians; Tribal Fish Hatchery and Research Center, MI.** State of the art conservation fish rearing and research facility capable of rearing cool and cold-water fish species such as brook trout, lake trout, lake herring, whitefish, walleye, and lake sturgeon. System includes outdoor ponds, flow through tanks and recirculation aquaculture systems with multiple monitoring and water temperature control systems. Provided biological information and oversight for design and assisted with startup procedures and training.
- **Lac Vieux Desert Band of Lake Superior Chippewa, Tribal Fish Hatchery, MI.** Tribal fish hatchery for rearing of cool water fish such as walleye including incubation systems, hatching collection tanks, and outdoor ponds. Includes heated water systems, bell jar incubation systems, and custom tank setups. Provided biological information, equipment specifications and providers, design layout and startup oversite and training.
- **University of Wisconsin, Stevens Point Northern Aquaculture Demonstration Facility, WI.** Fisheries/Aquaculture research, training, and demonstration facility rearing a variety of warm, cool, and cold-water fish species including walleye, yellow perch, white sucker, arctic charr, atlantic salmon, lake sturgeon, lake trout, rainbow trout, sauger, saugeye, lake herring, spotfin shiner, etc. Using various rearing systems such as Recirculating Aquaculture Systems (RAS) Partial Recirculating Aquaculture Systems (PRAS), Flow -Through tanks, Larval Rearing systems, Outdoor ponds, and Raceways. Provided biological and construction oversight for design and building.

References

- Kristopher Dey, Manager, Little Traverse Bay Band Tribal Fish Hatchery and Aquatic Research Facility 231-373-0576 kdey@ltbbodawa-nsn.gov
- Evelyn Ravindren, Natural Resources Program Director, Keweenaw Bay Band of Lake Superior Chippewa, MI 906-524-5757 eravindran@kbic-nsn.gov
- Mark Schmitz, Director of Aquatic Research, Concordia University, WI 920-980-9560 mark.schmitz@uwc.edu

Jeff Heindel

Biologist

Specialty: Bio programming & Operations & Maintenance of Hatcheries

Jeff Heindel has more than 28 years of experience working at all levels of hatchery and fisheries operations. In addition to a working knowledge of fisheries engineering, Due to his 25 years of work for the Idaho Fish & Game, he brings a unique perspective from managing and operating fish hatchery facilities. This included roles in fish culture, hatchery management, operations management, administration and project management, fisheries biology, facility and program planning, review, and development. Mr. Heindel's experience with McMillen Jacobs in hatchery design includes work on 12 hatchery projects with specific design elements common to all hatchery program planning including: water quality investigations and water supply, land-based aquaculture facility rearing methods, brood

- **American Fisheries Society, Fish Culture Section (FCS), Fish, Mussel, & Bi-Valve Culture Programs, North America - Secretary-Treasurer.** While employed with McMillen Jacobs Mr. Heindel represented FCS and developed, hosted, and co-instructed an international webinar on the design of aquaculture systems for fish, mussel, and bi-valve culture programs. (American Fisheries Society Webinar Series – Hatchery Design in Aquaculture, January 31, 2019; https://fisheries.org/events/hatchery-design-in-aquaculture/) *(2019)*
- **Monterey County Water Resources Agency (MCWRA); Interlake Tunnel and San Antonio Spillway Modification, Salinas, CA – Fisheries Biologist.** Mr. Heindel contributed to an alternative's analysis for the tunnel component by providing a biological and life-history overview of non-native White Bass (Morone chrysops) in relation to screening

28 Years of Experience

Education:

- ✓ BS, Social Science

collection, larval feeding, rearing phases, feed development and initiation, as well as bio programming and biosecurity measures.

He brings significant knowledge of mussels, mollusks and snails (Mollusca), and invertebrate propagation methods and has considerable experience in the culture of cold-, cool-, and warm-water fish species in extensive, intensive, and laboratory aquaculture settings. Warm-water aquaculture experience includes multiple species from the following families: Centrarchidae; Cobitidae; Cyprinidae; Ictaluridae; Poeciliidae. In addition to production-scale aquaculture experience, Mr. Heindel's experience with warm-water fish species includes laboratory design and operation as well as Fish Health sampling and quarantine of cultured fish, snails and invertebrates.

Project Experience

- **American Fisheries Society, Fish Culture Section (FCS), Mussel Propagation, North America - Current President-Elect.** While employed with McMillen Jacobs and representing the American Fisheries Society FCS as President-Elect, Mr. Heindel is collaborating with state and federal agencies and experts in the propagation and recovery of both native and non-native mussels in both monoculture and polyculture aquaculture settings. Research is ongoing in an attempt to develop refined aquaculture techniques for both native and non-native mussels and aquatic invertebrates. *(Current)*

alternatives and a review of published literature on White Bass ecology and fisheries management. *(2019)*

- **Idaho Department of Fish and Game, State-wide Fish Hatchery Program Coordinator, ID.** For 8 years, Mr. Heindel served as a senior-level Hatcheries Supervisor and aquaculture subject matter expert for 19 anadromous and non-anadromous salmonid production programs. The purpose was the conservation aquaculture and genetic management programs were to propagate ESA-listed species. *(2008 - 2016)*
- **Idaho Department of Fish and Game, Aquatic Invasive Species Management, State-wide.** Recent aquaculture experience with the development of custom warm water broodstocks in the Fisheries Management field of non-native fish control. Project research and aquaculture activities involved natural broodstock collection, spawning and rearing of resulting progeny. Project goals were to develop sex-reversal techniques for control of common Carp (Cyprinus carpio); research continues to current day. *(Ongoing)*
- **Other Hatchery projects include:** Eagle Creek Hatchery Exclusion Barrier, Cedar River Broodstock Collection Facility, Melvin Sampson Hatchery*, Crystal Springs Hatchery*, Naselle Hatchery Redesign, Warm Springs NFH & Schoolie Springs Satellite Facility Feasibility Study, Redfish Collection Facility final design, Lyons Ferry Fish Hatchery Rearing Ponds, Kwethluk River Picket Weirs, Walla Walla Hatchery*, Kalispel Hatchery D-B, Coleman Fish Hatchery, and Springfield Hatchery*.

References

- Christopher Starr, Facility Operations & Maintenance Coordinator; United State Fish and Wildlife Service – Lower Snake River Compensation Plan; (208) 378-5329; chris_starr@fws.gov
- Gary Byrne, Assistant Fisheries Bureau Chief; Idaho Department of Fish and Game; (208) 287-2778; gary.byrne@idfg.idaho.gov

Westleigh Harper
Architect, Co-Owner
Specialty: Design & Client Point-of-Contact

16 Years of Experience

Education:

- ✓ Bachelor of Science, Kent State University

Westleigh Harper, co-founder and lead designer, has lectured at the Cleveland Urban Design Collaborative and the Columbus Chapter of the American Institute of Architects. He has served as a guest design critic at Kent State University and The Ohio State University while also acting as Adjunct Professor at Ursuline College's Department of Historic Preservation.

At Horton Harper Architects and past positions at some of the region's most well-respected firms, Westleigh has been charged with the design, management, construction administration and contractor bidding / procurement of complex multi-family apartment buildings, performing art centers, educational facilities and public spaces.

As the lead designer and principal-in-charge for the Palestine Fish & Mussel Hatchery, Westleigh will be the primary contact for the Client while setting the direction for all design related issues, act as project representative at stakeholder presentations, and

- **DI Dev., Duck Island Masterplan, OH.** Worked closely with the developer / builder of this square ¼ mile neighborhood consisting of 50+ individual living units and other mixed-use components. Directly responsible for design, public outreach and maintaining the consistent delivery of construction drawings according to the developers ever changing schedule. *(2013 – Current)*
- **DI Development, Garrett Facility*, OH**. From conceptual design to administration, this project, which is currently under construction, combines a multitude of functions; warehouse, office, live/work and production spaces. Mr. Harper meticulously aligned these often-incompatible uses with the Ohio Building Code and local zoning guidelines, allowing them to coexist in a single structure that met a strict budget and phasing of construction with a functioning office space. *(2019)*
- **Warthog Management, Fifth & Jefferson, OH**. A mixed-use project in a former industrial area, the design team overcame a severely sloped site and other soil issues due to

- ✓ Bachelor of Architecture, Kent State University

Professional Licenses

- ✓ NCARB Certified
- ✓ RA: Ohio
- ✓ RA Pending: WV

manage the delegation of responsibilities within the larger Design Team.

Project Experience

- **Solo Development, The Slate, OH.** Mr. Harper designed and managed this 19-unit multi-family project on the City's near westside, leading the efforts in navigating the complex process of zoning and design review approvals while also assuring compliance with the client's schedule and modest construction budget. *(2020)*

close collaboration with civil, structural and geotechnical engineers. *(2020)*

- **Deane Malaker*, 2183 W10th Street, OH.** Located on a small triangular site, this AIA Ohio award-winning project was shaped by the variables set forth by the eccentric client and a modest budget. It's rusted metal cladding evokes the character of the massive steel mills south of the neighborhood with the intent of utilizing a simple and inexpensive material in unexpected ways. *(2015 – 2016)*

References

- Adam Waldbaum, Owner, Solo Development, 440.305.2221 – adamew@att.net
- Matt Berges, Owner, DI Development, 216.276.3816 – mattberges@gmail.com
- Rick Hopkins, Partner, Warthog Management, 440.804.4068 - rickhopkins@warthogmanagement.com

1.5 Competencies in all Necessary Disciplines

With previous experience on over 70 aquaculture facilities, McMillen Jacobs has earned a reputation as a leader in the industry for early planning, design, construction, startup and testing, and operations support. We can offer services in everything from early planning including development and implementation of Hatchery Plans (HGMP and HMP), design of all hatchery facilities including groundwater and surface water supply, treatment systems, RAS technology, temperature control systems, cost estimating and implementation schedules for numerous fish hatchery modernization projects, construction and start-up and commissioning support, optimization of hatchery production and operation plans.

1.5.1 *Aquaculture Expertise - Fisheries Enhancements*

1.5.1.1 Bio Programming

Our experts are well-versed in National Marine Fisheries Service (NMFS) guidelines, the Independent Scientific Review Panel (ISRP), and NEPA regulations. Sample projects where we have been intricately involved in the early planning stages include the Springfield and Baker Fish Hatcheries which were both contracted under the Design-Build method; Okanagan Summer Steelhead Hatchery; Walla Walla Hatchery; NEOH Spring Chinook Hatchery; Crystal Springs Hatchery; Kootenai River Native Fish Restoration & Conservation Aquaculture Project; and the Melvin R. Sampson Coho Hatchery for the Yakama Nation. Early services have included the following activities during the planning phase:

- Alternatives/feasibility analysis and risk identification
- Siting studies for facilities
- Master planning
- Bio programming
- NPCC 3-Step Review Process (ISRP)
- Hatchery Genetic Management Plans (HGMP)
- Environmental including NEPA and permitting
- National Pollutant Discharge Elimination System permitting
- Habitat studies and ecological studies of threatened, endangered, and sensitive fish species
- Accommodations for warm, cool, and coldwater fish species
- Conservation management plans
- Production methods for both intensive/extensive aquaculture programs (partial- and serial-reuse and linear and circular rearing; incubation, and broodstock care)

McMillen Jacobs has conducted habitat studies, taxonomic analysis, and ecological studies of threatened, endangered, and sensitive fish species and stocks.

- Outdoor pond design and culture operations
- Fish health and disease management plans
- Broodstock collection management plan/release strategies
- Development of diploid/triploid monosex aquaculture programs for salmonid and non-salmonid species
- Budgetary projects, grants management, and operations forecasts
- Pre-design reports

1.5.1.2 Warm Water / Cool Water Fish Propagation

Our team's experts are experienced with all phases of warm and cool water fish propagation and culture. Our team has an accumulative 70 years of experience culturing and rearing many different types of fish from broodstock, through egg incubation, to fingerling or yearling production. Our experts are familiar with various egg incubation systems such as bell jar and heath tray systems for several species of fish and are experienced with many rearing systems such as recirculation aquaculture systems or outdoor ponds to accommodate a variety of species of fish at different life stages. We have a long track record of working with federal, state, and local agencies to design and build working fish hatcheries and research centers that rear species such as black bass, lake sturgeon, walleye, and yellow perch to name a few. We bring a team of highly skilled professionals that have actual hands-on experience in operating hatchery and research facilities and centers. Our team is also knowledgeable with special needs required by sensitive species.

1.5.1.3 Mussels

Our team has successfully worked with other agencies that have reared endangered fish and mussels. We understand the biological needs that freshwater mussels have for a host fish species during their larval stages of development. We understand that both the mussels and the fish require specific parameters for survival and successful encasement on the fish gill. Working together with the hatchery staff, we feel confident that we can design culture systems that will allow your program to be successful and look forward to working together to accomplish this. See also Section 1.5.5 of this submittal.

Proven Performance - No Interruptions to Existing Operations

Due to our approach on our project at the Naughton Water Treatment Plant, we were able to complete the construction of a water treatment plant and all connections to the existing cooling towers without any interruption to the existing operations.

1.5.2 *Minimizing Disruption to Existing Facility*

Our design and construction projects often involve improvements to existing facilities that are under operation. Therefore, we fully understand the challenges associated with integrating new structures into an existing system. We have performed upgrades to existing water supplies and fish hatcheries where it was necessary to become very familiar with existing mechanics and details to verify the operability of our designs. We develop specific processes, procedures, and construction sequencing to ensure continuous operations. In addition, we often lead startup and commissioning phases of work. Therefore, our designs are developed with the end in mind. Based on our lessons learned, we are able to mitigate interruptions in the system as we tie in new elements to existing projects. Examples where we have successfully completed upgrades without disrupting existing operations:

Puget Sound Energy; Baker Fish Hatchery - McMillen Jacobs led the design for a design-build project to develop a 1 million Sockeye hatchery. We were able to successfully design elements within a limited space to prevent disruptions to normal operations of the existing facility. As a result, the trout pond remained operational during construction. We also provided assistance during construction as well as startup and commissioning to ensure minimal impact to ongoing operations and to verify the new elements worked with their existing facility.

The existing site was comprised of a trout production pond and small incubation building at the north end of the site and four large Sockeye spawning beaches located at the south end with only about 2.5 acres in between to design and construct the full hatchery. The design and construction were required to maintain water supply and drain systems for the existing infrastructure. McMillen Jacobs coordinated with the Contractor to ensure all existing systems were maintained on-line during construction and hatchery operations were not impacted. The project was completed without impacts to existing production, including various cross over piping connections that were designed to maintain operations. The full hatchery included four concrete adult holding ponds, an approximate 10,000 square feet hatchery, eight 10-foot circular tanks, 4 large rearing raceways, 8 rearing vats, 2 large trout raceways, a two-cell clarifier for effluent treatment, and a chemical treatment system with a serpentine contact chamber.

To mitigate disruptions to the existing operations, McMillen Jacobs worked closely with PSE and WDFW operations staff in the hatchery design, instrumentation and monitoring systems, and hatchery operation protocol. Our team developed a detailed operations and maintenance plan. During the start-up and commissioning, we provided support to ensure efficient integrations with valve adjustment procedures, balancing the water treatment systems with verification that they were working efficiently, and testing of all vessels, alarms, and sensors. McMillen Jacobs also provided post-commissioning support in evaluating, designing, and implementing additional requests by the hatchery to achieve the operational goals and efficiencies not identified during design or construction.

USFWS; Hagerman National Fish Hatchery - The hatchery required a new vacuum degassing system to be installed on the existing water supply pipe to the hatchery. This supply pipe was the main supply for most of the hatchery. The pipe was in use all but 5 days out of the year. During that 5 days the hatchery cleans the raceways and gets ready for out planting juveniles. Due to timing, USFWS elected to utilize our Design-Build contract to implement installation of valves and fittings into the supply line. Our design team developed a separate design and construction sequencing for installation of valves and a branch in the supply pipe. The design would allow our construction division to prefabricate all of the fittings and have multiple fittings on-site for any potential changes encountered. The separate design package was completed while the vacuum degassing system was progressing through design. Our team worked to get out the design package for the installation of the valves and branch in support of USFWS. Our Design-build team procured, fabricated, excavated, installed, tested, and backfilled the valves and branch within the required time frame and met the hatcheries operations requirements.

