

PROPOSAL

TO THE HONORABLE MAYOR AND CITY COMMISSION

THE CITY OF LAWRENCE

LAWRENCE, KANSAS

1. The undersigned hereby states that they have carefully examined the drawings, specifications, and other contract documents; have fully investigated the location, character, and extent of the work to be done as described under the **"NOTICE TO CONTRACTORS"** for the City of Lawrence, Kansas. They further certify that they are familiar with the type of work involved.

The undersigned, in compliance with your invitation for bids, hereby proposes to do the work called for in said specifications, contract documents and as shown on said plans, and to furnish all labor, materials, tools, construction equipment, operating equipment, and all appurtenances necessary for the completion of said work, at the following prices on Page P-2.

Cost Proposal

Repair of Scour Holes in Kansas River Dam
City Project No. CIP UT1885, City RFP R1815



TSP Environmental, in coordination with Maris, Inc. and Recreation Engineering & Planning, is proud to offer the following pricing design and construction services at Kansas River Dam. The pricing included herein is based on our understanding of the scope of work in the RFP and in our Proposal for Services.

Our quote is provided as a lump sum (firm, fixed price) for the Base Scope of Work. Budgetary estimates have been provided for Optional Work Items, with final pricing to be issued upon request.

Base Scope of Work

Bid Item	Firm Fixed Price
Repair scour holes in Bowersock Dam and perform design engineering and construction of terracing and whitewater features.	\$1,496,353

Optional Work Items

Bid Item	Budgetary Cost
Construct new concrete boat ramp.	\$70,000
Site restoration and paving.	\$25,000
Perform finish grading, landscaping, and planting.	\$40,000

Additional Considerations

The following considerations are proposed ensure the smooth administration of project funds:

- TSP acknowledges and agrees to the payment terms as stated in the RFP.
- Following award, TSP will provide the City of Lawrence with a Schedule of Values which provides additional details on the lump sum items for which an award is issued. The Schedule of Values will be used as the basis for progress and final billing.
- TSP will submit payment applications to the City of Lawrence each month using the AIA G702/G703 format.
- TSP respectfully requests that the City of Lawrence make payment to TSP using ACH. Upon award, TSP will provide banking information to the City of Lawrence with our banking information to facilitate ACH payments.

2. The undersigned further proposes to enter into the contract and to furnish the specified bonds and other required documents within ten (10) days after contracts have been delivered to the contractor by the City. The undersigned further agrees to complete the entire work as awarded within the specified time limit.
3. Accompanying this bid is a bid bond in the amount of (5% of Bid Amount) (\$_____) payable without condition to the City of Lawrence, Kansas, which it is agreed shall be retained as liquidated damages for the delay and extra expense caused the City of Lawrence, Kansas, if the undersigned fails to execute the contract and furnish the bonds required by the contract documents.

In submitting this bid, it is understood that the right to reject any and all bids has been reserved, and that this bid may not be withdrawn for a period of thirty (30) days from the opening thereof.

Dated this 5th day of November, 2018.

TSP Services, Inc.

Name of Bidder

25000 Capitol

Redford, MI 48239



Authorized Officer Ronald E Swan, Jr

President

Title

Contract payment methods accepted by Bidder: ACH Visa Check

STATEMENT OF QUALIFICATIONS

SIMILAR PROJECTS COMPLETED

Argo Cascades, Ann Arbor, MI, Civil Construction, 2011, \$1,200,000
Siloam Springs Whitewater Park, Siloam Springs, AR, Whitewater Park Construction
2014, \$1,419,000
Siloam Springs Whitewater Park Restoration, Siloam Springs, AR, Whitewater Park
Restoration, 2015, \$120,000
Troy Aquatic Habitat Restoration, Troy, MI, Civil Restoration, 2014, \$1,717,000
Huron River Habitat Improvements, Ypsilanti, MI, Civil Construction, 2016, \$126,000
Former Textileleather RCRA Site, Toledo, OH, Remediation, 2016, \$1,100,000
Name of Project, Address, Type of Improvement, Date, Value

SIMILAR PROJECTS UNDER CONTRACT

Fish Hatchery Park Restoration, Northville, MI, Civil Construction, 2018, \$134,000
Maheras Gentry Park, Detroit, MI, Civil Construction, 2018, \$183,393
Galloway Creek Habitat Restoration, Auburn Hills, MI, Civil Construction, 2018, \$377,980

Name of Project, Address, Type of Improvement, Date, Value

PROPOSED EQUIPMENT TO BE USED ON PROJECT

Hydraulic Excavator, Dozer, Roller Compactor, Skid Steer, Off Road Trucks

FINANCIAL STATEMENT: Attached is a copy of my latest financial statement, duly sworn to in form approved by the City, listing assets and liabilities. In lieu of the financial statement, a bidder may submit evidence that he is pre-qualified with the Kansas Department of Transportation and is on the "current bidders list" for projects of this size and nature.

Bidder TSP Services, Inc.
By 
Address 25000 Capitol
Redford, MI 48239

ANTICIPATED SUBCONTRACTORS

TYPE OF WORK TO BE SUB-LET Engineering Design

Approximate Dollar Amount of Subcontract \$ 200,000 (+/-)

Probable Subcontractor Recreation Engineering and Planning

Address Boulder, CO

TYPE OF WORK TO BE SUB-LET Dam Repairs

Approximate Dollar Amount of Subcontract \$ 550,000 (+/-)

Probable Subcontractor Maris, Inc.

Address Boise, ID

TYPE OF WORK TO BE SUB-LET Trucking

Approximate Dollar Amount of Subcontract \$ 60,000 (+/-)

Probable Subcontractor Hamm Aggregates

Address Lawrence, KS

Statement of Qualifications: The Contractor shall submit a statement of the subcontractor's qualifications and shall obtain written permission from the City prior to the actual subletting or assignment of any portion of the contract.

Bidder TSP Services, Inc.

By Ronald E. Swan Jr.

Title Ronald E. Swan, Jr.



AIA Document A310™ – 2010

Bid Bond

CONTRACTOR:

(Name, legal status and address)

TSP Services, Inc.
25000 Capitol
Redford, MI 48239

OWNER:

(Name, legal status and address)

City of Lawrence
6 East 6th
Lawrence, KS 66044

BOND AMOUNT: Five Percent (5%) of Amount of Bid

SURETY:

(Name, legal status and principal place of business)

Hudson Insurance Company
100 William Street, 5th Floor
New York, NY 10038

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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

PROJECT:

(Name, location or address, and Project number, if any)

Repairs of Scour Holes in Kansas River Dam


The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.