CTUIR; Walla Walla Hatchery – On this project, upgrades could not impede on the existing operations and the layout of new buildings were designed to mitigate any impact to fish transport trucks while transferring adults to the holding ponds. McMillen Jacobs provided the design and is currently constructing upgrades to the existing adult holding facility, the pollution abatement pond, and the river water pump station and is responsible for the demolition and replacement of the existing residence buildings. Other areas of work include a chemical storage space to provide proper ventilation, feed storage space, maintenance space with a shop and carport, and the hatchery building with an administration space, a break room, conference room, restrooms, and showers. Building renovations included exterior wall design, entrances, stairs, roof top units (RTU's), power, and lighting with controls and special sensors for monitoring and mimicking outdoor lighting for fish rearing.

USFWS; Carson National Fish Hatchery Waterline Replacement – McMillen Jacobs replaced the existing 14-inch and 24-inch steel waterline with 14-inch HDPE waterlines. It travels 3,200 feet to provide water for both the domestic water treatment system and the fish production water at the hatchery. Scope of work also included the replacement of the intake gate and connections to the hatchery building. Due to our approach, we were able to mitigation any disruptions to the existing hatchery facilities.

USFWS; Hotchkiss National Fish Hatchery Raceway Rearing Pond D-B – We designed and constructed 8 reinforced concrete raceways and rehabilitated 6 rearing ponds into 3 effluent settling ponds. The hatchery consists of a hatchery building with a small visitor center and tank room, residences, 32 outdoor concrete raceways, 24 nursery tanks, and 6 earthen ponds. The existing facility was able to remain in operation during our upgrades.

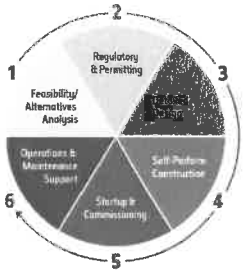
USFWS; Kooskia National Fish Hatchery; Incubation Chilled Water Re-Use System – We upgraded an existing facility including the water delivery system from 2 existing wells.

Naughton Water Treatment Plant – McMillen Jacobs supplied a fast-track design-build solution for PacifiCorp to improve the wastewater discharge from the Naughton Generating Facilities' clear water storage ponds and cooling tower blowdown waters. The new treatment system was successfully designed and constructed to reduce influent TSS levels to the plant. Scope of work included connections on the return circulating water lines and associated isolation valves to the existing cooling towers. Due to our approach, we were able to complete the construction and startup without any interruption to the existing operations.

1.5.3 *Design and Construction Contract Administration*

McMillen Jacobs is fully qualified to contribute to a project at the planning stage with feasibility studies and alternatives analysis, navigate the regulatory and permitting requirements, develop detailed design, self-perform construction, and participate in startup, commissioning, and support of operations. Our designers and constructors report to the same management team and intentionally work side-by-side.

McMILLEN JACOBS OFTEN MANAGES THE **ENTIRE LIFECYCLE FROM INITIATION TO DESIGN, CONSTRUCTION, AND OPERATIONS.** THIS PRODUCES BETTER DESIGNS.



Why is this important to DNR? Regardless of the scope of work at hand, this benefits our clients because our design experts have easy and open access to our construction professionals who have been or are currently executing similar projects and can offer best practices and lessons learned. Therefore, we have the expertise to assist DNR to design the Palestine Hatchery and Mussel Rearing Facility as well as provide meaningful and efficient services during construction.

McMillen Jacobs' Technical Expertise includes:

- Civil
- Structural
- Mechanical
- Electrical
- Instrumentation & Controls
- Hydraulics & Hydrology
- Geotechnical & Geological
- Fisheries (Civil and Biologist)
- Cost Engineering / Estimators
- CAD / GIS
- Value Engineering
- Program Management
- Constructability & Operability Reviews
- Construction Inspections
- Support during Construction
- Startup & Commissioning Support

McMillen Jacobs offers comprehensive engineering expertise to maximize the full potential of existing or new facilities. We have a long history in managing multi-discipline teams providing design of civil, structural, mechanical, electrical, hydraulic/hydrology, and geotechnical works. Whether the project involves modifications or operational changes, we provide the mix of resources from hydraulics to geotechnical underground engineering. We have prepared plans and specifications for a wide range of facilities, including earthen and concrete dams, hydropower plants, flood control features, hydraulic structures, tunnels, bridges, culverts, spillways, intake and outlet structures, complex fish bypass systems, hatcheries, and more.

McMillen Jacobs' engineers are committed to providing our clients with designs focused on simple and reliable systems to keep operational and maintenance cost lower. Having experienced professional engineers that understand the real value of providing Owners with simple systems that will deliver decades of trouble-free service is critical when selecting an engineering team. We focus closely on design criteria and select appropriately conservative criteria which result in well designed and efficient systems. Our professional staff always works with clients to help them understand the trade-offs inherent in proper design and capital expenditure approach and how such can result in simple, reliable, low cost Operations and Maintenance (O&M) for the life of the project.

McMillen Jacobs' specialized design experience provides access to innovative strategies and project approaches for successful delivery of your projects, reducing

the overall risks. Our key personnel have completed plans and specifications on a wide variety of projects. Our staff is well versed in preparing detailed civil design drawings and specifications utilizing the required standards. McMillen Jacobs has a reputation for performing high quality work with focus on client-service, and always striving to help clients meet difficult project deadlines.

In addition to our engineering and design capabilities, we also employ field superintendents, foreman, equipment operators, concrete crews, excavators, underground utility crews, and other laborers. In addition, many of our management team brings "hands-on-experience" in building the projects they have designed, producing a unique understanding of constructability issues. Evidence of our broad range of skills is demonstrated by our ability to self-perform 50 to 80 percent of the work associated with our design-build projects. Therefore, we know how to integrate design, construction, and operations to deliver a fully functioning project. Also, during the design we are able to integrate our construction experts into the process to perform constructability reviews to enhance the constructability, increase safety, improve efficiencies, save time, or reduce cost.

1.5.4 *New Buildings*

McMillen Jacobs is well versed in designing and constructing a wide range of building types including warehouses, laboratories, water treatment plants, finished office space, storage buildings, residential housing, and pumping stations. Our staff is experienced with a wide range of structural materials and construction applications including cast in place concrete, tilt-up concrete, structural steel, cold formed steel, wood, masonry, earth shelters, green roofs, and LEED approved materials.

DI Development, Garrett CoOp

Horton Harper is the lead designer and architect on the 7,800-square-foot warehouse, office and residential complex.

Because we are full-service design-build firm, we offer all engineer disciplines including civil, structural, mechanical (including HVAC specialists), electrical (as well as fire protection specialists), and geotechnical. We also self-perform the majority of our construction. Therefore, we have construction crews and equipment to fully execute the design and construction of all major building types.

Clients have included several state and federal agencies including state-owned fish and wildlife facilities, USGS, USACE, USFWS, and military bases, as well as numerous Indian Tribes. Table 1-1 lists a few examples that are relevant to the Palestine Hatchery's 9,000-square-foot hatchery building. Most of our hatchery buildings have included all the major components of hatcheries including incubator rooms, laboratories, office space, restrooms, breakrooms, and storage.

Table 1-1. Our Team's Sample Projects with New Buildings

Client; Project	McMillen Jacobs' Role	Size and Type of Building
Shoshone-Bannock Tribe, Crystal Springs Fish Hatchery	Design Lead	A new **14,000-square-foot** hatchery and admin building and a 2,400-square-foot office/shop building.
Yakama Nation and BPA, Melvin R. Sampson Coho Hatchery Project	NPCC Step 1 Master Plan Support; EPC Lead (Engineering, Procurement, and Construction)	A new **29,000-square-foot** hatchery building and 994-square-foot outbuilding.

Puget Sound Energy, Baker Hatchery	Design Lead	A new **8,316-square-foot** hatchery building (CMU w metal roof) with finished offices, incubation room, early rearing facilities, feeding and storage rooms, and production area; a new 1,440-square-foot storage building; a new separator/headtank building; and a shop.
Idaho Power Company; Niagara Springs Fish Hatchery Modernization	Design and CM	A new **18,000-square-foot** hatchery building with office, laboratory, rearing room, breakroom, restrooms, storage, and a new 2,000-square-foot shop.
IDFG; Springfield Sockeye Hatchery	Design-Build Lead and self-performed the majority of the work. Also managed sub in performing an energy analysis.	A new **17,400-square-foot** hatchery building with 3,400-square-foot administrative office and workstations for staff, a new 2,594-square -foot shop facility with 400-square-foot freezer, and a 2,400-square-foot storage.
Confederated Tribes of the Umatilla Indian Reservation & BPA, Walla Walla Hatchery	Step 1 Master Plan Update and NPCC Step 2 Engineering/Design Support; Design-Build Lead (self-performed the majority of the design and construction).	A new **32,000-square-foot** hatchery building (admin space, breakroom, conf room, restrooms, and showers), residences, chemical storage space, maintenance space with shop, and 2,300 sq.-foot outbuilding.
Garret Co-op Building	Architectural design	A new **7,800-square-foot building** (warehouse, production, office)

1.5.5 *Fish and Mussel Rearing Areas*

1.5.5.1 Incubators

McMillen Jacobs has designed multiple Hatchery Systems for both warm, cool and cold-water species. While upwelling egg incubators and hatchery tray systems are historically the most popular, we also have designed systems to support species that release adhesive eggs or egg ribbons. Often a treatment of bentonite clay or tannic acid is sufficient to coat adhesive eggs so they can be incubated in traditional upwelling jars. Special design considerations are made for egg ribbons associated with species like yellow perch.

1.5.5.2 Flow through raceways

McMillen Jacobs has a long history of designing and building flow-through raceways for fish culture programs. This technology and the practice is widespread throughout the commercial aquaculture industry and the USFWS National Hatchery Program for fisheries enhancement where abundant water resources are available and effluent treatment practices can be put in place. This technology is well within our range of design capabilities.

1.5.5.3 Live Feed incubation

Our biological and design team experts have proven experience with culturing various life feed organisms for feeding different life stages of aquatic organisms and multiple fish species. This experience includes designing pulse feeding systems for supplying green water and plankton species to larval freshwater fish. We have hands on experience with incubation, hatching, and culture of various plankton such as rotifers, cladocerans, and daphnia for the purpose of feeding different ages of larval fish. We are experienced in the use of brine shrimp incubation units and the culture of brine shrimp to provide a 24-hour supply of fresh forage which is needed for successful rearing of many saltwater and freshwater larval fish species. Our team has the experience to design and engineer the necessary systems and tanks with your hatchery team to provide a fully operational and successful live feed system as needed.

1.5.5.4 Grow Out Ponds

McMillen Jacobs has experience with earthen, lined and concrete pond design. We have experience with northern climate pond management practices associated with several cool-warm water species including walleye, white sucker, largemouth bass and bluegill. Drainage, catchment and harvesting strategies will be evaluated and incorporated into all pond designs. Our design will often incorporate predator barriers, shade cloths and bird netting as needed.

1.5.5.5 RAS and PRAS

Many facilities apply flow through technology to support their production requirements. This technology can benefit scenarios where the culture condition needs to closely mimic the natural conditions of a specific region or stream. It is often utilized when cultured fish are going to be released into these environments. McMillen Jacobs has a long history of designing and installing enhancements to flow through technology to provide better and more consistent water quality throughout the systems, and higher carrying capacities within. This can include upfront conditioning of temperature, re-oxygenation between raceways, or partial reuse of the exiting flow with carbon dioxide control and mechanical filtration of solids. Regardless of the level of control needed, we have the right solution.

Melvin R. Sampson Fish Production Facility (PRAS 26'diameter circular tanks for Yakama River Coho Release)

McMillen Jacobs has supported several flow-through raceway conversions to successful PRAS utilizing circular tanks for salmon reintroduction projects, has experience designing mixed cell raceways and airlift systems, and can design and install custom Low Head Oxygenation (LHO) infrastructure into most serial raceway applications.

Spokane Tribal Hatchery (PRAS with Circular Tanks)

Our personnel provide expertise to design and install a fully functioning facility with the integration of the following elements:

- Influent water treatment and conditioning (ponding & storage / underground tunneling & distribution)
- Culture tank design
- Process treatment component design and integration
- Monitoring and control systems
- Power station design (solar & hydro)
- Wastewater treatment
- Site/civil earthwork, excavation, roads, etc.
- Buildings/structures (administrative, housing, and temperature-controlled structures for incubation, rearing, etc.)
- Piping, conduits, fish screens, guidance systems
- Effluent settling basins and ponds

Our proposed Project Manager, Mr. Aneshansley, has applied RAS technology to several industries including fish hatcheries, biomedical research, seafood holding, shellfish depuration, public display tanks, vocational and charter school wet labs, research systems, and commercial aquaculture and ensures all projects are properly scoped, thoughtfully designed, efficiently executed and built to the most robust standards in the industry. Recently, Mr. Aneshansley contributed to the successful implementation of RAS and PRAS systems at McMillen Jacobs' Melvin R. Sampson Hatchery and the Leavenworth National Fish Hatchery Spring Chinook release program.

Examples of projects where we designed and/or installed RAS or PRAS systems include the following projects:

BUREC & USFWS; Leavenworth NFH Fisheries Complex – We worked with the vendor to develop detailed life cycle costs for both the CPRAS and DPRAS reuse systems, along with other alternative rearing technologies for potential implementation. McMillen Jacobs performed the alternatives analysis with USFWS and the final design with BUREC. This program features two systems with 136,000 pre-smolt production capacity each. The design includes raw water treatment, solids concentration treatment and future expansion to 1.625 million pre-smolt release per year.

Idaho Power; Niagara Springs Fish Hatchery Modifications (Design and CM) Design of a new intake, filtration and disinfection system to supply 18 cfs of pathogen-free water for incubation and early rearing

USFWS; Kooskia National Fish Hatchery Incubation Chilled Water Reuse System - Our team provided the complete process, mechanical and instrumentation, and control design of the new incubation re-use system. This new 130 gpm, pre-chilled fresh water re-use system greatly reduced the incubation system water use and improved reliability of the overall system. The new water reuse treatment systems were designed for freshwater make-up rates in the range of 5 to 20 percent of recirculation flows. Treatment processes included recirculation pumping with constant speed submersible pumps, coarse-screening with basket strainers, water temperature conditioning with a 2-stage air-cooled chiller system, and packed column aeration stacks.

Yakama Nation, Melvin R Sampson Hatchery – Partial Recirculating Aquaculture System (PRAS) with 75% water reuse in dual drain circular tanks for juvenile fish growout.

Confederated Colville Tribe; Okanagan Steelhead Hatchery Project – Our alternatives analysis included implementation of a CPRAS systems.

Spokane Tribal Hatchery – We are responsible for the design, construction and start-up of the decentralized Aeroboost PRAS pilot project. The pilot system included a reuse system module with four 30-foot diameter dual drain circular tanks. The project just completed its first fish rearing cycle with excellent results, achieving improved fish growth and feed conversion rates while decreasing water use by 50% to 75%.

BUREC & USFWS; Winthrop NFH D-B - We worked with the vendor to develop detailed life cycle costs for both the CPRAS and DPRAS reuse systems, along with other alternative rearing technologies for potential implementation. McMillen Jacobs performed the alternatives analysis with USFWS and the final design with BUREC.