If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.


Signed and sealed this **6th** day of **November, 2018**


(Witness)


(Witness)

TSP Services, Inc.
(Principal)  *(Seal)*

(Title)

Hudson Insurance Company
(Surety)  *(Seal)*

(Title) **Alan P. Chandler, Attorney-in-Fact**



BID BOND POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That HUDSON INSURANCE COMPANY, a corporation of the State of Delaware, with offices at 100 William Street, New York, New York, 10038, has made, constituted and appointed, and by these presents, does make, constitute and appoint

Alan P. Chandler, Robert Trobec, Jeffrey A. Chandler, Kathleen M. Irelan, Ian J. Donald, Susan L. Small, John L. Budde of the State of Michigan

its true and lawful Attorney(s)-in-Fact, at New York City in the State of New York, each of them alone to have full power to act without the other or others, to make, execute and deliver on its behalf, as Surety, bid bonds for any and all purposes.

Such bid bonds, when duly executed by said Attorney(s)-in-Fact, shall be binding upon said Company as fully and to the same extent as if signed by the President of said Company under its corporate seal attested by its Secretary.

In Witness Whereof, HUDSON INSURANCE COMPANY has caused these presents to be of its Senior Vice President thereunto duly authorized, on this 19th day of December, 20 17 at New York, New York.

(Corporate seal)

Attest... Dina Daskalakis, Corporate Secretary

HUDSON INSURANCE COMPANY By... Michael P. Cifone, Senior Vice President

STATE OF NEW YORK COUNTY OF NEW YORK SS.

On the 19th day of December, 20 17 before me personally came Michael P. Cifone to me known, who being by me duly sworn did depose and say that he is a Senior Vice President of HUDSON INSURANCE COMPANY, the Company described herein and which executed the above instrument, that he knows the seal of said Company, that the seal affixed to said instrument is the corporate seal of said Company, that it was so affixed by order of the Board of Directors of said Company, and that he signed the same thereto by like order.

(Notarial Seal)



ANN M. MURPHY Notary Public, State of New York No. 01MU6067553 Qualified in Nassau County Commission Expires December 10, 2021

CERTIFICATION

STATE OF NEW YORK COUNTY OF NEW YORK SS.

The undersigned Dina Daskalakis hereby certifies:

THAT the original resolution, of which the following is a true and correct copy, was duly adopted by unanimous written consent of the Board of Directors of Hudson Insurance Company dated July 27th, 2007, and has not since been revoked, amended or modified:

"RESOLVED, that the President, the Executive Vice Presidents, the Senior Vice Presidents and the Vice Presidents shall have the authority and discretion, to appoint such agent or agents, or attorney or attorneys-in-fact, for the purpose of carrying on this Company's surety business, and to empower such agent or agents, or attorney or attorneys-in-fact, to execute and deliver, under this Company's seal or otherwise, bonds obligations, and recognizances, whether made by this Company as surety thereon or otherwise, indemnity contracts, contracts and certificates, and any and all other contracts and undertakings made in the course of this Company's surety business, and renewals, extensions, agreements, waivers, consents or stipulations regarding undertakings so made; and

FURTHER RESOVLED, that the signature of any such Officer of the Company and the Company's seal may be affixed by facsimile to any power of attorney or certification given for the execution of any bond, undertaking, recognizance, contract of indemnity or other written obligation in the nature thereof or related thereto, such signature and seal when so used whether heretofore or hereafter, being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed."

THAT the above and foregoing is a full, true and correct copy of Power of Attorney issued by said Company, and of the whole of the original and that the said Power of Attorney is still in full force and effect and has not been revoked, and furthermore that the Resolution of the Board of Directors, set forth in the said Power of Attorney is now in force.

Witness the hand of the undersigned and the seal of said Company this 6th day of November, 2018.

(Corporate seal)

By... Dina Daskalakis, Corporate Secretary

TSP SERVICES, INC. AND AFFILIATES
COMBINED FINANCIAL STATEMENTS
Years ended December 31, 2017 and 2016

**TSP SERVICES, INC. AND AFFILIATES
FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016**

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INDEPENDENT ACCOUNTANTS' REVIEW REPORT

To the Shareholders and Members
TSP Services, Inc. and Affiliates
25000 Capitol
Redford, MI 48239

We have reviewed the accompanying combined financial statements of TSP Services, Inc. and Affiliates, which comprise the balance sheets as of December 31, 2017 and 2016, and the related combined statements of income and equity and cash flows for the years then ended, and the related notes to the financial statements. A review includes primarily applying analytical procedures to management's financial data and making inquiries of company management. A review is substantially less in scope than an audit, the objective of which is the expression of an opinion regarding the combined financial statements as a whole. Accordingly, we do not express such an opinion.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these combined financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of combined financial statements that are free from material misstatement whether due to fraud or error.

Accountants' Responsibility

Our responsibility is to conduct the review engagements in accordance with *Statements on Standards for Accounting and Review Services* promulgated by the Accounting and Review Services Committee of the AICPA. Those standards require us to perform procedures to obtain limited assurance as a basis for reporting whether we are aware of any material modifications that should be made to the combined financial statements for them to be in accordance with accounting principles generally accepted in the United States of America. We believe that the results of our procedures provide a reasonable basis for our conclusion.

Accountants' Conclusion

Based on our reviews, we are not aware of any material modifications that should be made to the accompanying combined financial statements in order for them to be in conformity with accounting principles generally accepted in the United States of America.

Yaske & Associates, PLLC

Union Lake, Michigan
March 9, 2018

TSP SERVICES, INC. & AFFILIATES

COMBINED BALANCE SHEETS

December 31, 2017 and 2016

ASSETS		
	2017	2016
CURRENT ASSETS:		
Cash	\$ 38,962	\$ 344,573
Contract receivables	1,466,347	1,169,743
Notes receivable	1,888	966
Inventory	64,788	42,308
Prepaid insurance	15,090	24,959
TOTAL CURRENT ASSETS	1,587,075	1,582,549
PROPERTY AND EQUIPMENT:		
Land and Improvements	81,381	67,102
Building	116,977	116,977
Leasehold improvements	72,237	64,236
Transportation and heavy equipment	932,442	782,934
Equipment	244,968	199,908
Office furniture and equipment	60,223	60,483
Less: Accumulated depreciation	(775,403)	(614,786)
NET PROPERTY AND EQUIPMENT	732,825	676,854
TOTAL ASSETS	\$ 2,319,900	\$ 2,259,403
LIABILITIES		
CURRENT LIABILITIES:		
Bank line of credit	\$ 203,861	\$ 360,268
Accounts payable	282,450	302,906
Current portion of long term debt	89,839	73,244
TOTAL CURRENT LIABILITIES	576,150	736,418
LONG TERM DEBT	153,749	112,145
TOTAL LIABILITIES	729,899	848,563
EQUITY		
COMMON STOCK - 60,000 shares authorized, 1,000 shares outstanding	1,000	1,000
ADDITIONAL PAID IN CAPITAL	104,125	104,125
EQUITY	1,484,876	1,305,715
TOTAL EQUITY	1,590,001	1,410,840
TOTAL LIABILITIES AND EQUITY	\$ 2,319,900	\$ 2,259,403

See accompanying notes and accountants' report.