"McMillen was an outstanding contractor. Very professional in all aspects of the contract. Whether it came to schedules, design changes, contract change orders and management of onsite and home office personnel. McMillen was a pleasure to have as the prime contractor. They were timely in all their submittals, cost proposals and very reasonable but fair when it came to providing additional cost data and price for added work. From the project manager, onsite supervision, assistance by home office personnel to the owner of the company, this contractor was very professional. The coordination effort put forth in dealing with onsite Hatchery personnel and management was outstanding." – Brandt Demars, Bureau of Reclamation re: Winthrop NFH

1.5.5.6 Recirculate Discharge to Outside

Nitrogen, Phosphorus and Total Suspended Solids (TSS) are highly regulated contaminants that are often found in Hatchery effluents. McMillen Jacobs has the expertise to calculate your discharge characteristics and define the treatments required to ensure your discharge restrictions will be met. Implementation of recirculation technology can have a dramatic impact on the effluent treatment equipment required. Utilizing RAS often results in smaller effluent volumes with a more concentrated contaminants. This improves the efficiency of the effluent treatment process that may be required to remove these contaminates. Isolating high-solids waste streams, retention pond design, dewatering sludge, land application and nutrient recovery are all areas that we can consider while designing your facility effluent treatment requirements.

Palestine is located West of the Eastern Continental Divide, and eventually drains into the Gulf of Mexico via the Mississippi and Ohio Rivers. The eastern part of the state drain to the Chesipeake bay. Both of these receiving

waters have elevated nutrient loads and are subject to algae blooms and depleted oxygen levels. Effluent restrictions will be evaluated and sustainable solutions to nutrient removal and recovery can be part of the design process.

1.5.6 *Surface and Well Water Structures*

1.5.6.1 New Well

McMillen Jacobs has led the design on several hatchery facilities that included new and rehabilitation of existing ground water wells. We will work closely with local contractors to drill test wells, evaluate well performance and water qualities as well as determine the final well location and size to meet your production goals. Well water is an excellent source of water for hatchery influent and is often used to support RAS systems that are bio secure and isolated from the natural environment. Water temperature and quality will determine if preconditioning of the well water is necessary before it can be used for Aquaculture. A comprehensive analysis of water chemistry will be conducted early in the design process.

Examples of our hatchery projects that included ground water wells include the following:

USFWS; Sawtooth National Fish hatchery Wells Design-Build - McMillen Jacobs provided planning, design, drawings, specifications, and construction at the Sawtooth Hatchery for the rehabilitation of wells 1, 3, 5, 6 and 7. The goal of the project was to provide an increased reliable water supply for fish rearing, incubation, and adult holding. The project included evaluation and performance testing of five existing production wells and establishing two new production wells and associated piping. The ground water required degassing to achieve total dissolved gases less than 102%. Aeration columns were designed to accommodate 1200 gpm with counter-current air blowers to create a slight vacuum to aid in gas removal. McMillen Jacobs provided the design of the wells, well testing, piping conveyances to existing infrastructures, and the aeration columns. McMillen Jacobs' construction division constructed the project overcoming difficult site conditions and protecting existing infrastructure within the project schedule.

At the Springfield Hatchery Project, our scope of work included the design and construction of 3 new potable ground water wells and the rehabilitation of 3 existing wells.

Shoshone-Bannock Tribe, Crystal Springs Fish Hatchery – (Design lead) 24 cfs groundwater supply system,

IDFG; Springfield Sockeye Hatchery (D-B) Construction of supporting infrastructure including 3 new potable water wells and rehabilitation of 3 existing wells

Kalispel Tribal Fish Hatchery Design-Build - The hatchery upgrades include upgrades to the groundwater supply system incorporating two newly constructed wells, re-use piping, re-use water conditioning, waste effluent piping and new yard piping to direct overflows, and effluent to three separate existing ponds.

Kooskia National Fish Hatchery Incubation Chilled Water Reuse System - McMillen Jacobs provided planning, full design, and construction administration services for the redesign of the water delivery system from two existing water wells. The groundwater production wells were rehabilitated with new 1800 rpm submersible pumps and motors, electrical panels, and pit-less adaptor units, and connecting piping.

Sawtooth Hatchery Wells 1, 3, 5, 6 – USFWS 1&8 - The goal of the project was to provide an increased reliable water supply for fish rearing and incubation and adult holding. The project included evaluation and performance testing of five existing production wells and establishing two new production wells and associated piping. The ground water required degassing to achieve total dissolved gases less than 102%. Aeration columns were designed to accommodate 1200 gpm with counter current air blowers to create a slight vacuum to aid in gas removal. McMillen

Jacobs provided the design of the wells, well testing, piping conveyances to existing infrastructures, and the aeration columns. McMillen Jacobs' construction division constructed the project overcoming difficult site conditions and protecting existing infrastructure within the project schedule.

1.5.6.2 Capability to Recycle Water

McMillen Jacobs understand how precious your water resource is. For this reason, McMillen Jacobs has invested in building our capability in water conservations strategies and technologies for hatchery designs. This include inhouse experts in Partial Reuse Aquaculture System (PRAS) and RAS industry leaders. PRAS and RAS technology allows more production with less water use. Additional benefits over flow-through technology include increased biosecurity, better water quality management and more manageable and reduce discharge volumes. We will bring the most current technology to the table and implement it in a robust and reliable manner.

Our inhouse SCADA control specialists will tailor your monitoring and control systems to provide reliable monitoring, simple control, and user-friendly interfaces. Whether it's a new system or integrated with existing hardware, we will provide data recording and trending capabilities to allow quick and easy analysis of your operations so small issues not turn into big problems. Reliable safeguards, critical equipment redundancy and emergency backups will all be incorporated in your overall system design.

1.5.6.3 Groundwater Gas Manipulation

Evaluation of groundwater will be one of the initial studies we engaged in on site. The quality and quantity of ground water will play an important role in the system design, and may be a limiting factor in overall production. Water Chemistry analysis will include an evaluation of the dissolved gasses in the ground water. Ground water can have elevated Carbon Dioxide (CO_2) Levels and Nitrogen (N_2), reduce dissolved Oxygen(O_2) levels or even some toxic gasses like Hydrogen Sulfide (H_2S) or radon (Rn). In some cases prolonged exposure to atmospheric conditions is required to bring the partial pressures of individual gasses into equilibrium.

1.5.7 *Site Work and Utility Extensions*

Most of our water resources and civil works projects require significant site development to prepare construction foundations, provide site access, installation of dewatering systems, relocation of utilities, or grub/regrading of the project site. McMillen Jacobs brings the necessary experience related to all aspects of site civil including utility relocations and design, mass excavation and fill, water line installation, and final grading and landscaping.

Site drainage analysis is a natural extension of our civil design capabilities. As part of our site development projects, we prepare detailed drainage and stormwater management plans including detailed analysis of drainage channels, pipes and canals, and culverts. Many of our projects include provisions for water quality treatment prior to discharge to the receiving water body.

At the Esther Simplot Park D-B Project, McMillen Jacobs moved 250,000 cy of material offsite; total material moved on the project 400,000 cy. Civil works including site grading and storm drains, excavations, extensive dewatering systems, and moving existing utilities.

1.5.8 *Environmental and Permitting*

McMillen Jacobs works with its clients and a variety of agencies to determine permitting needs and successfully develops requisite applications and permits. Our proactive approach enables us to obtain permits through an expedited process in order to adhere to clients' overall schedules. To achieve this, McMillen Jacobs' management team

facilitates ongoing coordination and communication among permitting, design, and construction teams prior to, and throughout project development.

Our **Environmental/Permitting Lead, Greg Allington** brings over 14 years of experience as a biologist and specializes in natural resource permitting with local, state, and federal agencies. Mr. Allington has a unique expertise in offering support during the design phase but also in monitoring compliance during construction. He has experience working on the development of hatchery facilities and also specializes in managing a variety of specialty subconsultants in both permitting and natural resources. Specifically, at the Don Edwards NWR Project, where we performed the design and construction to restore 373 acres, he prepared supplemental environmental permit documents to reflect the design modifications from the original permits for approval by the United States Army Corps of Engineers (USACE), USFWS, National Marine Fisheries Service (NMFS), California Department of Fish and Wildlife (CDFW), California Regional Water Quality Control Board, and the San Francisco Bay Conservation and Development Commission. Work included addendums to 404 and 401 permits, and he supported the NEPA compliance process (Environmental Action Statement). Furthermore, he is currently managing the environmental permitting tasks for a marine restoration project on the USFWS Chincoteague National Wildlife Refuge on the coast of Virginia. Mr. Allington's experience involves environmental permitting in numerous states across the US and makes him a proficient lead to coordinate the required permits for the Palestine State Fish Hatchery.

We offer extensive experience in data collection using state of the art GPS and GIS technology, research, record management, and agency coordination and negotiation. We have in-house permitting expertise that are focused on strategic support for permits for each unique project. Our environmental specialists provide expertise in the following aspects which is invaluable in applying for, implementing, and monitoring specific permits:

- Cultural or historical permitting restrictions
- Wetland/waters of the US delineations and mitigation plans
- Threatened and endangered species surveys
- Vegetation community surveys
- Sensitive plant, animal, fish, and vegetation species protection plans
- In-water work protection plans
- Water rights and water use permits
- Preparation and implementation of construction monitoring plans
- Stormwater pollution prevention plans/erosion and sediment control plans
- Spill response plans
- Construction environmental compliance and awareness training

Our team brings experience to all aspects of the NEPA planning process including the development of comprehensive environmental study programs, Environmental Impact Statements, Environmental Assessments, and Categorical Exclusions as well as strategic planning, agency interaction and meeting facilitation services. We understand how to reduce environmental impacts through coordination with the design staff during project development and are highly trained to read construction documents and specifications.

We routinely work with state and federal agencies to secure and comply with:

- USACE Section 10 and 404 Permitting (Individual and NWP)
- NOAA/USFWS Section 7 Endangered Species Act Consultation (BA, BE, and BO)
- NEPA Compliance (EIS, EA, and Categorical Exclusion)
- National Pollutant Discharge Elimination System (NPDES) Permits
- NPDES Construction General Permit (Stormwater Pollution Prevention Plan)
- Bureau of Land Management Right of Way Permits
- United States Forest Service Special Use Permits
- State 401 Water Quality Certification
- Approval (HPA)

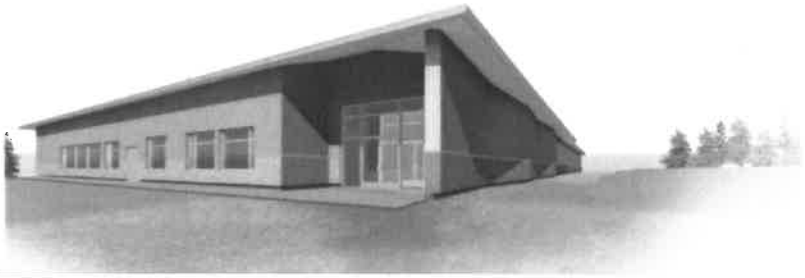
- Oregon Fill/Removal Permits
- California Environmental Quality Act
- Local Floodplain Development and Encroachment Permits
- Misc. federal, state and local environmental and sensitive area permitting
- Local construction permits
- Fish Habitat and Resource Permits
- Special Use Permits
- Fish Handling and Transport Permit
- FERC Preliminary Permits

1.6 Project Examples of Performance

Together, McMillen Jacobs and Horton Harper bring experience in every area of work anticipated on the Palestine Hatchery and Mussel Rearing Facility. Below are selected examples that have relevant features. At the end of these summary descriptions, we have included a listing of over 70 projects we have participated in and indicated relevant elements included in those projects.

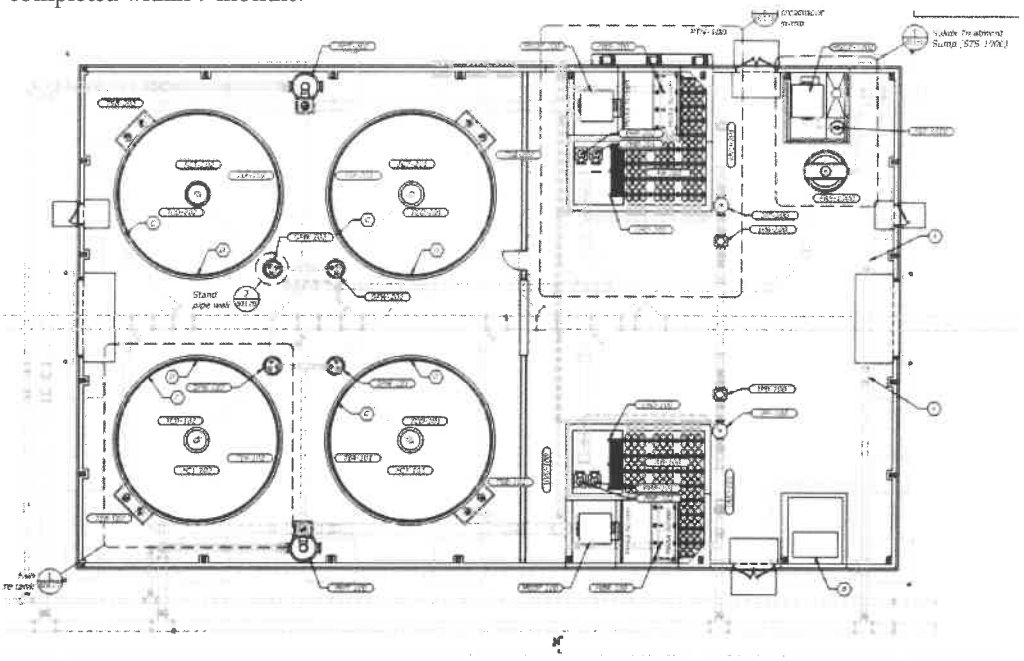
PROJEFT #1: Spokane Tribal Hatchery Long-Term Strategic Plan and Modernization Design-Build Project	
Client	Spokane Tribe of Indians (funded by BPA and BIA) | Tim Peone | (509) 258-7297 | timpeone@spokanetribe.com
Dates/Contract $	07/2015 – 04/2019 (Design-Build); $3.2M
Location	Wellpinit, WA
Type of Project	Design and Construction
Description of Project	McMillen Jacobs developed the following: ▪ An audit of existing hatchery facilities and fish culture practices in all functional areas of the operations ▪ Bio programs for existing and proposed fish production ▪ Potential expansion and modernization alternatives for both the hatchery and remote brood stock collection facilities ▪ Development of operating and capital costs for long-term budget planning and implementation Following that engineering services contract, our team served as the Design-Build Lead to modernize the Spokane Tribal Hatchery Facility. The goal is to provide additional rearing space and included evaluation of utilizing second pass water through a pumped system to provide flow to four 30-foot diameter by 6-foot-deep dual drain circular tanks. The system included air lift reuse system within the tanks to improve water quality and induce the radial flow within the tank. Work was implemented in a phased approach and included: 

	▪ A pre-engineered metal roof cover for the tanks with predator barriers ▪ Aeroboost water recirculation equipment ▪ Surface water intake screening to remove entrained algae ▪ Automatic dissolved oxygen monitoring and dosing system ▪ Flow meter replacements ▪ Monitoring and alarm system modernization ▪ Four new 30-foot diameter, 6-foot deep dual-drain circular tanks to increase fish production volume by 50% ▪ New degassed groundwater truck fill for fish transport ▪ Water supply and drain piping ▪ Water aeration equipment ▪ A low-pressure air blower and delivery system ▪ Instrumentation and associated electrical power, lighting, and outlets to facilitate tank operation ▪ Little Falls Acclimation Facility
Project Goals/Objectives	The Spokane Tribal Hatchery produces kokanee and triploid rainbow trout to support a resident sport fishery in Lake Roosevelt. McMillen Jacobs provided biological and engineering consulting services to support the development and refinement of fish science, hatchery planning, and operational and capital cost estimating. McMillen Jacobs modernize the Spokane Tribal Hatchery Facility.

PROJECT #2: Walla Walla Hatchery EPC Project	
Client	Confederated Tribes of the Umatilla Indian Reservation and BPA; Jon Lovark, CTUIR 541-429-7278; jonlovrak@ctuir.org or Stephanie Green, BPA, (360)418-2710; sagreen@bpa.gov
Location	Milton-Freewater, OR
Type of Project	Design and Construction of a Fish Hatchery Facility
Dates/Contract $	07/2017 – est. completion Spring 2021 (Design-Build) $21.2M
Description of Project	McMillen Jacobs ASSOCIATES This will expand the existing facility to become a self-sufficient and fully functioning hatchery. The resulting facility provides for visitation and public education component. With significant involvement from the tribe, the facility supports tribal and community education as well as the public at large. The facility utilizes a hybrid of conventional metal building structure for the hatchery area and steel stud and masonry faced construction at the administrative area. A dynamic sawtooth-style exterior frames the visitation area to maximize ambient light to create a welcoming, friendly educational environment. McMillen Jacobs' scope of work includes full design and construction, supporting the EIS process, preparing the 

	Biological Assessment, obtaining necessary permits, providing geotechnical support, performing commissioning, and providing one-year of technical support. The Walla Walla Hatchery building includes break room space, conference room, restrooms, and showers, alarm, monitoring, and control system (SCADA), personnel housing, chemical storage space with proper ventilation, feed storage space, maintenance space with a shop and carport and landscaping, fencing, and security video system. In addition to new buildings, incubation system, aquaculture disinfection, piping, and a head tank, improvements also include the existing adult holding facility, the pollution abatement pond, and the river water pump station.
Project Goals/Objectives	As part of the NPCC's Fish &Wildlife program and a component of the Fish Accord between BPA and the CTUIR, Spring Chinook incubation and rearing are currently performed at the Umatilla Fish Hatchery to restore an extirpated population in the Walla Walla subbasin. The goal is to move this production to the existing Walla Walla facility on the South Fork of the Walla Walla River. This will expand the existing facility to become a self-sufficient and fully functioning hatchery. The design is providing upgrades to CTUIR's existing facility to become a fully functioning hatchery to raise and release 500,000 Spring Chinook each year.

PROJECT #3: Leavenworth National Fish Hatchery Project	
Client	USFWS and Bureau of Reclamation; David Child, Project Manager, Leavenworth Fisheries Complex, Columbia-Pacific Northwest, Interior Region 9, Bureau of Reclamation, Columbia-Cascades Area Office, Technical Projects Group; dchild@usbr.gov; (509) 573-8045 or Michael Stearns, Contracting Officer, USFWS; (503) 736-4469; Michael_stearns@fws.gov
Location	Leavenworth, Idaho
Type of Project	Design and construction support of upgrades to the pipeline system and circular tanks
Dates/Contract $	2014 – 2016 (Alternatives Analysis); 9/19 – 4/20 (Design); 9/20 – 6/21 (Construction) $1.7M Engineering and Design Services
Description of Project	The Leavenworth NFH operated by USFWS is exploring aquaculture rearing alternatives to support the hatchery. The Bureau of Reclamation funds capital projects at the NFH mitigating for impacts to salmon from upper Columbia River Dams. McMillen Jacobs performed an Alternative Analysis on this project in 2014 through 2016 and now are reaching the completion of the project. The pilot project will utilize Partial Recirculating Aquaculture Systems (PRAS) for rearing Chinook salmon. A secondary benefit of utilizing PRAS systems is that effluent wastes are concentrated and more easily captured improving effluent water quality. McMillen Jacobs provided all of the engineering for the project which included the PRAS systems, effluent water treatment and solids capture systems, a pre-engineered metal building design, electrical systems including backup generation, SCADA, and utility power upgrades. The project also included all the mechanical systems, hydraulic evaluations for connections to the existing water supply and drain systems, and evaluations on water quality for the PRAS system. McMillen Jacobs lead the multi-discipline team through 30%, 60%, 90% and Final signed stamped construction documents on a tight schedule to meet capital funding requirements on the project. The project design was completed April 2020 and construction is anticipated to begin September 2020. McMillen

	Jacobs will provide construction assistance support for the project which is anticipated to be completed within 9 months. 
Project Goals/Objectives	The Leavenworth Hatchery was built to mitigate salmon population impacts caused by the Grand Coulee Dam. The facilities produce and release steelhead, summer Chinook, and spring Chinook salmon in support of the US vs Oregon agreement and Columbia River Fisheries Management Plan. The design is accomplishing project goals to meet fish production needs, by repairing and upgrading systems such as water intakes, water delivery and disposal systems, and rearing facilities.

PROJECT #4: Melvin R Sampson Hatchery EPC Project	
Client	Yakama Nation; funded by BPA; Yakama Nation, Mark Johnston, markj@yakima.com, 509-945-1133
Dates/Contract $	05/2011 – 04/2013 (Master Plan) | 02/2016 – est. 06/2020 (Design-Build); $20.8M
Location	Ellensburg, Washington
Type of Project	Design and Construction of a Fish Hatchery Facility
Description of Project	McMillen Jacobs provided supporting tasks such as an alternatives analysis of potential lower river sites for constructing acclimation ponds for sub-yearling fish, and adult holding, and spawning facilities needed to enhance fall Chinook salmon populations in the lower Yakima River. McMillen Jacobs worked with the Yakama Nation fisheries staff to refine project goals and to confirm biological criteria and related water supply needs to develop preliminary design parameters. Our team also developed an HGMP and Health Disease Management Plan. Based on that analysis, the Holmes Ranch site on the upper Yakima River was selected as the location for the Melvin R. Sampson Coho Hatchery. After the early planning, McMillen Jacobs was selected as the EPC (Design-Build) contractor for this new Coho hatchery. Primary project components

include the design and construction of the following elements:

- Groundwater and surface water supply
- 27,675-square-foot hatchery building
- Egg prep and incubation
- Early rearing facilities utilizing dual drain circular grow-out tanks
- Water treatment processes include degassing and chilling of the groundwater supply
- Filtration, disinfection, and degassing of surface water supplies
- Heat exchanger, temperature control, and energy recovery
- 75% water reuse in dual drain circular tanks for juvenile fish growout
- 60% water reuse with chilling and UV disinfection to provide 50-degree F water for holding adult fish
- Partial Recirculating Aquaculture System (PRAS)
- Outdoor raceways and effluent clarifier
- Adult holding and spawning

The hatchery building will be a pre-engineered metal building (PEMB) with cast-in-place concrete foundations and floor slab, and approximate dimensions of 225 feet by 123 feet. The overall layout of the building will include distinct areas for water treatment, chemical storage, egg prep, incubation, early rearing, grow-out, electronics and instrumentation control, and administration, as well as miscellaneous areas for storage and other purposes. Finishes inside the administration/office area of the main hatchery building are planned to be similar to that found in typical office environments, but with longevity in mind. Sealed concrete, vinyl flooring, rubber base, and acoustic ceilings will be utilized. Separate HVAC systems were designed for the differing use areas for administration and fish production. Site civil works included domestic water supply, septic system, storm drainage and finish grading to accommodate an easily accessible hatchery with sufficient vehicular flow around the building.

Project Goals/Objectives

As part of the Yakima–Klickitat Fisheries Project (YKFP), the Yakama Nation proposed to implement hatchery strategies to increase harvest levels, natural spawning abundance, and spatial/temporal distribution of summer- and fall-run Chinook and Coho salmon in the Yakima Subbasin. The YKFP focused on enhancing existing stocks of anadromous fish in the Yakima and Klickitat river basins while maintaining genetic resources, and reintroducing stocks formerly present in the basins.

Our design will include Coho spawning, incubation, and rearing facilities, as well as operations that will integrate with the overall Yakima-Klickitat Fisheries Project (YKFP). Target production goals include the incubation of 1,080,000 Coho eggs and the subsequent production of up to 700,000 Coho smolts per year.

PROJECT #5: Springfield Fish Hatchery Design-Build Project

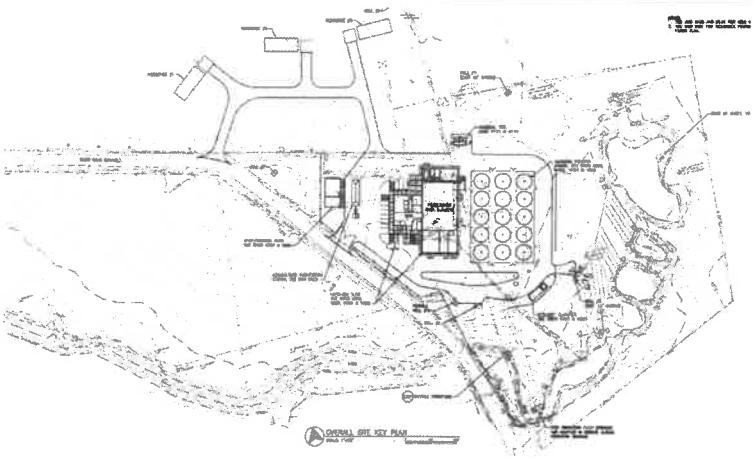
Client	Idaho Fish & Game; Paul Kline, Deputy Director | (208) 344-4885 | paul.kline@idfg.idaho.gov
Dates/Contract $	11/2010 – 05/2012 (Master Plan); 01/2012 – 12/2012 (Planning & Design); 06/2012 – 12/2013 (Construction) $14.7M total including early planning
Location	Springfield, Idaho
Type of Project	Design and Construction of a Fish Hatchery Facility
Description of Project	McMillen Jacobs' scope of work included all work for the pre-planning, engineering design, and full construction of the Springfield Hatchery and surrounding support facilities. The entire Springfield Hatchery site totals about 54 acres and includes an existing cannery building and public fishing pond.

The project construction was completed using McMillen Jacobs' construction crews supplemented by specialty subcontractors. The hatchery construction was completed in 14 months delivering the operating facility within the original masterplan budget of $13.7 million. Construction included the demolition of existing buildings, excavation of over 30,000 cubic yards of soil, site utilities, development of 6 new high production wells and refurbishment of 4 existing wells, construction of over 1 mile of HDPE water supply pipelines, reinforced concrete headtank on a micropile foundation drilled to the rock line at a depth of approximately 65 feet, construction of a new 17,400 CMU block administration building, a 2,594 square foot shop, and a 2,400 square foot storage facility, 22 new reinforced concrete raceways (95' x 9') a new settling pond, residence buildings, complete site SCADA and instrumentation system, and full startup and commissioning services including development of the detailed operations and maintenance manual.

The Springfield Hatchery Project is a good example of a true collaboration, open-book negotiation, and a "design-to-budget" approach to achieve the client's goals. At the Master Plan stage (10% design level), the initial budget of $13.6 million was established, and it was delivered on time and under the budget that was established two years earlier—the first time BPA had a hatchery project delivered on time and within budget. The client was able to use the savings of $600,000 to fund equipment for the facility operations.

	McMillen Jacobs developed a complete construction cost estimate at every development stage of the project design drawings (30%, 60%, 90%, IFC), which served to help guide the process and be used as a measure for Value Engineering considerations throughout the design process and client negotiations, to help justify the additional inclusion or possible deletion of various project features, dependent upon client wishes vs. budgetary constraints.
Project Goals/Objectives	The program aims to prevent species extinction and to provide treaty and sport harvest opportunities by increasing the numbers of sockeye salmon in the Snake River. At typical operating capacity, this facility would have the potential of producing one million sockeye salmon smolts for release annually in the Upper Sawtooth Basin. This drastic increase in the sockeye salmon is anticipated to result in the delisting of the species from the endangered species list. Upon completion of the design, the construction documents were issued with the base requirements for raising fish fully incorporated. Some of the operation and maintenance enhancement features were also included. The remaining "nice to have" items were reserved for implementation if funds were available as construction advanced. A contingency value was also established to cover the project unknowns, including geotechnical issues, water well drilling and development, and dewatering conditions. As construction progressed, the work effort was completed efficiently, leaving most of the contingency budget intact. Consequently, a large number of the "nice to have" features were constructed and the project was delivered on time and under the $13.6 million(construction) budget established two years earlier—the first time BPA had a hatchery project delivered on time and within budget.

PROJECT #6: Crystal Springs Fish Hatchery	
Client	Shoshone-Bannock Tribe; Danny Stone; (208) 239-4550; dstone@sbtribes.com
Dates/Contract $	July 2010 – April 2019; $19.6M total installed cost
Location	Eastern Idaho- Yankee Fork of the Salmon River and Panther Creek
Type of Project	Design of a Fish Hatchery Facility
Description of Project	McMillen Jacobs collaborated with the Shoshone-Bannock Tribe to complete a NPCC Step 1 Master Plan, including bio programming, conceptual design, construction and operating costs, HGMP's, groundwater investigations, topographic surveys, and scientific justification for a new 1.0M smolt spring Chinook hatchery in Eastern Idaho. In addition to the early planning stage, McMillen Jacobs developed the preliminary design and served as the final design lead. The Crystal Springs Hatchery project consists of the main hatchery and two satellite adult collection and acclimation facilities for production of a one million Chinook smolt program funded through an accord with Bonneville Power Administration.

	Major project elements include a 14,000-square-foot hatchery and admin building, a 2,400-square-foot office/shop building, development of a 24 cfs groundwater supply system, a water chilling system with energy recovery, cleaning waste treatment, SCADA, and three on-site residences for hatchery staff. 
Project Goals/Objectives	The hatchery production will support supplementation programs in the Upper Salmon River tributaries of Yankee Fork and Panther Creek, with the goal or restoring locally adapted hatchery and natural spawning spring Chinook populations to these watersheds, to contribute to recovery, and meet tribal cultural and harvest objectives.

PROJECT #7: Garrett Co-op Building	
Client	DI Development, Matt Berges mattberges@gmail.com, 216.276.3816
Dates	06/2019 – Currently under construction
Location	Cleveland, Ohio
Type of Project	Architecture, Design, Code Analysis, Approval Process Management
Description of Project	HORTON HARPER ARCHITECTS Located along the embankment of the Lorain-Carnegie Bridge, this 7,800sf complex includes a handful of uses; warehouse, production, office, live/work and parking, within its three-quarter acre parcel. At the direction of the client a simple material palette of brick, stucco and concrete was selected to fit in with the surround context of new housing.  The warehouse and production spaces, constructed of masonry and steel k-joists, provide wide open areas with natural light that streams in through the south-facing clerestory windows. Along the north and west walls plywood cladding adds a sense of warmth to the space while also creating impact resistant walls. Simple office rooms flank these spaces with large panes of glazing to allow light and lines of site between them. Two levels of wood framed live/work-space define the visual presence from West 19th Street and are oriented to take advantage of the expansive skyline views to the northeast. The spaces are designed to be flexible enough for residential or commercial uses, which

	required the design team to make design decisions that were precisely guided by the building code. With a total budget of $750,000 this project highlights the ability of the Horton Harper design team to design in a flexible manner when determining material and structural systems that meet building code while keeping construction costs down.
Project Goals/Objectives	From the outset, the need for in depth zoning and building code alignment for this dynamic mix of often incompatible uses was recognized. Direct engagement with local and state officials to overcome these issues was required to get the design and configuration of spaces that the client preferred.

PROJECT #8: Deane's House	
Client	Deane Malaker (mattberges@gmail.com, 216.276.3816)
Dates	12/2015 – 7/2016
Location	Cleveland, Ohio
Type of Project	Architecture, Design, Approval Process Management, Construction Administration
Description of Project	HORTON HARPER ARCHITECTS Located amidst the densely packed steel worker cottages and shops of Cleveland's Tremont neighborhood, this single-family residence tells onlookers as much about its unique dimensions as it does about its eccentric owner. The site, a triangular parcel created by the intersection of the neighborhood's two street grids serves as the starting point for the house's conceptual ideas. To optimize the potential of the site's modest footprint the house is conceived as a solid block built to the extents of the property line. Portions of the block are thoughtfully carved away to activate the ground plane along the street, to establish pedestrian and vehicular lines of site, and to respond to the shifting building types of its surroundings.  The building's material palette alludes to both the rich history of the city and the nostalgic sensibilities of the owner. All materials were sourced locally and selected specifically for their ability to weather over time. Smooth cast in place concrete serves as the podium for the front porch while CMU blocks serve as the foundation for the triangular construct. The weathering steel cladding is lifted off the ground, giving the heavy steel structure a delicate presence at its tapered corner. With a total budget of $350,000 this project highlights the ability of the Horton Harper design team to design an attractive, award-winning project on the tightest of budgets and sites. 2016 AIA Cleveland Design Award 2017 AIA Ohio Design Award 2017 AIA National, "Emerging Voices" exhibit at AIA headquarters in Washington DC

Project Goals/Objectives	The driving force of this project was navigating the aspirations of the owner, the relatively modest budget and small site. Through in-depth coordination with local fabricators HHA was able to source and develop a cost effective cladding system that both fit the surrounding neighborhood and set it apart visually.