TSP SERVICES, INC. & AFFILIATES
COMBINED STATEMENTS OF INCOME AND EQUITY
For the years ended December 31, 2017 and 2016

	<u>2017</u>	<u>2016</u>
CONTRACT REVENUES EARNED	\$ 3,909,258	\$ 4,670,981
COST OF REVENUES EARNED	<u>2,476,515</u>	<u>3,242,273</u>
GROSS PROFIT	1,432,743	1,428,708
SELLING, GENERAL AND ADMINISTRATIVE EXPENSES	<u>1,082,502</u>	<u>1,184,317</u>
NET INCOME FROM OPERATIONS	<u>350,241</u>	<u>244,391</u>
OTHER INCOME (EXPENSE):		
Gain (loss) on disposal of assets	(63)	66,171
Interest income	104	50
Interest expense	<u>(17,690)</u>	<u>(9,244)</u>
TOTAL OTHER INCOME (EXPENSE)	<u>(17,649)</u>	<u>56,977</u>
NET INCOME	332,592	301,368
DISTRIBUTIONS	(153,431)	(70,920)
EQUITY, BEGINNING OF YEAR	<u>1,305,715</u>	<u>1,075,267</u>
EQUITY, END OF YEAR	<u>\$ 1,484,876</u>	<u>\$ 1,305,715</u>

See accompanying notes and accountants' report.

TSP SERVICES, INC. & AFFILIATES
COMBINED STATEMENTS OF CASH FLOWS
For the years ended December 31, 2017 and 2016

	2017	2016
CASH FLOWS FROM OPERATING ACTIVITIES		
Net income	\$ 332,592	\$ 301,368
Adjustments to reconcile net income to net cash flows from operating activities:		
Depreciation	167,463	154,056
(Gain) loss on sale of assets	63	(66,171)
(Increase) decrease in:		
Inventory	(22,480)	62,863
Prepaid insurance	9,869	9,670
Accounts receivable	(296,604)	94,486
Accounts payable and accrued expenses	(20,456)	(187,065)
NET CASH PROVIDED BY OPERATING ACTIVITIES	170,447	369,207
CASH FLOWS FROM INVESTING ACTIVITIES		
Net expenditures for notes receivable	(922)	44,065
Proceeds from sale of assets	0	106,956
Expenditures for property and equipment	(71,633)	(78,516)
NET CASH PROVIDED (USED BY) INVESTING ACTIVITIES	(72,555)	72,505
CASH FLOWS FROM FINANCING ACTIVITIES:		
Payments on notes payable	0	(12,785)
Payments on long term debt	(93,665)	(97,603)
Net borrowing under line of credit	(156,407)	23,067
Net member (distributions)	(153,431)	(70,920)
NET CASH (USED) BY FINANCING ACTIVITIES	(403,503)	(158,241)
NET INCREASE (DECREASE) IN CASH	(305,611)	283,471
CASH, BEGINNING OF YEAR	344,573	61,102
CASH, END OF YEAR	\$ 38,962	\$ 344,573

See accompanying notes and accountants' report.

TSP SERVICES, INC. & AFFILIATES
NOTES TO COMBINED FINANCIAL STATEMENTS
For the years ended December 31, 2017 and 2016

NOTE A - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

This summary of significant accounting policies of TSP Services, Inc. & Affiliates (the Company) is presented to assist in understanding the Company's combined financial statements. The combined financial statements and notes are representations of the Company's management who is responsible for their integrity and objectivity. These policies conform to generally accepted accounting principles and have been consistently applied in the preparation of the combined financial statements.

Basis of Combination

The combined financial statements include the accounts of TSP Services, Inc., Technical Service Professionals, LLC, TSP Construction, LLC and Abby's Office, LLC. The companies share common ownership and management. All material intercompany transactions and balances have been eliminated.

Nature of Business

TSP Services, Inc. provides environmental engineering and contracting services to customers in the public and private sectors. Technical Service Professionals, LLC provides abatement and hazardous materials consulting and contracting services to TSP Services, Inc. and clients in the public and private sectors. TSP Construction, LLC is a general contractor in the public and private sectors. Abby's Office, LLC owns the office and operational building of the entities.

Basis of Accounting

The combined financial statements are prepared in accordance with accounting principles generally accepted in the United States of America under the accrual basis of accounting, which records items under historical costs and sometimes requires the use of estimates. The accrual basis of accounting records revenue in the period in which earned rather than when received and records expenses in the period in which incurred rather than when paid.

Cash Equivalents

For purposes of the combined statement of cash flows, the company considers all highly liquid debt instruments with a maturity of three months or less to be cash equivalents.

Concentration of Credit Risk

The company grants credit to most customers. Consequently, the company's ability to collect amounts due from customers is affected by general economic fluctuations in the region.

TSP SERVICES, INC. & AFFILIATES
NOTES TO COMBINED FINANCIAL STATEMENTS
For the years ended December 31, 2017 and 2016

NOTE A – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Allowance for Doubtful Accounts

The allowance for doubtful accounts is based upon the anticipated collectability of each specific account. The allowance was \$15,000 and \$15,000 at December 31, 2017 and 2016, respectively.

Costs and Estimated Earnings on Uncompleted Contracts

The company submits monthly progress billings for uncompleted contracts. As of December 31, 2017 and 2016, there were no unbilled costs and estimated earnings on uncompleted contracts.

Advertising

Advertising costs are expensed as incurred.

Inventory

Inventory consists primarily of job materials and supplies and is stated at cost. Scrap inventory is stated at estimated net realizable value.

Property and Equipment

Management capitalizes expenditures for additions and improvements to property and equipment. Expenditures for maintenance and repairs are charged to operating expense. Property and equipment are carried at cost. Adjustments of the assets and the related accumulated depreciation accounts are made for property and equipment retirements and disposals, with the resulting gain or loss included in the combined statement of income.

Depreciation

Depreciation of property and equipment is computed using straight line and accelerated methods over the estimated useful lives of assets at acquisition. Depreciation expense was \$167,463 and \$154,056 for the years ended December 31, 2017 and 2016, respectively.

Income Taxes

TSP Services, Inc. is a Michigan S Corporation under the Internal Revenue Code. Technical Service Professionals, LLC, TSP Construction, LLC and Abby's Office, LLC are treated as partnerships. Under these provisions, the company generally does not pay federal corporate income taxes on its taxable income. Instead, the stockholders are liable for individual federal income taxes on their respective shares of the company's taxable income. Accordingly, no provision for federal income taxes has been reflected in the combined financial statements.

TSP SERVICES, INC. & AFFILIATES
NOTES TO COMBINED FINANCIAL STATEMENTS
For the years ended December 31, 2017 and 2016

NOTE A – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

In June 2006, the Financial Accounting Standards Board (FASB) issued FASB Interpretation No. 48, *Accounting for Uncertainty in Income Taxes* ("FIN 48"), an interpretation of the FASB Statement No. 109. Fin 48 clarifies the accounting for uncertainty in income taxes recognized in an organization's financial statements in accordance with SFAS No. 109, *Accounting for Income Taxes* ("SFAS No. 109").

FIN 48 clarifies the application of SFAS No. 109 by defining a criterion that an individual tax position must meet for any part of the benefit of that position to be recognized in an organization's financial statements. Additionally, FIN 48 provides guidance on measurement, derecognition, classification, interest, and penalties, accounting in interim financial periods, disclosure, and transition. The amount recognized is subject to estimate and management judgment with respect to likely outcome of each uncertain tax position.

The amount that is ultimately sustained for an individual uncertain tax position or for all uncertain tax positions in the aggregate could differ from the amount recognized. Management has completed its evaluation of the impact of this standard; the Company is unaware of any tax positions that would require disclosure.

Use of Estimates

The preparation of combined financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reported period. Actual results could differ from those estimates.

Subsequent Events

Subsequent events have been evaluated through the date of the review report, which is the date the combined financial statements were available to be issued.

NOTE B - NOTE PAYABLE - BANK

At December 31, 2017 and 2016, TSP Services, Inc. had borrowed \$203,861 and \$360,268 respectively, under a revolving credit agreement with a bank. The Company may borrow up to \$750,000 with interest at prime plus 1% (prime was 4.5% at December 31, 2017). The indebtedness is collateralized by general business assets and the personal guarantee of the shareholders.

The company also has an unused \$350,000 equipment line of credit with interest at the bank's swap rate plus 2.95% which would be collateralized by equipment.

TSP SERVICES, INC. & AFFILIATES
NOTES TO COMBINED FINANCIAL STATEMENTS
For the years ended December 31, 2017 and 2016

NOTE C - LONG TERM DEBT

The Company had the following notes payable at December 31, 2017 and 2016:

	<u>2017</u>	<u>2016</u>
Note payable to a bank in monthly installments of \$2,500, including interest at 5.98% through December 2017. The note was collateralized by equipment.	\$ 0	\$ 29,060
Note payable to the SBA in monthly installments of \$1,367 including interest at 6% through November 2020. The note is unsecured.	38,529	53,071
Note payable to a credit union in monthly installments of \$392 including interest at 3.9% through December 2019. The note is collateralized by equipment.	9,394	13,678
Note payable to a financing company in monthly installments of \$1,207 including interest at 5.77% through March 2017. The note was collateralized by equipment	0	4,770
Note payable to a financing company in monthly installments of \$1207 with no interest through October 2022. The note is collateralized is equipment.	69,998	0
Note payable to a bank in monthly installments of \$1,010 including interest at 4.828% through October 2020. The note is collateralized by equipment	32,007	0
Capital lease to a financing company in monthly installments of \$323 including interest at 8.277% though August 2021. The lease is collateralized by equipment	12,216	14,955
Note payable to a bank in monthly installments of \$619 including interest at 4.46% through May 2021. The note is collateralized by equipment.	10,750	17,617
Note payable to a financing company in monthly installments of \$1,656 including interest at 5.65% through April 2019. The note is collateralized by equipment.	25,465	0

TSP SERVICES, INC. & AFFILIATES
NOTES TO COMBINED FINANCIAL STATEMENTS
For the years ended December 31, 2017 and 2016

NOTE C - LONG TERM DEBT (continued)

	2017	2016
Note payable to a bank in monthly installments of \$694 including interest at 4.19% through May 2020. The note is collateralized by equipment.	19,718	27,046
Note payable to a financing company in monthly installments of \$517 including interest at 4.46% through May 2021. The note is collateralized by equipment	20,022	25,192
Note payable to a financing company in monthly installments of \$342 with no interest through March 2019. The note is collateralized by equipment	5,489	0
TOTAL LONG-TERM DEBT	243,588	185,389
CURRENT PORTION	(89,839)	(73,244)
LONG-TERM DEBT	\$ 153,749	\$ 112,145

The following is a schedule of note payments for each of the next five years:

<u>Year ending December 31,</u>	<u>Amount</u>
2018	\$ 89,839
2019	74,111
2020	47,562
2021	20,007
2022	12,068
	\$ 243,588

NOTE D - SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION

Cash paid for interest for the years ended December 31, 2017 and 2016 and \$17,690 and \$9,244, respectively.

The company had non-cash investing and financing transactions relating to equipment acquisitions financed through long term debt of \$151,864 and \$95,039, respectively.

TSP SERVICES, INC. & AFFILIATES
NOTES TO COMBINED FINANCIAL STATEMENTS
For the years ended December 31, 2017 and 2016

NOTE E - CAPITAL LEASES

The company leases certain equipment under capital lease arrangements. The economic substance of the leases is that the Company is financing the acquisition of the assets through the leases, and accordingly, they are recorded in the Company's assets and liabilities. The capital lease obligations are detailed in Note C as are the future minimum lease payments.

At December 31, 2017 and 2016, the cost of leased assets included in property and equipment was \$65,865. Depreciation expense for the years ended December 31, 2017 and 2016 was \$6,586 and \$5,532, respectively. Accumulated depreciation of these assets at December 31, 2017 and 2016 was \$46,362 and \$39,776, respectively.

NOTE F - OPERATING LEASE

The company leases its current operating facility for \$3,000 per month on a month to month basis from an entity related through common ownership. Rent expense under the related party lease for the years ended December 31, 2017 and 2016 was \$36,000 and \$36,000, respectively. Rent expense has been eliminated in combination.