PROJECT #9: Case Western Reserve University, MediaVision	
Client	Case Western Reserve University, MediaVision
Dates	10/2013 – 5/2014
Location	Cleveland, Ohio
Type of Project	Design, Construction Administration
Description of Project	HORTON HARPER ARCHITECTS The collaborative workspace for Case Western Reserve's MediaVision, designed in collaboration with studioTechne, responded to the needs of the client and the constraints of the site through efficient space planning and an inventive use of materials. As mandated by the University, MediaVision, the video production department for Case Western Reserve University, was to relocate their offices to a maintenance warehouse off campus. Conceived as a "box within a box", their headquarters contain work-spaces built for staff, as well as a television studio, control room, editing suites, & other related facilities.   By salvaging a series of existing partitions built inside the warehouse slated for demolition, construction costs were reduced, allowing the department to add additional space. Furthermore, designers utilized inexpensive, off the shelf items (pegboard, PVC strip curtains, T-8 fluorescent lighting, exposed cable trays) to create a series of dramatic spatial effects, complementing the overall identity of the client's business model.
Project Goals/Objectives	The simple motivation of the university for this project was the creation of production space within an existing structure and an affordable cost. Little regard was given the aesthetic quality of the environment, yet the design team took it upon themselves create a visually dynamic space despite its extremely modest budget.

1.7 References

References are provided for each key personnel in Section 1.4 and client references are provided above for each of our projects described above. More than 80% of our contracts (by dollar volume) have been awarded to us from repeat clients—including federal, state, and local agencies. Our successful working relationships with long-term clients exist because we continually strive to understand our clients' needs and provide the high-quality expertise they expect.

On many occasions, we have been asked by our clients to accelerate work schedules to meet specific funding windows, meet in-stream construction windows, or meet contractor requirements. Our team rises to the challenge while maintaining project quality and meeting budgets as indicated by the client quotes below.

"The Shoshone-Bannock Tribes (Tribes) contracted McMillen in 2012 to perform design, engineering, and planning services for a Bonneville Power Administration (BPA) funded hatchery program in Southern Idaho. The hatchery program is intended to produce anadromous and resident fish to support harvest and conservation efforts in the Snake River basin. Because this project is funded through BPA, the design and planning efforts routed through the Northwest Power and Conservation Council's three-step process for new artificial production facilities. The increased level of scrutiny for the hatchery necessitated contracting an exceptional firm with a great deal of experience to bring a final design and master plan detailing the program through implementation. In my experience during this intensive design and planning effort, being the primary contact with McMillen for the hatchery project, I could not have selected a more qualified firm. Each of the various challenges and major tasks were met and completed with professional attention to detail in a timely manner. McMillen provided project management support, professional engineers, and an exceptional administrative staff to the hatchery program which exceeded my expectations throughout the planning process. Further, each of the staff assigned to participate in the hatchery planning process were easily accessible and often went above and beyond the call of duty to finish essential tasks on a short time-frame. McMillen is well qualified to develop sound plan, design and exceptional hatchery facility, and construct the final product in a professional manner. I would recommend their services to any entity seeking assistance with hatchery planning or construction, and should the need arise; utilize McMillen again for our program needs."

Shoshone-Bannock Tribes, Daniel Stone, Policy Analyst, Fish and Wildlife Department (208) 239-4550; re: Crystal Springs Fish Hatchery for Snake River Chinook Salmon and Yellowstone Cutthroat

"The report was done very well, and is considered an example of what WDFW expects from future Pre-Design Reports. A/E services for the Design and Construction of the project will be selected on a competitive basis. I assume McMillen- Jacobs will be interested in the project. I definitely hope you are. One of the best parts of my job is getting to partner with quality firms and produce projects that will make a difference, and working with McMillen/Jacobs on the Pre-Design was truly a pleasure. I appreciate that M/J recognized the value of hatchery experience on the design team to help keep things oriented to the end user group. I believe that perspective is vital for the long-term success of any hatchery project."

Tim Ward Construction Project Coordinator II (retired), Washington Dept. of Fish and Wildlife- Capital and Asset Management Program; 360-701-7599 (cell) re: WDFW Naselle Fish Hatchery pre-study

"QUALITY: Design was well thought and high quality. SCHEDULE: All milestones were made in a timely manner. COST CONTROL: 1 modification was done for additional items added to the scope. MANAGEMENT: Managed the project extremely well with good leadership. REGULATORY COMPLIANCE: Interfaced well with compliance authorities. ADDITIONAL/OTHER: Vendor has completed all requirements and timelines in the contract to the satisfaction of the end customer. RECOMMENDATION: Given what I know today about the contractor's ability to perform in accordance with this contract or order's most significant requirements, I would recommend them for similar requirements in the future."

Karl Lautzenheiser, Contract Specialist USFWS, District 1&8; re: Eagle Creek Fish Hatchery

"Please accept this letter of reference for the team of professionals at McMillen LLC. Idaho Fish and Game (IDFG) have remained impressed with how the McMillen team has worked diligently with IDFG through every step of our Design/Build Contract. This started as the drawing board while they listened to our scientist's visions and concerns for construction a state-of-the-art Sockeye Hatchery with a set budget. Throughout the design phases, the communication between McMillen and the IDFG science team was flawless. The construction phases have shown seamless melding between our entire "team", the construction crew, the engineering team, and the IDFG owners. One of the most impressive aspects is the continuous communication from being invited on their weekly construction meetings to a monthly onsite meeting. Throughout our Idaho winter, and with days that never crept above 10 degrees, the construction crew never slowed down. We lost a total of two days to weather in the past year of construction! We set the ribbon cutting date one year in advance, and with three months remaining, McMillen has remained committed to hitting our target date with no increase in the design budget. In fact, through their cost savings in construction, we are now selecting additional items that weren't originally intended but are now affordable due to their continuous budget efficiencies. McMillen has proven flawless with the Design/Build concept, and I would highly recommend their combined engineering and construction team for future hatchery projects."

IDFG, Paul Kline, Assistant Bureau Chief (208) 334-3700; re: Springfield Sockeye Hatchery

"Their performance demonstrated an ideal example of teamwork involving staff from a wide range of expertise with a common purpose. I found them to be highly professional, efficient and very conscientious of the work performed and meeting our expectations in full manner. I was particularly impressed with the added administrative, technical and field support they provided for each project. This included meeting Tribal Employment Requirement Ordinance (TERO) obligations in an orderly and well managed fashion. An added unique quality of these companies is the follow up services they provided for each project. The end product of their services exceeded our expectations leading us to consider them with high regard in future projects."

Tim Peone, Manager; (509) 258-7297 or by email timpeone@spokanetribe.com; re: audit of facility and operations, strategic plan modernization, and design-build contractor for Spokane Tribal Hatchery

"McMillen was an outstanding contractor. Very professional in all aspects of the contract. Whether it came to schedules, design changes, contract change orders and management of onsite and home office personnel. McMillen was a pleasure to have as the prime contractor. They were timely in all their submittals, cost proposals, and very reasonable but fair when it came to providing additional cost data and price for added work. From the project manager, onsite supervision, assistance by home office personnel, to the owner of the company, this contractor was very professional. The coordination effort put forth in dealing with onsite Hatchery personnel and management was outstanding. The speed and accuracy that was shown by McMillen to proceed and correct deficient work was commendable."

Brandt Demars, Program Manager, Bureau of Reclamation, (208) 378-5094, BDemars@usbr.gov; re: Winthrop National Fish Hatchery, Adult Holding and Spawning Facilities; Leavenworth Fisheries Complex

"Thanks again for helping us get this put together…it's great to see a comprehensive, quality product come together that, in my opinion, will very much help us to achieve and implement the vision our policy makers set out for us in the Tribal Restoration Plan."

Yakama Nation, Bill Bosch, bbosch@yakama.com; Yakima Subbasin Summer- and Fall-Run Chinook and Coho Salmon Hatchery Master Plan and Supporting Tasks

"All your design staff have worked very hard and provided a high degree of flexibility and responsiveness to our sometimes crazy demands. I greatly appreciate that everyone runs their projects with great initiative and direction without a need to micromanage, which has allowed me to get a number of other complex programs underway this past year, such as my spillgate rehabilitation program (now on its fourth spillway), as well as to pay attention to my contracts that need micromanaging."

Nathan T. Higa, P.E.; Hydro Resources, PacifiCorp Energy; (503)813-5753 W; (503)200-9378 C; (Lewis River Hatchery – Upstream & Downstream Intake Pump Station Modifications)

McMillen Jacobs' Hatchery Experience

Project/Client	Incubation Rooms/Systems	Rearing Tanks/Ponds	Raceways/Circular Tanks	Holding Ponds/Vessels	Water Heating/Chilling Systems	Water Reuse Systems	Intakes/Pumps/Water Supply/ Treatment	Offices/Buildings	Power Systems/Electrical	HGMP/HMP	Health Disease Management	Effectiveness Monitoring Plan	Conservation Aquaculture	Upgrade Existing Facilities	Regulatory/Environmental /Permitting Support	Native American Indian Tribe Coordination	Hydraulic	Design	Construction/CM/Const	Start-up/Testing/Ops Support	Design-Build Process	NPCC Step Process	Groundwater Well Development / Rehab
1. Baker Fish Hatchery Design-Build; PSE	♦	♦	♦	♦			♦	♦			♦			♦	♦		♦	♦	♦	♦	♦		
2. Baker Spawning Beaches Water Supply; PSE		♦		♦			♦										♦	♦	♦				
3. Carson National Fish Hatchery; USFWS Dist 1&8							♦							♦	♦		♦	♦	♦	♦	♦		
4. Cedar River Broodstock Collection Facility Siting Study and Alt Analysis, SPU				♦			♦	♦							♦	♦	♦	♦					
5. Clearwater Hatchery Adult Pond; USFWS Dist 1&8				♦			♦							♦			♦	♦	♦	♦	♦		
6. Clearwater Hatchery Residence; USFWS								♦						♦				♦	♦	♦	♦		
7. Clearwater Hatchery Water Supply Modification Feasibility; USFWS							♦										♦						
8. Coleman Fish Hatchery; USFWS				♦	♦	♦	♦		♦					♦			♦	♦					
9. Crystal Springs Fish Hatchery Design; Shoshone Bannock Tribe	♦	♦	♦	♦	♦		♦	♦		♦	♦		♦	♦	♦	T	♦	♦			♦	♦	♦
10. Dexter Hatchery; Adult Trapping Facility Alternative Analysis; USACE				♦										♦			♦						

McMILLEN JACOBS ASSOCIATES

McMillen Jacobs' Hatchery Experience

Project/Client	Incubation Rooms/Systems	Rearing Tanks/Ponds	Raceways/Circular Tanks	Holding Ponds/Vessels	Water Heating/Chilling Systems	Water Reuse Systems	Intakes/Pumps/Water Supply/Treatment	Offices/Buildings	Power Systems/Electrical	HGMP/HMP	Health Disease Management	Effectiveness Monitoring Plan	Conservation Aquaculture	Upgrade Existing Facilities	Regulatory/Environmental /Permitting Support	Native American Indian Tribe Coordination	Hydraulic	Design	Construction/CM/Const	Start-up/Testing/Ops Support	Design-Build Process	NPCC Step Process	Groundwater Well Development / Rehab
11. Eagle Creek NFH Adult Pond and Fishway; USFWS				♦					♦					♦			♦	♦	♦				
12. Eagle Creek NFH Sand Filter System; USFWS							♦							♦	♦		♦	♦					
13. Eagle Creek NFH Exclusion Barrier; USFWS														♦			♦	♦					
14. Falls Creek Hatchery; Klamath River Renewal Corp	♦	♦	♦	♦	♦		♦	♦	♦					♦				♦					
15. Fort Qu'Appelle Hatchery Engineering Study – Saskatchewan Wildlife Assets Management		♦	♦	♦		♦	♦	♦	♦					♦			♦	♦					
16. Fort Qu'Appelle Hatchery Capital Improvement Projects – Saskatchewan Wildlife Assets Management		♦	♦	♦		♦	♦		♦					♦			♦	♦	♦	♦			♦
17. Gavins Point National Fish Hatchery Mussels Study; USFWS							♦				♦			♦									
18. Hagerman Fish Hatchery Air Entrainment Study; USFWS							♦							♦			♦	♦					
19. Hagerman Fish Hatchery Degassing; USFWS							♦							♦			♦	♦	♦				
20. Hidden Falls Hatchery; SSRAA	♦	♦					♦							♦			♦	♦	♦				

McMillen Jacobs' Hatchery Experience

Project/Client	Incubation Rooms/Systems	Rearing Tanks/Ponds	Raceways/Circular Tanks	Holding Ponds/Vessels	Water Heating/Chilling Systems	Water Reuse Systems	Intakes/Pumps/Water Supply/Treatment	Offices/Buildings	Power Systems/Electrical	HGMP/HMP	Health Disease Management	Effectiveness Monitoring Plan	Conservation Aquaculture	Upgrade Existing Facilities	Regulatory/Environmental/Permitting Support	Native American Indian Tribe Coordination	Hydraulic	Design	Construction/CM/Const	Start-up/Testing/Ops Support	Design-Build Process	NPCC Step Process	Groundwater Well Development/Rehab
21. Hotchkiss National Fish Hatchery Raceway Rearing Pond D-B & Electrical upgrades		♦	♦				♦							♦			♦	♦	♦		♦		
22. Imnaha Satellite Fish Collection Facility; USFWS														♦	♦	♦	♦	♦	♦	♦	♦		
23. Integrated Hatchery Operations Team; BPA	♦	♦	♦	♦			♦	♦															
24. Iron River Building Renovations; USFWS	♦	♦			♦	♦	♦	♦	♦					♦				♦					
25. Irrigon Fish Hatchery Assessment; USACE	♦	♦	♦	♦			♦	♦															
26. Jackson Fish Hatchery								♦						♦	♦				♦				
27. Kalispel Tribal Hatchery Conversion Study; Kalispell Tribe	♦	♦	♦			♦	♦		♦				♦	♦		T	♦	♦					
28. Kalispel Tribal Hatchery Upgrades; Kalispell Tribe						♦	♦		♦					♦	♦	♦		♦	♦	♦	♦		♦
29. Kalispel Hatchery Fishing Pond; Kalispel Tribe				♦			♦								♦	♦		♦	♦	♦	♦		
30. Klamath Falls NFH Sucker Rearing Facility	♦	♦		♦			♦	♦		♦	♦		♦	♦	♦	♦	♦	♦					♦
31. Kootenai River Native Fish Restoration & Conservation	♦	♦		♦			♦	♦		♦			♦			T	♦	♦				♦	

McMILLEN JACOBS ASSOCIATES

McMillen Jacobs' Hatchery Experience

Project/Client	Incubation Rooms/Systems	Rearing Tanks/Ponds	Raceways/Circular Tanks	Holding Ponds/Vessels	Water Heating/Chilling Systems	Water Reuse Systems	Intakes/Pumps/Water Supply/Treatment	Offices/Buildings	Power Systems/Electrical	HGMP/HMP	Health Disease Management	Effectiveness Monitoring Plan	Conservation Aquaculture	Upgrade Existing Facilities	Regulatory/Environmental/Permitting Support	Native American Indian Tribe Coordination	Hydraulic	Design	Construction/CM/Const Support	Start-up/Testing/Ops Support	Design-Build Process	NPCC Step Process	Groundwater Well Development/Rehab
Aquaculture; Kootenai Tribe of Idaho																							
32. Kootenay Hatchery Circular Tanks; Freshwater Fisheries BC		♦	♦			♦	♦							♦			♦	♦					
33. Lake Roosevelt White Sturgeon Conservation Aquaculture Hatchery; Spokane Tribe	♦	♦	♦	♦	♦	♦	♦		♦	♦			♦			T							
34. Leavenworth Fisheries Complex Alternatives Analysis; USFWS	♦	♦	♦	♦			♦	♦						♦			♦						♦
35. Leavenworth Hatchery Pipeline Design; Bureau of Reclamation						♦	♦							♦			♦	♦	♦				
36. Leavenworth Pilot Circular Tank and Solids Handling: Bureau of Reclamation		♦	♦			♦	♦		♦		♦		♦			♦	♦	♦	♦				
37. Little Sheep Creek Adult Collection/Acclimation; USFWS							♦										♦	♦	♦		♦		
38. Lookingglass Adult Holding Design-Build; USFWS				♦			♦							♦			♦	♦	♦	♦	♦		
39. Lookingglass Condition Assessment; USFWS	♦	♦	♦	♦			♦	♦															
40. Lookingglass Residence Design-Build; USFWS							♦	♦						♦			♦	♦	♦	♦	♦		

McMillen Jacobs' Hatchery Experience

Project/Client	Incubation Rooms/Systems	Rearing Tanks/Ponds	Raceways/Circular Tanks	Holding Ponds/Vessels	Water Heating/Chilling Systems	Water Reuse Systems	Intakes/Pumps/Water Supply/Treatment	Offices/Buildings	Power Systems/Electrical	HGMP/HMP	Health Disease Management	Effectiveness Monitoring Plan	Conservation Aquaculture	Upgrade Existing Facilities	Regulatory/Environmental/Permitting Support	Native American Indian Tribe Coordination	Hydraulic	Design	Construction/CM/Const Support	Start-up/Testing/Ops Support	Design-Build Process	NPCC Step Process	Groundwater Well Development / Rehab
41. Lookingglass Well Rehabilitation; USFWS							♦							♦			♦	♦	♦				♦
42. Lostine Adult Collection Facility: BPA				♦			♦									♦	♦	♦	♦				
43. Lostine River Acclimation Fish Facilities; BPA			♦	♦			♦										♦	♦	♦				
44. Lower Granite Adult Trap Holding; USACE			♦	♦			♦	♦						♦			♦	♦	♦				
45. Lyons Ferry Circular Tanks; USFWS		♦	♦				♦							♦			♦	♦					
46. Lyons Ferry Release Ponds; USFWS				♦			♦							♦			♦	♦	♦				
47. Magic Valley Hatchery Raceway Modification/Repair; USFWS			♦				♦							♦			♦	♦	♦				
48. McCall Hatchery Fish Barrier and Trap; USFWS				♦										♦	♦		♦	♦	♦	♦	♦		
49. Meadow Creek Collection Facility Alternative Analysis; USFWS			♦	♦			♦								♦		♦	♦					
50. Medvejie Creek Hatchery; NSRAA	♦	♦					♦							♦			♦	♦	♦				
51. Melanson Hatchery Feasibility Study; Metlakatla Indian Community	♦	♦	♦	♦			♦	♦								T	♦	♦					

McMILLEN JACOBS ASSOCIATES

McMillen Jacobs' Hatchery Experience

Project/Client	Incubation Rooms/Systems	Rearing Tanks/Ponds	Raceways/Circular Tanks	Holding Ponds/Vessels	Water Heating/Chilling Systems	Water Reuse Systems	Intakes/Pumps/Water Supply/Treatment	Offices/Buildings	Power Systems/Electrical	HGMP/HMP	Health Disease Management	Effectiveness Monitoring Plan	Conservation Aquaculture	Upgrade Existing Facilities	Regulatory/Environmental/Permitting Support	Native American Indian Tribe Coordination	Hydraulic	Design	Construction/CM/Const	Start-up/Testing/Ops Support	Design-Build Process	NPCC Step Process	Groundwater Well Development/Rehab
52. Melvin R Sampson Coho Hatchery; BPA/Yakama Nation	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦					T	♦	♦	♦	*	♦	♦	♦
53. Merwin Hatchery Steelhead Pond; Water Supply Modifications; PacifiCorp				♦			♦							♦			♦	♦	♦				
54. Naselle Fish Hatchery Renovation, WDFW	♦	♦	♦	♦		♦	♦	♦	♦					♦			♦	♦					
55. NEOH Spring Chinook Hatchery; BPA	♦	♦	♦	♦			♦	♦						♦			♦	♦				♦	
56. Niagara Springs Fish Hatchery Modernization; Idaho Power Company	♦	♦	♦		♦		♦	♦	♦					♦			♦	♦	♦	♦			
57. NPT Coho Master Plan; NPT		♦	♦	♦			♦										♦						
58. Okanagan Summer Steelhead Hatchery; CCT	♦	♦	♦	♦		♦	♦	♦		♦				♦			♦					♦	
59. ONA Sockeye Hatchery Siting Study; ONA	♦	♦	♦				♦	♦								T	♦						
60. Quinault National Fish Hatchery Barrier Improvements; USFWS							♦							♦	♦		♦	♦	♦	♦	♦		
61. Redfish Hatchery Collection Facility Alternative Analysis; IDFG				♦			♦	♦					♦	♦	♦		♦	♦					

McMillen Jacobs' Hatchery Experience

Project/Client	Incubation Rooms/Systems	Rearing Tanks/Ponds	Raceways/Circular Tanks	Holding Ponds/Vessels	Water Heating/Chilling Systems	Water Reuse Systems	Intakes/Pumps/Water Supply/ Treatment	Offices/Buildings	Power Systems/Electrical	HGMP/HMP	Health Disease Management	Effectiveness Monitoring Plan	Conservation Aquaculture	Upgrade Existing Facilities	Regulatory/Environmental /Permitting Support	Native American Indian Tribe Coordination	Hydraulic	Design	Construction/CM/Const	Start-up/Testing/Ops Support	Design-Build Process	NPCC Step Process	Groundwater Well Development / Rehab
62. Salmon River Diversion: Canal, Dam, Downstream Passage and Upstream Fish Passage Improvements; BC Hydro									♦			♦		♦	♦		♦	♦					
63. Sandy Hatchery Trap and Sort Facility; ODFW				♦			♦							♦			♦	♦					
64. Sawtooth Hatchery Streambank Repair; USFWS							♦							♦				♦	♦		♦		
65. Sawtooth Hatchery Well and Water Delivery System; USFWS							♦		♦					♦			♦	♦	♦	♦	♦		♦
66. Ship Creek Fisheries Center; ADFG	♦	♦		♦			♦	♦						♦			♦						
67. South Fork Salmon Adult Pond; USFWS				♦			♦							♦	♦		♦	♦	♦				
68. Speelyai Hatchery Modifications; PacifiCorp		♦	♦	♦			♦							♦	♦		♦	♦	♦				
69. Speelyai Intake Modifications, Pond 14 Reconstruction, Spawning Building, and Kokanee Trap Reconstruction; PacifiCorp		♦		♦			♦							♦	♦		♦	♦	♦				
70. Spokane Tribal Hatchery Modernization; Spokane Tribe		♦	♦			♦	♦		♦			♦		♦		T	♦	♦	♦	♦	♦		

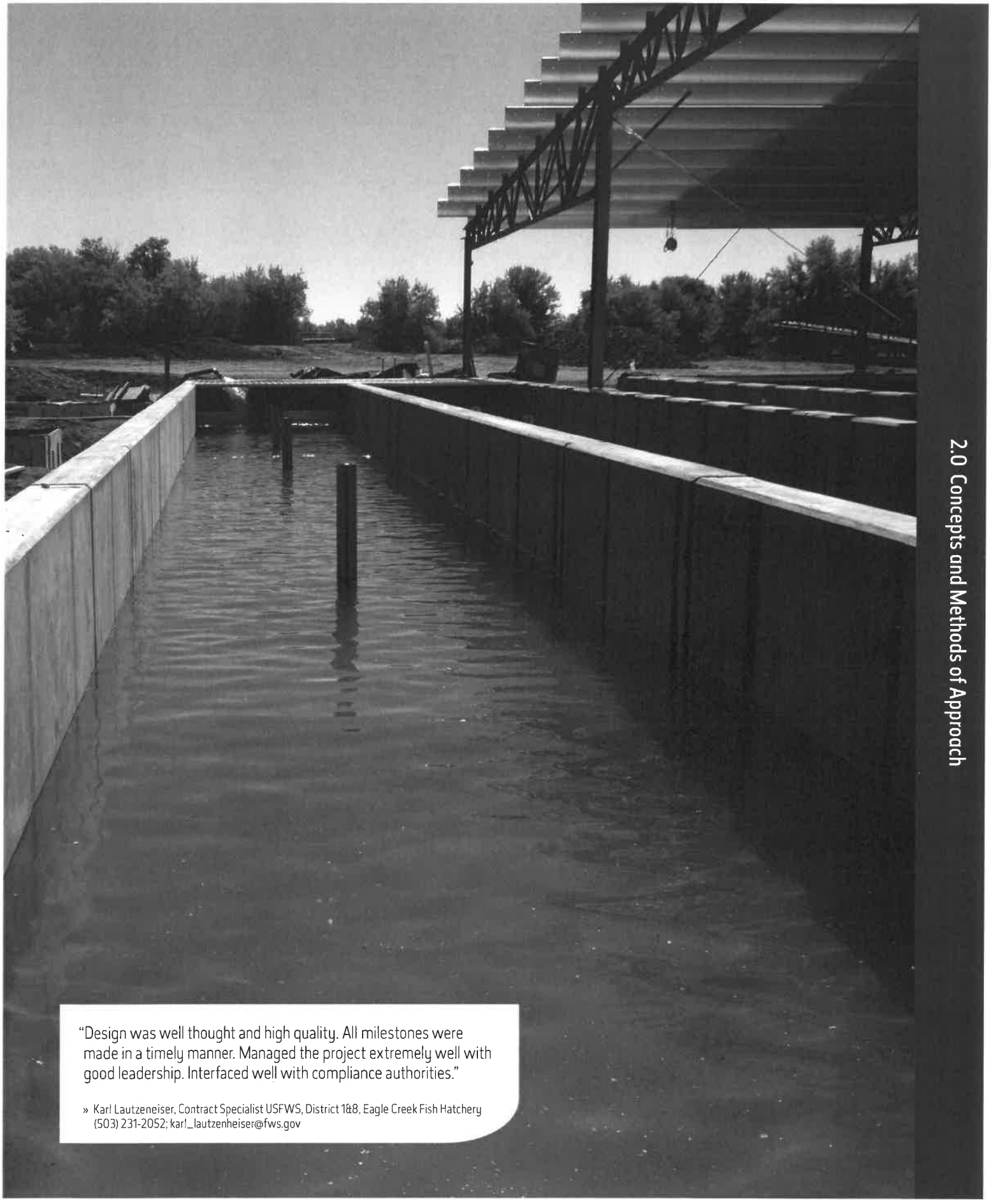
McMILLEN JACOBS ASSOCIATES

McMillen Jacobs' Hatchery Experience

Project/Client	Incubation Rooms/Systems	Rearing Tanks/Ponds	Raceways/Circular Tanks	Holding Ponds/Vessels	Water Heating/Chilling Systems	Water Reuse Systems	Intakes/Pumps/Water Supply/Treatment	Offices/Buildings	Power Systems/Electrical	HGMP/HMP	Health Disease Management	Effectiveness Monitoring Plan	Conservation Aquaculture	Upgrade Existing Facilities	Regulatory/Environmental/Permitting Support	Native American Indian Tribe Coordination	Hydraulic	Design	Construction/CM/Const	Start-up/Testing/Ops Support	Design-Build Process	NPCC Step Process	Groundwater Well Development / Rehab
71. Springfield Hatchery Master Plan and Design-Build; IDFG	♦	♦	♦	♦	♦		♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦
72. Walla Walla Hatchery; CTUIR	♦	♦	♦	♦			♦	♦		♦				♦	♦		♦	♦				♦	♦
73. Wallowa Hatchery, Little Sheep Creek Fish Passage Modifications; USFWS				♦										♦			♦	♦	♦	♦	♦		
74. Warm Springs NFH & Schoolie Springs Satellite Facility Feasibility Study; USFWS		♦	♦			♦	♦							♦				♦					
75. Whitman Lake Hatchery; SSRAA	♦	♦	♦	♦			♦							♦			♦	♦	♦				
76. Winthrop Fish Hatchery Rearing Unit and Pipe Replacement Alternatives Analysis; USFWS		♦	♦			♦	♦							♦			♦						
77. Winthrop NFH Adult Holding & Spawning Facility; USBR				♦			♦							♦			♦	♦	♦	♦	♦		
78. Yakima Subbasin Master Plan (Holmes, aka Melvin R. Sampson, Prosser, & Marion Drain), Yakama Nation	♦	♦	♦	♦			♦	♦		♦			♦	♦		T	♦					♦	♦

♦ *Performed by DJ Warren & Associates* *T= Working under an agreement with a Native American Indian / First Nations tribe.* * = *Under contract, not yet complete.*

McMILLEN JACOBS ASSOCIATES



"Design was well thought and high quality. All milestones were made in a timely manner. Managed the project extremely well with good leadership. Interfaced well with compliance authorities."

» Karl Lautzeneiser, Contract Specialist USFWS, District 1&8, Eagle Creek Fish Hatchery (503) 231-2052; karl_lautzenheiser@fws.gov

2.0 Concepts and Methods of Approach

2.1 Procedures for Clear Communication

Ed Aneshansley, our proposed Project Manager, will serve as your primary-point-of-contact. He has a proven record of delivering high quality technical products on time and budget. Utilizing web-based meetings and effective project management tools, Mr. Aneshansley is able to efficiently coordinate the team members producing high quality work products on time and within budget.

For this contract, many of his in-house team members are based out of our Boise, Idaho office. Ed is based in Massachusetts and our lead architect, Horton Harper is located near the project site in Cleveland, Ohio. We will utilize communication tools including web-based meeting software such as Windows for Teams, Skype, or High Five video conferencing. This will enable us to collaborate as one team and efficiently move forward on your project. These tools allow graphic presentation of material to the client and our team members located in various offices. We have used this approach to share drawings, analyze site photos, and share sketches of potential solutions. Between these tools, email communication, and SharePoint to share files, **we are able to successfully execute our work with team members, clients, and onsite staff located in multiple geographic locations**.

To further assist collaboration, we will develop and implement a management plan, realistic budgets and schedules, and proactive communication to build a strong foundation for our success. The staff at DNR and General Contractor's construction site personnel will remain an integral member of our team, working closely with our staff as we foster collaboration on this project.

Proven Performance: We have had proven success using the web-based communication tools mentioned above. McMillen Jacobs currently has over 160 ongoing contracts located in various states including the shores of Virginia. These projects require a wide range of disciplines from engineers located throughout the Pacific Northwest as well as partners and subcontractors located in various states across the nation. We successfully manage and staff these projects from a variety of offices. In addition, at the time of turning in this submittal, our staff of 400 employees have been continuing business as usual working from individual homes for four weeks due to the COVID-19 pandemic and direction from our state's authorities. In true McMillen Jacobs' fashion, our employees have embraced new technology and have been able to progress on projects and keep communication stronger than ever.

2.2 Plan to Deliver Project within Budget and on Schedule

Failure to meet the established deadlines and budget can often be traced to a poorly developed initial schedule and budget. If the timeline and estimated costs are not realistic, additional resources will be added to the project resulting in inefficient execution, delays, and change orders. A cascading effect can occur which ripples through the entire project. We believe it is important at the kickoff meeting to work through individual work tasks with "open and honest" communication on what is realistic. We encourage clear identification of risks associated with the schedule and develop a plan to mitigate the risks. A clear understanding of the goals and objectives coupled with effective manpower scheduling will achieve the clients' schedule and budget.

While we recognize that all projects have various challenges, issues, or threats we believe that from the inception you have to implement well-developed workplans, effective and proactive communication, effective and skilled team communication, effective and skilled team and representative project schedules and budgets.

By following the plan detailed in Section 2.3.2, implementing our best practices, and keeping close communications, we have delivered many projects under or on budget and within the established schedule. This project will be set up and managed with those same management approaches.