NOTE G - PROFIT SHARING PLAN

The company has a 401(k) safe harbor plan covering substantially all employees providing for a mandatory and a discretionary employer match. Plan contributions for the years ended December 31, 2017 and 2016 were \$16,394 and \$11,042, respectively. The company has funded or accrued all calculated contributions as of the balance sheet date.

NOTE H - LEGAL SETTLEMENT

The company received an arbitration award of \$782,469 on February 2, 2017 for a breach of contract settlement. Reimbursed legal expenses of \$266,611 are also to be reimbursed and have been recorded as a receivable against corresponding legal fees incurred in 2017 and 2016.

Proposal for Services

Repair of Scour Holes in Kansas River Dam
City Project No. CIP UT1885, City RFP R1815



TSP Environmental, in coordination with Maris, Inc. and Recreation Engineering & Planning, is proud to offer our qualifications for design and construction services at Bowresock Dam. We recognize this project as an opportunity for the City of Lawrence to provide members of the community with a beautiful, innovative, and environmentally responsible recreational amenity. The qualifications shown herein will demonstrate the experience and ability of our team to complete the entire design and construction process.

Company Background

Prime Contractor

TSP Environmental is the Prime Contractor for the Bowersock Dam project. Our corporation information is as follows:

Legal Name:	TSP Services, Inc.	Phone:	(734) 838-0426
DBA:	TSP Environmental	Fax:	(734) 838-0428
Address:	25000 Capitol	Website:	http://www.tspenvironmental.com
	Redford, MI 48239	Email:	estimating@tspenvironmental.com
Years in Business:	17	Current Staff:	17

The primary contact and overall project manager for this project will be:

Name:	Ronald E. Swan, Jr.
Title:	Chief Operating Officer
Email Address:	rswan@tspenvironmental.com
Direct Phone:	(313) 817-3017
Cell Phone:	(248) 467-4920

TSP was originally established in 2001 with the goal of providing Engineering and Environmental Consulting services. The firm, originally known as Integrated Service Professionals, adopted the name Technical Service Professionals LLC to highlight the technical services being offered. Technical Service Professionals LLC incorporated under the name TSP Services, Inc. in 2009. TSP is a WBENC-certified Women-Owned Small Business (WOSB).

Project Team

TSP has assembled a project team consisting of nationally recognized firms specializing in marine repair and recreational architecture. By combining the unique talents possessed by each of our teammates, we will fully implement the vision for the project at a high level of quality within the timeframe required.

Each section below introduces the members of our team.

Maris, Inc.

Project Manager:	Shay Meskill	Title:	Foreman
Firm's Role:	Dam Repairs		
Firm Summary:	Maris, Inc. is a Veteran-Owned Small Business focused on marine construction and operations on Federal contracts. All Maris operations are conducted under the US Army Corps of Engineers Safety and Health Requirements Manual EM385-1-1 which is inclusive but more restrictive to national OSHA and the Association of Diving Contractors International (ADCI) standards. The core Maris personnel are made up of US Navy Underwater Construction technicians specializing in remote marine construction activities.		

Recreation Engineering and Planning

Project Manager:	Gary Lacy, PE	Title:	President
Firm's Role:	Waterway Design		
Firm Summary:	<p>Founded in 1983, Recreation Engineering and Planning (REP) is based in Boulder, CO and has become the country's leader in whitewater park design, river wave design, river and bank restoration, dam modification, and greenway design. Over 35 years in the business, REP has been responsible for more than 100 in-stream design projects representing more than 80% of all the whitewater parks in North America. REP's work varies in size from small projects where we are tasked with designing a single play wave, to large dam modifications, to environmental restoration and fish passage. REP has earned acclaim for its work on projects including the Argo Cascades, awarded Project of the Year in 2013 by MRPA.</p>		

Project Team Key Personnel

Each member of the project team will provide key personnel and support staff to ensure the success of the project. Key personnel for this project are identified in the table below. Resumes for key personnel are included in Appendix E.

Name	Firm	Role	Anticipated Involvement
Ronald E. Swan, Jr., PE	TSP Environmental	Project Manager	75%
Jerry Heinrich, EIT	TSP Environmental	Construction manager	50%
Dan Puro	TSP Environmental	Logistics Manager	25%
Shay Meskill	Maris, Inc.	Foreman	
Scott Murray	Maris, Inc.	Site Safety & Health Officer	
Hugo Larsson	Maris, Inc.	Quality Control Manager	
Gary Lacy, PE	Rec. Engr. & Planning	Senior Whitewater Design Engineer	25%
Riley Gelatt, EIT	Rec. Engr. & Planning	Project Engineer	20%
Mike Harvey	Rec. Engr. & Planning	Senior Project Manager	15%

Team Design and Construction Experience

Each member of the project team has significant experience in the design and/or construction of water features. The six projects summarized below highlight the capabilities of the project team and include previous collaborations between team members.

Argo Cascades

Client:	City of Ann Arbor, MI	Contact Name:	Brian Steglitz
Year Completed:	2011	Contact Phone:	734-794-6426
Construction Cost:	\$1,200,000	Contact Email:	bsteglitz@a2gov.org

Description:	TSP Environmental teamed with Recreation Engineering and Planning and Beckett & Raeder, Inc. to perform design/build services necessary to redesign and reconstruct the headrace. The goal was to eliminate the canoe portage and to install a series of drop structures to create Class I White Water feature. TSP built nine drop structures, over 1,100 lineal feet of ADA-compliant walking pathway, installed a new 30-foot pre-fabricated pedestrian bridge, and seeded and mulched the site.
Awards Won:	Michigan Recreation and Parks Association Project of the Year – 2013

Gooding Diversion Rehab

Client:	Sound & Sea Tech.	Contact Name:	Michael Bullock
Year Completed:	Ongoing	Contact Phone:	(425) 743-1282
Construction Cost:	\$271,895	Contact Email:	mbullock@soundandsea.com
Description:	Diversion of water flow for the Gooding Diversion Dam to replace the 50-foot by 80-foot spillway apron and footer. All slopes were stabilized and rip-rap placed 250 feet downstream. Cold weather concrete placement methods were required. All work was conducted under EM385-1-1 safety standards.		

Manchester Whitewater Park

Client:	City of Manchester	Contact Name:	Milt Kramer
Year Completed:	2015	Contact Phone:	(563) 927-3636
Construction Cost:	\$1.8 million	Contact Email:	Joseph.zimmerman@metroparks.org
Description:	The park consists of six whitewater features spanning over 800 feet in length. Reconstruction of the river began with the demolition of a dilapidated and dangerous 10-foot high dam. The project included shoreline restoration and beautification with improved access points and terracing. The project worked closely with Iowa DNR fisheries to open the area for fish and mussel propagation. Within two months of opening, eight new species of fish were tagged moving upstream of the park.		
Awards Won:	Iowa River Town of the Year, 2015		

RiverScape River Run

Client:	Five Rivers Metroparks	Contact Name:	Joe Zimmerman
Year Completed:	2017	Contact Phone:	(937) 277-4825
Construction Cost:	\$3 million	Contact Email:	Joseph.zimmerman@metroparks.org
Description:	The Great Miami River flows through downtown Dayton, Ohio where the flow was obstructed by a river-wide low head dam. The purpose of the project was to remove the current dam while restoring the channel to a more natural function and facilitate recreation in downtown Dayton. The dam was replaced with two whitewater features creating an attractive environmental and		

	recreational amenity. The net effect of this project has been to transform a dangerous hazard into a popular attraction.
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Siloam Springs Kayak Park

Client:	City of Siloam Springs	Contact Name:	Don Clark
Year Completed:	2014	Contact Phone:	479-524-5779
Construction Cost:	\$1,400,000	Contact Email:	dclark@siloamsprings.com
Description:	The City of Siloam Springs sits in an area of northern Arkansas populated by numerous rivers and waterways. Local paddlers have been aware of the area for years as a prime location for kayaking. With the aid of a grant, the City decided to develop the area into a public park featuring a custom designed whitewater feature. TSP developed two limestone drops using 6,000 tons of limestone sourced from a local quarry. The two drops provided rapids sufficient for a Class II whitewater feature. In collaboration with the local canoe club, TSP fine-tuned the drops to maximize recreational potential. The limestone structures also allowed for the creation of a "play wave" which allows kayakers to paddle against the flow of water in order to perform tricks. TSP also constructed a parking lot, paved pathways to the river, and completed general landscaping.		

Townshend Spillway Repairs

Client:	US Army Corps of Engineers	Contact Name:	Fred Pike, PE
Year Completed:	Ongoing	Contact Phone:	(978) 318-8392
Construction Cost:	\$110,668	Contact Email:	
Description:	Dewatering a 140-100 CFS spillway flow to complete minor demolition and concrete reinstallation of scoured areas underneath a spillway retaining wall in Townshend, Vermont. Water diversion, marine operations, and fall protection standards fall within EM385-1-1.		

Key Subcontractors

Anticipated Subcontractor	Scope of Work
HAMM Aggregates	Limestone riprap, aggregate, trucking, and hot mix asphalt.
Long Trucking	On-site and off-site materials hauling.
Lawrence Landscape	Site restoration and landscaping.
Tallgrass Restoration	Native plant and seed mix installation.
Phillips Construction KC, LLC	Concrete placement and finishing.

Insurance

A copy of our standard Certificate of Insurance is included in Appendix C. TSP's standard coverage exceeds the requested minimum coverage by way of a \$4 million Excess Liability policy over our

Commercial General Liability and Motor Vehicle Liability coverage. TSP has reviewed the requirements of RFP Section 9.02 with our insurance agency, VTC Insurance Group, to ensure that the requirements are met by our standard coverage or can be met prior to the start of construction.

TSP Statement of Interest & Understanding of the Project

Statement of Interest

TSP Environmental is a diversified heavy civil contractor specializing in environmental restoration. Our early experience with hazardous and solid waste remediation provided valuable experience in the field of civil works, including excavation, grading, infrastructure replacement and site restoration. Over the past 12 years, we have developed significant experience in wetland mitigation, stream bank stabilization/restoration and constructing recreational amenities associated with waterways. In addition, many of our projects included native species restoration (grasses, wildflowers, forbs, shrubs and trees). Our firm has also successfully undertaken design-build projects to nearly two million dollars in value.

The vision of the City of Lawrence for the Bowersock Dam project falls directly into the core competencies practiced by the firms included in our Project Team. If awarded, TSP Environmental will undertake the role of prime contractor, working directly with our professional service providers to bring the City's vision to life. By leveraging the strengths of each of our team members, we will complete the required repairs to the Bowersock Dam and develop a recreational amenity that will meet or exceed community's needs for decades to come.

Project Understanding

TSP Environmental understands that the City of Lawrence desires to complete repairs to the Bowersock Dam based on the findings included in an inspection report issued by Viking Marine Services, Inc. and HISINC, LLC on May 31, 2017 (Inspection Report). According to the Inspection Report, a scour hole was found on the dam apron along with multiple voids, caverns, and depressions on the dam face. The Inspection Report included recommendations for repairing the dam which the City of Lawrence desires to implement through this RFP.

In addition to the RFP, the City of Lawrence has identified additional improvements near the dam which would benefit the City and its residents. These improvements include bank stabilization on the south side of the Kansas River near Abe & Jakes Landing and the construction of recreational amenities on the downstream side of the dam. A conceptual sketch by REP, included in the RFP, shows new terracing adjacent to Abe & Jakes Landing to provide long-term riverbank stability and two new whitewater features intended for recreational use.

Approach

Success of the project depends on accomplishing three key goals. First and most importantly, repairs to the Bowersock Dam must be completed. Second, we must work with the City of Lawrence to develop a final design for the riverbank terracing and recreational amenity. Third, the riverbank terracing and in-river whitewater features must be constructed. All three goals fall within the strengths of the members of the Project Team.

Project management will be coordinated by TSP Environmental, the prime contractor for this project. TSP will serve as the primary point of contact with the City of Lawrence for matters related to the contract, work schedule, and job performance. We have found from past projects that regular progress meetings during construction, which include representatives from the contractor and the client, are effective for ensuring that work is completed to the client's satisfaction and that unexpected challenges are identified and addressed as early as possible.

It is critical that all work is conducted safely and with a high level of quality. The Project Team is experienced in using the US Army Corps of Engineers (USACE) Safety and Health Requirements Manual (EM385-1-1) and the USACE Construction Quality Management (CQM) program, both of which are proposed for use on this project. As the prime contractor, TSP will have primary responsibility for ensuring the safety and quality of workmanship.

Bowersock Dam Repairs

Repairing the Kansas Dam will be the primary responsibility of Maris, Inc.