2.2.1 *Approach to Meeting Budget & Schedule*

In the development of a design, time is money. If our design team can deliver the agreed-upon products within the allotted time, we will deliver within budget. Under the direction of our Project Manager, Ed Aneshansley, McMillen Jacobs will develop a detailed baseline project schedule, which will incorporate input from DNR, his team of discipline leads, and our lead architect, Horton Harper to capture the proper level of activity detail and definition to illustrate the complete work effort sequence. Additional input will be collected from the DNR and all involved subcontractors and suppliers and incorporated into the project schedule, so that the most efficient schedule can be produced which clearly defines the critical path through the project. This will enable all involved parties to easily recognize and focus their attention on the work efforts required to develop a realistic schedule and complete the project in the shortest possible duration. Their involvement early in the process will also foster commitment to meeting the established schedules.

Schedules will be a focus of all meetings and measures will be taken to ensure early identification of any potential delay. If a negative trend is identified, then our D&C Manager and management team will review the project to identify why the operation is not proceeding according to plan. We may perform a method analysis or time study to understand the problem. The team will then develop and implement a recovery plan, as necessary.

Throughout this Project, McMillen Jacobs will utilize our collaborative "Design-to-Budget" methodology with the DNR, to ensure the design packages fit within the DNR's funding levels. This approach will require continuous balancing of the desired results versus cost—a skill which McMillen Jacobs has refined through many years of experience leading over 60 Design-Build projects. As we progress through the design development, cost estimates will be updated to verify that design changes remain in budget. Within this process, we will work closely with the DNR to clearly identify design elements which provide critical functionality and operational flexibility.

2.2.1.1 Risk Analysis

Our team will analyze and document for DNR any activities that our team believes are at the greatest risk of exceeding the scheduled original duration for budget. This task will not just focus on all activities and not just the critical path, as any activity that exceeds the scheduled duration could pose a threat to the budget or affect any of its successors in a negative manner. Activities at the greatest risk of disruption are typically those that are interfacing with permitting agencies or approval of intermittent design packages by project stakeholders.

2.2.2 *History of Projects Delivered on Budget and within Schedule*

McMillen Jacobs has a long history of delivering projects on time and within budget. McMillen Jacobs was founded on the belief that zero changes orders are the standard—not the exception. The fact that 80% of our work comes from repeat customers is a testament to the fact that we regularly deliver projects on time and continuously meet

Table 2-1. Examples Completed Early

Project	Result
Allison Creek Hydro D-B Project Tunnel	Completed 22 days ahead of schedule
Hidroelectrica Choloma Hydro Project	Completed 30 days early
Toketee Intake Trash Rack/Rake Replacement Design-Build Project	Delivered 24 days ahead of schedule
Bridgeport Tunnels Project	Completed 39 days ahead of schedule

Table 2-2. Examples Completed Under Budget

Project	Delivered Under Budget
Long Lake Dam Spillway Improvements D-B	$1.36M under budget
Jenny Lake Public Plaza Area and Asphalt Trails	$650k under budget
Don Edwards Heavy Civil (Pond 16/17) D-B Modifications	$2.6M under budget

milestone dates for our clients. Table 2-1 provides examples where we have finished large projects ahead of schedule and Table 2-2 lists examples where we have delivered projects under budget. We have numerous letters of recommendations and client quotes to verify our ability to deliver projects as established in the original budget and schedule.

2.3 Method of Approach to Achieve Goals and Objectives

McMillen Jacobs Associates proposes the following Project Management protocols and task sequence to ensure the launch, execution and on-time delivery of all project goals and objectives.

2.3.1 *Project Understanding (Goals & Objectives)*

Project understanding is one of the first critical step to developing the high-level objectives, the key milestones required to achieve them and the right team to execute them. This includes an understanding of the history of the site, previous challenges, current conditions and vision for the future. Input from all stakeholders is encouraged to get a full picture to ensure that the end result is considered a success from all points of view. The information accumulated during this phase will be used as the basis of design and will guide key decision-making processes. This discovery period is accounted for in the following Technical Approach in Task 2, Information Gathering.

2.3.2 *Technical Approach*

McMillen Jacobs' Technical Approach presented in this section summarizes how the components of this project will all be completed within 8 primary Tasks as presented below. This is the process that McMillen Jacobs follows for each of the hatchery projects we design. We envision the current scope of work to include Tasks associated with Project Phase 1 at this time.

Project Phase 1:

Task 01 - Project Management
Task 02 - Information Gathering
Task 03 - 30% Design, Review, Accept.
Task 04 - 60% Design, Review, Accept
Task 05 - 90% Design, Review, Accept
Task 06 – Final Design, Review, Accept
Task 07 – Permitting Support
Task 08 – Bidding and Construction Support

2.3.2.1 Task 1 - Project Management

Edward D. Aneshansley, PE shall serve as the Senior Project Manager for the duration of the project. He shall provide management and oversight of all in-house team members including sub-consultants. This will include monitoring of budgets, schedule, financial reporting, timelines, personnel assignments, and ensuring that the work performed is within the contract scope, schedule, and budget. It also includes general project management tasks such as document control, invoices, quality control, and reporting. Ed has successfully led several design projects that specifically focus on Recirculation Aquaculture Technology and sophisticated hatchery designs.

2.3.2.2 Contract Execution

Successful projects begin with clearly defined scopes and specific milestones for deliverables. Therefore, the first major task will be to work with the DNR to refine and confirm the scope and the effort required to accomplish that

work. Key members of McMillen Jacobs' team will evaluate and refine the level of effort needed in their area of expertise to develop the proposed work products as confirmed by the DNR. Once negotiated and agreed upon, this scope will become the basis for the McMillen Jacobs' contract and the Project Management Plan.

2.3.2.3 Project Management Plan

Prior to any work being directed, McMillen Jacobs will develop a formal Project Management Plan (PMP). The PMP will provide sufficient detail on the expectations and goals for all team members. Contents include information on the following topics:

- Project team, team contact information, organization, and reporting
- Project purpose, background, goals, and objectives
- Scope of work
- Communication protocols, SharePoint database site info and file structures, meetings, and confidentiality
- Project controls procedures and forms
- Project schedule
- Budgets and cost codes, internal financial tracking information and procedures
- Quality control plan, introduction to internal technical review (ITR) team members and QC schedule
- Health and safety program while on site or at the DNR's facilities
- CADD standards
- Searchable PDF requirements for interim submittals
- Project deliverable standards (DNR CADD standards), template standards for technical memorandums and reports, specification standards, and cost estimating
- Permitting Summary Requirements

2.3.2.4 Effective Communication

Clear and concise communication is imperative to conducting a smooth and efficient project delivery. Throughout the project life, we will continue to maintain a strongly integrated team that includes key individuals from the DNR, and other DNR identified individuals from participating agencies, along with our Project Manager, and additional subcontractors, consultants, or key personal as needed (i.e. permitting experts, etc.). This core management team will provide the valuable input and criteria to guide the project to a successful completion. Close communication within this team will provide the foundation for the successful execution of the Palestine Hatchery Project.

2.3.2.5 Kickoff Meeting

McMillen Jacobs proposes to conduct an all-day kickoff meeting with the DNR to confirm key criteria, clarify operational issues/constraints, and identify action items for data collection and transfer. Once the design criteria has been reviewed, our concept site plan and other design drawings included in this proposal, along with alternative proposals and this Scope of Work description will serve as a starting point for discussions. All components will be reviewed and discussed to ensure the team has a solid understanding of the overall project. Architectural programming will also be included in this early work effort.

During the kickoff meeting, protocol will be established for the efficient transfer of data between the team members. With the DNR's approval, we propose to set up a SharePoint site for this purpose. Action items developed during the meeting will be documented into a spreadsheet that will be updated and maintained on the SharePoint site for review and updates. From this initial meeting, data collection tasks will be determined, the responsible team member identified to provide the information, and the due date for the information. This action item list will be maintained throughout the project as new items are developed. This system will provide for efficient collection and distribution of all data, drawings, reports, etc.

2.3.2.6 Bi-Weekly Meetings

McMillen Jacobs proposes to set up recurring one-hour project coordination meetings every two weeks with the DNR, and their identified key personnel. This meeting will discuss project tasks completed to date, current project tasks, and two-week look ahead work projections. The meeting will review the action item list and identify outstanding items as well as additional items required for future work tasks. This meeting will include budget and schedule updates. Our team will prepare and distribute a summary of the meeting minutes.

Project Management Deliverables:

- Executed Contract
- Project Management Plan
- Updated Monthly Project Schedule
- Meeting Minutes (Kickoff and Bi-Weekly), Action Items, and Two-Week Look Ahead Schedules
- Monthly Invoice and Progress Report

2.3.2.7 Task 2 - Information Gathering

This task includes identifying or clarifying all design related criteria. The design criteria will be reviewed during the kickoff meeting to clarify any potential questions to fully understand the methods of hatchery operation that the DNR intends to follow. The design and operational criteria will be summarized into a Technical Memorandum to be utilized by all project team members and reviewed at each design submittal (discussed below) to ensure that the project is meeting all requirements. The technical Memorandum will be submitted for the DNR for review and approval. All comments and recommendations will be vetted and then included.

A Geotechnical Report for the hatchery is assumed to become available for review upon award. Our internal geotechnical engineers will review the information and provide a technical memorandum verifying the recommendations and providing design criteria to be utilized by the design team. If additional investigation is deemed warranted by the project team, McMillen Jacobs will provide the expertise to perform the investigations and a budget for this additional work.

A Facility Bioprogram will be developed with input from the Palestine hatchery staff, that will detail the different production systems and their intended use to support the hatchery production goals. Bioprograms will estimate fish growth rates, feeding requirements, flow requirements and the movement and grading of fish throughout the production cycles. Bio programming will be based on documented restrictions on fish density and target stocking sizes. Estimated growth rates will be based on water quality and temperature requirements and all assumptions will be documented.

During this task, hatchery specialist, Greg Fischer, and Aquaculture Engineer, Ed Aneshansley, will develop a preliminary hatchery operations schedule for the fish and mussel rearing program. This will be included in a Technical Memorandum including spreadsheets and graphs illustrating growth rates, by month—from incubation through early and final rearing will be developed for each program. The production goals, rearing densities, and flow indices, along with updated water temperature and water quality data and related growth rates will be used to ensure the hatchery program meets DNR requirements. The finished product will clearly illustrate the water flows for production phases, and related space requirements for anticipated hatchery operations.

Mussel propagation requirements will also be incorporated in the Facility Bioprogram. Freshwater Mussel propagation will most likely require mussel brood stock captivity and a host fish species to accommodate a parasitic larval phase to complete the mussel life cycle. Details on this program will be developed and accommodated in the overall Facility Bioprogram.

McMillen Jacobs has assumed that a complete new survey is required for the project in order to minimize the risk of unforeseen site conditions. A new detailed topographic survey will verify existing control points at the hatchery. The survey will be conducted with GPS surveying equipment or traditional total station equipment. A utility locate service will be called to provide markings on utility corridors within the hatchery property that will also be surveyed. The survey will include all existing building corners, concrete structures, manholes, pipe inverts, slabs, ground shots, fence lines, slopes of the existing ground, top of bank, toe of bank, edge of river, roads, access points, outfalls, and trees larger than 10-inch diameter at breast height. The entire site will be surveyed and a detailed topographic map with 3D surface (TIN Model) will be developed for use as the base map for the project.

Water supply pump testing will include the operation and determination of the available production water from the existing surface water pump station and delivery system for the new facility. McMillen Jacobs will oversee a local groundwater well development subconsultant to evaluated potential groundwater availability. This will include evaluating existing wells in the vicinity and determining water quality and quantity from those wells to provide background on new test well development. The test well will be drilled in anticipation of converting it to a production well in the future to conserve capital funds. The test wells will be monitored while test pumping of the main test well is occurring. This testing will provide information on potential available flow to use for hatchery production, water quality, and groundwater drawdown. These tests well evaluations will lead to a design that will provide adequate flow for the hatchery from the groundwater source. A pressure pipe model of the existing surface water system will be developed to determine pressures throughout the system and potential connections points, if any, for the hatchery expansion. A technical memorandum will be developed outlining each of the water supply test procedures, data collected, productivity of the test, and recommendations. The technical memorandums will be submitted for review by the DNR to provide input. The results from the technical memorandums and review will be included in the design tasks below and guide the design and modifications to each of the water supply systems.

Existing drain lines will be evaluated for capacity and flow for discharge from the new facility. It is anticipated that existing abatement ponds and effluent treatment systems will need to be evaluated to accept any of the new facilities discharge flows. If required, McMillen Jacobs will provide alternative analysis for new effluent water treatment systems to accommodate the new facility if existing systems are not adequate. This will include review of the hatchery's existing NPDES discharge permit, water quality discharge parameters and allowable discharge methods.

Biosecurity will be evaluated early in the process and carried through the design. The intent of collaborating with DNR is to ensure pathogen conveyance is minimized to protect the health and quality of the hatchery program (warm water fish and mussels). This includes methods such as complete isolation, separating water supplies, disinfection, filtering of incoming water, footbaths, and evaluation of pathogen conveyance. All disease vectors will be evaluated as part of a facility risk analysis, and appropriate measure will be taken during the design phase to ensure hygienic traffic flow can be accommodated and proper changing stations and foot baths are in place to prevent disease transmission from outside the building, and within certain areas within the facilities. Quarantine facility requirements also will be evaluated and for incoming fish and mussels as well as organisms leaving the facility for stocking efforts.

It is assumed that hydraulic and hydrology reports will be available for review by our team and will include analysis of the methods used, calculations, HEC RAS models, output, and report recommendations. Our team will recreate the method and HEC RAS model to verify the conditions used, as required. This information will be compiled into a technical memorandum for review by the DNR. This review will ensure the design parameters used for the intake and the outfalls are accurate.

Information Gathering – Verification Deliverables:

- Bioprogram
- Design Criteria Summary Technical Memorandums
- Geotechnical Technical Memorandum

- Topographical Survey in AutoCAD Civil 3D (2016 or newer)
- River Water Pump Test Technical Memorandum
- Ground/Well Water Pump Test Technical Memorandum
- Hydrological and Hydraulic Review Technical Memorandum

2.3.2.8 Task 3 - 30% Design

Concurrent to the completion of the data collection, water supply development, and associated reporting activities described above, McMillen Jacobs' team will provide continuous communication with the DNR to verify the current design and operation approach on all components and criteria as the information becomes available.

The 30% design phase will include development of a Design Documentation Report (DDR). The DDR will be developed and advanced through all phases of the design. The report documents the design as it progresses through the project life. The DDR will include any technical memorandum developed for the project in the appendices. Brief summaries of the technical memorandum will be captured within the DDR identifying results and outcomes. Each major component will include a narrative discussing the design and operation of the systems. Drawings will be developed that fully illustrate the 30% design level and will cover all the project elements. A Table of Contents of the specifications will be developed in CSI format for the submittal for all the major components of the hatchery.

All documents will be reviewed internally, and comments incorporated prior to submitting the documents to DNR. Review by the Internal Technical Review (ITR) Team will be required for all technical documents such as detailed technical memorandums, reports, and construction documents. As part of the overall quality control process, the QC Manger will identify those team members who are qualified to complete reviews of each of the identified products in addition to those identified in the organizational chart. Ed will coordinate with the QC Manager to confirm the qualifications of the proposed individuals, and then assign these individuals to specific quality control roles in advance of the product development. ITR comments on these documents will be provided to the QC Manager on an ITR form. The QC Manager will compile and provide all the comments to Ed Aneshansley (PM). Ed will distribute the comments to the design team and compile all responses to the comments on the same ITR form. The responses will be reviewed by the ITR team. Once the modifications have been made, Ed will review the deliverable documents to ensure that all comments have been incorporated. Ed will then provide the ITR form to the QC Manager to allow monitoring of the quality control process.

As part of the ITR process, our construction professionals will also perform a constructability review. The design team will review the comments from construction team and coordinate with them to provide efficient means and methods that can produce the intended design. This process will occur for each design phase and as questions arise during design on constructability. Our experience has shown that this integrated process between design and construction results in an efficient project with minimal issues during construction.

As part of the 30% design, our team will prepare a detailed engineer estimate of construction costs and construction schedule. The cost estimate will be prepared using standard McMillen Jacobs estimating spreadsheets and converted to DNR's preferred format. An engineer estimate of the construction schedule and sequencing will be included for DNR review and to coordinate with ongoing hatchery operations. Our cost estimate and scheduling will be completed by our engineering team and reviewed by Curtis Neibaur, McMillen Jacobs Construction Cost Estimator, who brings over 11 years of experience estimating and/constructing projects with similar elements.

A review meeting will be held with the DNR, and McMillen Jacobs' team to discuss the 30% submittal and obtain input 15 working days after the submittal. Once the DNR's comments have been tabulated and responded to, the 30% design documents will be revised and re-submitted for the DNR's approval within 10 working days. At this point, the 30% documents will be available for the DNR's use in the EIS Process.

30% Design Deliverables:

- Design Documentation Report (DDR) with Appendices
- Design Drawings (Approximately XXX Drawings)
- 90% CSI Format Specifications
- Design Calculations
- Construction Cost Estimate and Schedule
- QA/QC Review with Documentation.

2.3.2.9 Task 4 - 60% Design

The 60% design submittal will consist primarily of new and updated design drawings, draft CSI specification sections and an updated DDR that includes technical memos and meeting minutes. A detailed ITR will be conducted to ensure that the quality and design basis is sound.

A detailed engineer's estimate of construction cost estimate will be developed for the 60% milestones. Our team will solicit quotes from subcontractors and suppliers as applicable for the project. We will utilize our Construction Cost Estimating division to review and provide information on the cost estimate. Our cost estimators have pricing on past projects that we have self-performed construction on in a design-build process. We will utilize those past prices to support the cost estimate effort along with our construction divisions input on construction methods for the project.

McMillen Jacobs will organize and conduct a 60% design review meeting 15 days after submittal to present the documents, answer questions, and obtain input from DNR. Once the DNR's comments have been tabulated and responded to, the 60% design documents will be revised and re-submitted for approval within 10 working days.

60% Design Deliverables:

- Design Documentation Report (DDR) with Appendices
- Design Drawings (Approximately XXX Drawings)
- Technical Specifications
- Design Calculations
- Construction Cost Estimate and Schedule
- QA/QC Review with Documentation

2.3.2.10 Task 5 – 90% Design

The 90% design submittal will consist primarily of advancing the design to an almost complete construction documentation set. This submittal will consist of completed detailed design drawings, CSI specification sections, and an updated DDR that includes technical memos and meeting minutes. A detailed ITR will be conducted to ensure the quality and design basis is sound.

A detailed construction cost estimate will be developed for the 90% milestone similar to the 60%. Upon the completion of the 90% design documents, the preferred top three subcontractors or suppliers for each item will be furnished with the updated design documents and asked to provide an updated quotation for the work. Upon review and comparison of the quotations, the preferred subcontractor or supplier will be selected and provided a subcontract. This process ensures that McMillen Jacobs can contract with the most complete and competent subcontractor or supplier to perform on the project and that THE DNR receives the most competitive price. A summary of the received quotations, evaluation spreadsheets, and justification for the selected vendors can be provided to THE DNR following the process.

McMillen Jacobs will organize and conduct a 90% design review meeting 15 days after submittal to present the documents, answer questions, and obtain input from DNR. Once comments have been tabulated and responded to, the 90% design documents will be revised and re-submitted for approval within 10 working days.

90% Design Deliverables:

- Design Documentation Report (DDR) with Appendices
- Design Drawings (Complete Set of Drawings)
- Technical Specifications
- Design Calculations
- Construction Cost Estimate and Schedule
- QA/QC Review and Documentation

2.3.2.11 Task 6 – Final Design

At the completion of the design phase, once all review comments from the ITR, construction personnel, and the DNR are incorporated, we will issue signed and sealed construction documents for use by our construction team. A complete set will be provided to the DNR for project documentation.

Final Design Deliverables:

- Design Documentation Report (DDR) with Appendices
- Design Drawings
- Technical Specifications
- Design Calculations
- Construction Cost Estimate and Final Schedule
- QA/QC Review and Documentation

2.3.2.12 Task 7 - Permitting Support

McMillen Jacobs' environmental lead, Greg Allington, has worked on a wide variety of water resource related projects to obtain Federal, State, and Local approvals across the US. For the Palestine State Fish Hatchery project, Mr. Allington (if required) would be supported by local environmental professionals who would be used in the assistance of resource surveys and specialty permitting tasks. On the USFWS Kilauea Trail Stabilization Project in Kauai, Hawaii, Mr. Allington lead the permitting effort to repair a failing trail on the coastline of the island. Extensive coordination and communication necessary to receive the required permits was achieved so that the project could be constructed within the appropriate windows for nesting birds and public recreation closures. This specific project was designed, permitted, and constructed within the extremely short time period allotted for the project. Similarly, for the Palestine State Fish Hatchery project, early and frequent coordination with the project team and permitting agencies would be performed to identify applicable regulatory stipulations so that reviews times are expedited and allow construction to start in the desired timeframe.

Mr. Allington would be involved in the project from contract inception to help identify environmentally sensitive areas or items of concern. Design development and the permitting effort would progress concurrently through to the design process. A permitting summary would be included in all design packages describing the required permits, anticipated timeframes, and necessary supporting documentation through preliminary coordination with the permitting agencies. Once the project team has agreed upon the 60% design, permit applications would be prepared by McMillen Jacobs based on the assumption that the design footprint and general layout would not change through the remainder of the design process. McMillen Jacobs would work closely with the WVDNR as the authorized agent to expedite permit approval to the greatest extent feasible.

Based on the project design and location, there may be impacts to environmentally sensitive resources. If resource surveys are required for (including but not limited to) waters of the US and wetlands through Section 404 of the Clean Water Act, threatened and endangered species through Section 7 of the Endangered Species Act, and/or historic and cultural resources through Section 106 of the National Historic Preservation Act then McMillen Jacobs would coordinate closely with WVDNR to complete these resource surveys. Mr. Allington has managed multiple specialty subcontractors to complete these types of tasks across the US. Through this experience, McMillen Jacobs feels it can offer WVDNR the best approach for environmental permitting as possible to meet the design and construction schedule.

2.3.2.13 Task 8 – Bidding and Construction Engineering Support

In an effort to support the on-time execution of the Project construction phases, McMillen Jacobs will engage in the following activities:

1. During the Bidding Process McMillen Jacobs will support the project execution in the following manner:

   Response to Bidder Questions – McMillen will coordinate the efforts required to respond to bidder questions. McMillen will distribute and respond to the bidder's questions as required, ensure a timely response and track bidder's questions along with responses.

   Prepare Bid Addenda – McMillen will assemble bid addenda(s) which clearly outline modifications required to the contract documents to resolve bidder's questions and address potential issues with the design documents when and if needed.

2. Once contracts are finalized and prior to major construction efforts taking place McMillen Jacobs will support project execution in the following manner:

   Preconstruction Coordination Meeting – McMillen Jacobs will attend a Post contract, Preconstruction Coordination/Planning meeting (On Site) with the selected bidder to address any site condition concerns and discuss important sequencing of construction operations.

   Response to Contractor Questions – McMillen Jacobs will formally respond to any additional Requests for Information (RFI)'s from contractors.

   Submittal Review and Response: During pre-construction (prior to contractor mobilization) our engineering group will review the submittal log provided by the contractor to aid in support of receiving all required submittals for the project. The submittal log will provide direction for items which require the DNR approval and for items which McMillen Jacob's will assume the submittal is approved. Internally, all submittals will be provided to Ed as the Design Project Manager. He will disseminate the submittals to the correct reviewers. All comments and modifications will be submitted back to the Design Project Manager. The submittal will be reviewed by Ed. The approved submittal will be provided to the DNR for review and record keeping. All submittals returned for revision will be returned to McMillen Jacobs for additional review will be processed in the same manner as above for initial submittals. This process allows our team to validate materials and equipment provided by the contractor meet the design intent.

3. During the construction phases of the project, McMillen Jacobs will support Project execution in the following manner:

Response to Contractor Questions – RFI's for unforeseen conditions will be processed like submittals as described earlier in this section. Due to our integrated team reviews, few RFI's are anticipated, and they will be addressed quickly and efficiently.

Construction Coordination Meeting – McMillen Jacobs will attend Construction Progress/Milestone Meetings (On Site) with the selected contractor at predetermined critical construction milestones. These are times when certain progress must be evaluated or assessed, or critical inspections must take place to ensure progress can be made with confidence.

Project Closeout and Support - On substantial completion of the project, and at a point where all mechanical and electrical aspects of the project can be engaged and operated as they were intended, McMillen Jacobs will provide support in the form of startup and commissioning oversight. This will ensure that the design intents have been carried through to project completion and everything is operational as it was intended to be. These services will include:

-Site Visit to oversee contractor's startup procedure.

-Support for a contractor supplied third party commissioning effort.

-Collect Final markups and complete As-Built Drawing Set.

Bidding and Construction Engineering Support Deliverables:

- Preconstruction Responses to RFI
- Bid Addenda
- Construction Submittal Review Documents
- Preconstruction Meeting Notes
- Construction Milestone Meeting Notes
- Construction RFI Response Documents
- As Built Drawings Set

Purchasing Divison
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Centralized Expression of Interest
02 — Architect/Engr

Proc Folder: 697854

Doc Description: Addendum No.01 - A/E Services- Palestine Hatchery Facility

Proc Type: Central Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No	Version
2020-03-26	2020-04-14 13:30:00	CEOI 0310 DNR2000000006	2

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Name, Address and Telephone Number:

Maker Office, LLC DBA: Horton Harper Architects, LTD
812 Huron Road East, Suite 301
Cleveland, OH 44115
216.600.9028

FOR INFORMATION CONTACT THE BUYER

Guy Nisbet
(304) 558-2596
guy.l.nisbet@wv.gov

Signature X **FEIN #** 45-3946574 **DATE** 4.14.2020

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION:

Addendum

Addendum No.01 issued to publish and distribute the attached information to the vendor community.

****

Expression of Interest (A&E SVC's)

In accordance with West Virginia Code: 5G-1-3, The West Virginia Purchasing Division is soliciting Expression(s) of Interest for the Agency, The Division of Natural Resources (WVDNR) from qualified firms to provide architectural/engineering services and any other related professional services to design and specify for construction of hatchery facilities including mussel rearing capabilities for the Palestine State Fish Hatchery located near Elizabeth in Wirt County, WV.

The project will include all necessary permitting including WV DEP, WV Culture and History, and any other required permits. per the bid requirements, specifications and terms and conditions as attached hereto.

* Online submissions of Expressions of Interest are Prohibited*

INVOICE TO	SHIP TO
DIVISION OF NATURAL RESOURCES PARKS & RECREATION-PEM SECTION 324 4TH AVE SOUTH CHARLESTON WV25305 US	DIVISION OF NATURAL RESOURCES PALESTINE HATCHERY ELIZABETH WV 26143 US

Line	Comm Ln Desc	Qty	Unit Issue
1	Civil engineering	0.00000	

Comm Code	Manufacturer	Specification	Model #
81101500			

Extended Description :

Architectural/engineering services and contract administration for new fish/mussel facility at Palestine State Fish Hatchery, located in Wirt County, WV.

SOLICITATION NUMBER: CEOI 0310 DNR2000000006
Addendum Number: No.01

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

[ ] Modify bid opening date and time

[ ] Modify specifications of product or service being sought

[✓] Attachment of vendor questions and responses

[ ] Attachment of pre-bid sign-in sheet

[ ] Correction of error

[ ] Other

Description of Modification to Solicitation:

Addendum issued to publish and distribute the attached documentation to the vendor community.

1. Vendor submitted questions and Agency responses.

No other Changes.

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.

2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

ATTACHMENT A

CEOI DNR 0310 DNR2000000006
A&E SVC's Palestine Fish Hatchery Upgrades Project
Vendor submitted Questions and Agency Responses
03/24/2020

- Vendors are reminded that Expression of Interest are solicitations advertised by the Agency to identify and to obtain information from qualified vendors to their abilities to meet the Project and Goals, and their firms' Qualifications, Experience and Past performances. At this time project specifics are not relevant and provide no information regarding the prospective vendors submitted response. Please review advertised solicitation documents for required information and details.

Q.1. Is this facility intended to replace an existing building on site?

A. This facility will be new construction and will not replace any existing structure

Q.2. Is demolition of any existing buildings on site included as part of this project?

A .No demolition is anticipated as part of this project.

Q.3. How much infrastructure will be needed inside the building for cycling the water?

A. Facility will require the capability to recycle water from multiple sources and allow for sources to be kept separate. Final design of the facility will dictate the required infrastructure.

Q.4. Will this project include the equipment for pumping or will we just be re-installing existing equipment?

A. Yes, the facility will require new equipment to accomplish pumping from both a well water and surface water source(s) as well as recirculate discharge to outside retention structures or discharge points.

Q.5. How much infrastructure for water intake is needed?

A. The project will include installation of a water well and connection to existing reservoir(s) for surface water.

Q. 6. What species of fish and target production would be included in this facility?

A. Species and production rates will vary dependent on the owners need. Warm water fish species and native mussel propagation will be targeted at this facility.

Q.7. Are recirculating aquaculture systems part of the scope of this project?

A. Yes, recirculating systems are anticipated.

Q.8. What is the construction budget for this facility?

A We are not allowed by State law to disclose this information.

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.:

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:
(Check the box next to each addendum received)

[x] Addendum No. 1	[ ] Addendum No. 6
[ ] Addendum No. 2	[ ] Addendum No. 7
[ ] Addendum No. 3	[ ] Addendum No. 8
[ ] Addendum No. 4	[ ] Addendum No. 9
[ ] Addendum No. 5	[ ] Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Maker Office, LLC DBA: Horton Harper Architects, LTD

Company

Authorized Signature

4.14.2020

Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
4/13/2020

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).

PRODUCER
The James B. Oswald Company
1100 Superior Avenue, Suite 1500
Cleveland OH 44114

CONTACT NAME: Noelle Boyd
PHONE (A/C, No, Ext): 216-367-4954 FAX (A/C, No): 216-839-2815
E-MAIL ADDRESS: nmboyd@oswaldcompanies.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Sentinel Insurance Company Ltd	11000
INSURER B : XL Specialty Insurance Co.	
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED MAKER-1
Maker Office LLC
DBA Horton Harper Architects
812 Huron Rd. E, #301
Cleveland OH 44115

COVERAGES **CERTIFICATE NUMBER:** 1832013102 **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	X COMMERCIAL GENERAL LIABILITY	Y	Y	45SBATU0941	3/20/2020	3/20/2021	EACH OCCURRENCE	$ 1,000,000
	CLAIMS-MADE [X] OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 1,000,000
	X At Primary &						MED EXP (Any one person)	$ 10,000
	X Non-contributory						PERSONAL & ADV INJURY	$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 2,000,000
	POLICY [X] PRO-JECT [X] LOC						PRODUCTS - COMP/OP AGG	$ 2,000,000
	OTHER:							$
A	**AUTOMOBILE LIABILITY**	Y	Y	45SBATU0941	3/20/2020	3/20/2021	COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
	UMBRELLA LIAB OCCUR						EACH OCCURRENCE	$
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$
	DED RETENTION $							$
A	**WORKERS COMPENSATION AND EMPLOYERS' LIABILITY** Y / N	N / A		45SBATU0941	3/20/2020	3/20/2021	PER STATUTE X OTH-ER	Ohio Stop Gap
	ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? [N] **(Mandatory in NH)**						E.L. EACH ACCIDENT	$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
B	Professional Liability Claims Made Retro Date:01/14/2013	N	Y	DPS9954206	3/20/2020	3/20/2021	Each Claim Aggregate Pollution & Envir.	$1,000,000 $1,000,000 Liab. Included

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Additional Insured and Waiver of Subrogation as designated above is provided when required of the Named Insured by written contract or agreement.

CERTIFICATE HOLDER

State of West Virgina
2019 Washington Street East
Charleston, WV 25305

CANCELLATION

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