The method of repair will vary based on the size and complexity of each scour hole. Major scour holes will be dewatered, prepared, and have new concrete fill installed with a two-foot protective collar. Major scour holes which cannot be safely dewatered will be repaired using an alternative protective collar installation. Masonry style repairs, if necessary for aesthetics, will be completed by divers using underwater grout and fill bricks. Small holes will be sealed using temporary concrete bolts and concrete injection.

The sequence of work will begin with a project kickoff meeting and the submission of pre-construction submittals. Mobilization of trucks, a small field office, tool trailer, modular work platform, inflatable boat, and other equipment will occur based on the approved schedule. Material will be staged along the rough river frontage south of the project site and in the parking lot downstream of the Mariott. Access to the face of the dam will be by way of boat and work platform launched from the parking lot.

Dewatering will be accomplished using portable water barriers and hydraulic pumps deployed strategically in the scoured area. The scour holes will be prepared by removing debris and organic growth from the voids, then applying an anti-corrosive treatment. After preparation, concrete will be placed and allowed to cure prior to allowing water to flow back into the repaired area.

Additional details on the approach to the Bowersock Dam Repairs are included in Maris's proposal, included as Appendix A.

Riverbank Stabilization and Recreational Feature Design

Riverbank stabilization and recreational feature design will be the primary responsibility of Recreation Engineering & Planning, Inc.

We envision the design work to be a collaborative process between REP, TSP, and the City of Lawrence. REP will work with stakeholders to review available information about the site and create a basemap with topography, public utilities, property lines, and streets. A preliminary (60%) design will be developed showing the plan profile, cross sections, structural design details, and an estimated construction schedule. The design will be used to complete permit applications for submittal and review by regulatory agencies (USACE, KDHE, and Division of Water Resources) and updated based on feedback from stakeholders and regulators. Design work can be accomplished while scour hole repairs are conducted on the dam.

After receiving feedback, a final design will be created including refined quantity estimates and project specifications. The final design will be used for construction of the in-river features.

Additional details on the approach to the design work are included in REP's proposal, included as Appendix B.

Streambank Stabilization and Whitewater Feature Construction

Streambank stabilization and whitewater feature construction will be the primary responsibility of TSP Environmental.

Work will begin on the north shore of the Kansas River in the area behind the Mariott and Abe & Jakes with land clearing and the construction of a temporary access road. Once access along the river is attained, our work will turn to construction of the in-river structures. To build the structures, we anticipate using 18-24-inch limestone riprap carefully placed to minimize the creation of eddy currents which would threaten the long-term stability of the installation. A similar process will be used to construct the terracing along the streambank. TSP anticipates working from south to north across the drop structures.

After completing the in-river work, TSP will turn the site over to REP for dynamic testing. TSP will work with REP to make corrections, if required. At the same time, TSP will construct the concrete portage trail, using the temporary access road as a base to the greatest extent possible.

If selected for construction by the City of Lawrence, TSP will then turn to optional amenities intended to enhance the new whitewater park. These optional amenities are:

- A boat/canoe/kayak launch site at the Kansas River.
- Restoration or improvements to the parking lot between the river access and Riverfront Plaza.
- Landscaping the river access area with native seed mix, shrubs, and trees.

Additional details on the approach to the design work are included in Appendix C.

Qualifications

Key Personnel Experience

The project team brings together more than 20 seasoned professionals who will be responsible for every phase of the project from the start of design through the end of construction. The experience of each project team member's manager is summarized below. Resumes for each manager and other key personnel are included in Appendix E.

Ronald E. Swan, Jr., PE – TSP Environmental

Mr. Swan has over 30 years of diverse environmental engineering experience ranging from consulting engineering to directing technical staff and business operations. Through the course of his career, Mr. Swan has completed streambank improvements for the City of Ann Arbor, the City of Lansing, the City of Siloam Springs, and the City of Troy. TSP is a leader in green infrastructure development, including the construction of bioswales and installation of permeable paving, thanks to Mr. Swan's knowledge and leadership.

Shay Meskill – Maris, Inc.

Mr. Meskill, a former Marine Engineer Diving Officer in the US Navy Civil Engineer Corps, has over 13 years of expeditionary and marine engineering experience. Mr. Meskill holds four advanced degrees including a Masters in Marine Engineering and is a registered Project Management Professional (PMP). As a Marine Engineer/Diver, Mr. Meskill leads teams of construction divers in compliance with ADCI, EM385, Coast Guard COMDINSTM3150, Navy Dive Manual and NAVFAC P307 regulations. He plans, estimates, and executes challenging underwater construction and sea systems engineering projects to include a \$2.9M Overhaul of the Naval Station Kings Bay Magnetic Silencing Facility, \$730K Replacement of the US Navy Seaplane ramp in San Diego, and a \$1.2M repair of the Joint Base Hawaii Waste Water Treatment Plant Outfall.

Gary Lacy, PE – Recreation Engineering & Planning

For over 30 years, through his company, Recreation Engineering and Planning Inc., Mr. Lacy has helped communities with the planning, design, management and coordination of Whitewater Parks, protection and restoration of river corridors, fish navigation channels and the creation of unique and safe river recreational projects. His company has designed most of the Whitewater Parks, river enhancements and river trail systems in the United States and continues to be at the creative cutting edge of the evolving design.

Effective Project Management Structure

Each member of the project team has extensive experience working in a collaborative setting with governmental entities including municipalities, state governments, and the Federal government. Our approach is built on a philosophy of effective communication with a single point of contact beginning early in the design or construction process. Project managers focus on identifying and achieving milestones using a critical path approach to ensure that projects are completed on time and within budget. An example of some clients where we have successfully used our project management approach include:

- City of Ann Arbor
- City of Siloam Springs, Arkansas

- City of Ypsilanti
- State of Michigan Department of Environmental Quality

TSP also practices principles of construction quality management (CQM) based on the program administered by the US Army Corps of Engineers. Adherence to CQM principles ensures that quality of workmanship is included as a primary concern at every stage of the construction process.

Experience with On-Schedule Project Completion

The project team has significant experience working on projects which demand aggressive schedules and quick mobilization to meet important deadlines.

- Argo Cascades – The project involved making significant land modifications to the Argo Dam bypass channel with a long lead time due to anticipated permitting delays. To minimize delays, TSP started work on activities which did not require permitting such as establishing site security, clearing and grubbing, and site preparation on dry ground while REP and the landscape architect worked with the MDEQ to obtain a Part 401 permit.
- Kyte Monroe Park, City of St. Clair Shores – Project required upgrading an existing gravel parking lot to a modern design which implements green infrastructure principles. The gravel lot was replaced with a permeable paving system and bioswale within three months to allow the lot to be used prior to Independence Day festivities.

Experience with On-Budget Project Completion

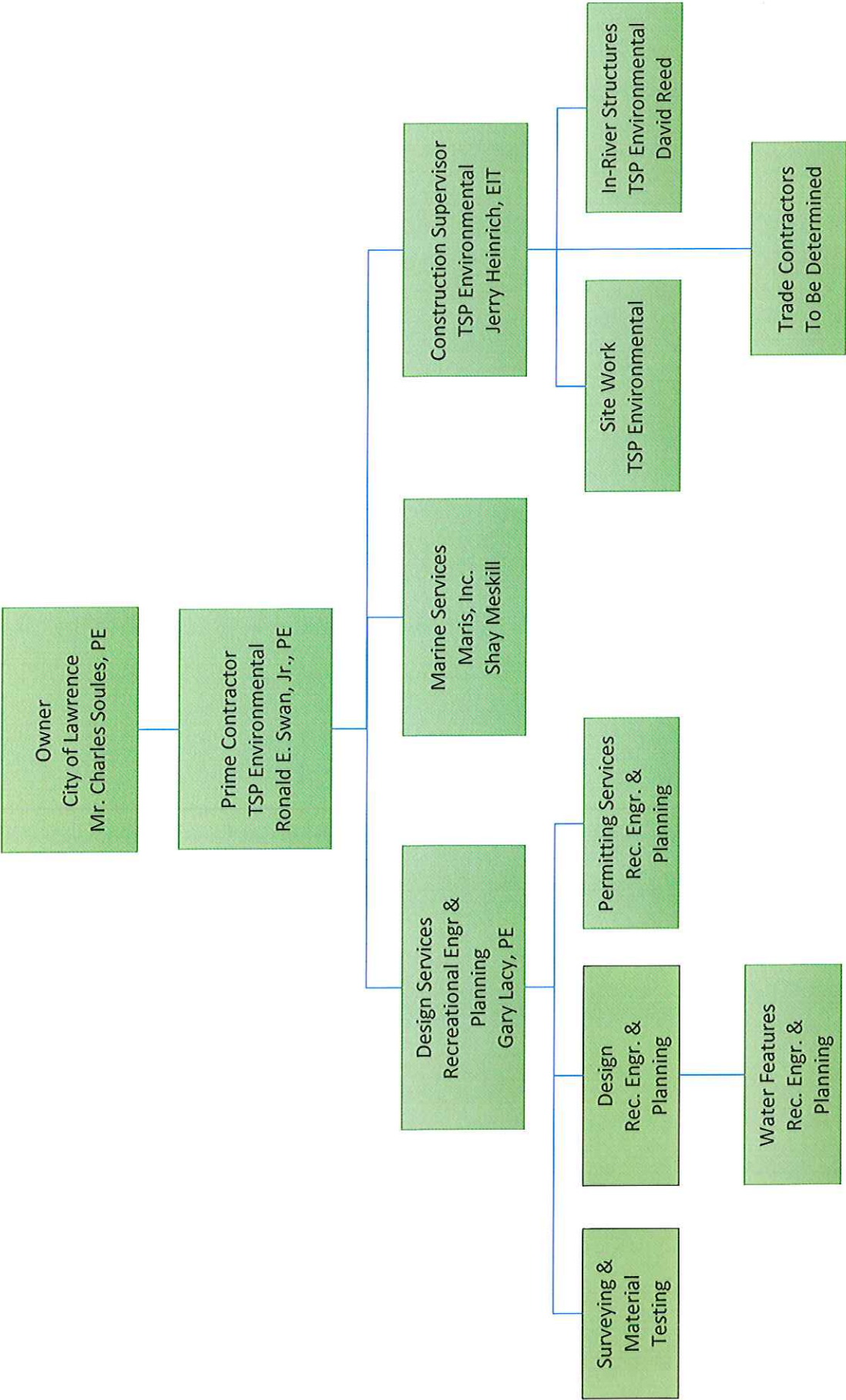
Every member of the project team recognizes the importance of maintaining commitments to established budgets. On every project, we strive to make the most efficient use of the Owner's available funding to maximize the value given to the Owner in terms of the final product. We also recognize that design/build projects present unique obligations to use professional judgement in determining how to use the Owner's budget for the greatest possible effect. Projects where the project team has helped Owners realize significant cost savings include:

- Siloam Springs Kayak Park – TSP submitted a bid to the City of Siloam Springs for the construction of a kayak park according to plans developed by Recreation Engineering & Planning. The project was funded by a private grant with ambitious goals to create a new park along the river. TSP, REP, and the City worked closely with each other to overcome the challenges of working in an active river to build the kayak park within the available budget.
- Scotia Park Drainage Improvements – TSP submitted a bid to the Owner based on a published scope of work and biddable specification produced by the Owner's Landscape Architect. Upon review of the bids, the Owner discovered that TSP submitted the lowest bid at a cost roughly double their available budget. TSP offered a design/build approach to complete the major objectives of the project within the Owner's available budget. TSP worked with the Owner's Architect and NCS to complete the project.

Company Experience & Qualifications

The project team is highly qualified to perform the work at Kansas River Dam. The extensive multi-disciplinary experience of our key staff and decades long history of successful projects are highlighted throughout this SOQ. Beyond our project history, TSP holds additional experience and qualifications relevant to the project including:

- An outstanding safety record backed by a fully updated corporate health and safety program. Our commitment to safety is reflected in the 0.81 experience modification rating (EMR) currently assigned to us by our insurance carrier and the fact that TSP has not experienced an injury resulting in death, days away from work, work restriction, or transfer. TSP is also committed to ensuring the safety of our subcontractors, none of whom have reported injuries at one of our job sites in at least five years.
- Bonding capacity of up to \$3 million per project and \$6 million aggregate. TSP is willing and able to provide performance, payment, and maintenance bonds, if required, to protect the Owner's financial interests.



Argo Cascades Design and Construction



Quick Reference

Owner: City of Ann Arbor
Contact Name: Brian Steglitz
Contact Info: bsteglitz@a2gov.org
Contract Value: \$1,200,000
Completion Date: 5/1/2011

Background

The Argo headrace channel was constructed in 1910 for the purpose of generating hydro-electric power using water from the Huron River. A channel, approximately 100 feet wide, 14 feet deep, and one-half mile long was dredged to create the headrace. Excavation spoils were placed next to the headrace and was later converted to a walking pathway.

In 1960, DTE decommissioned the headrace and hydro-electric power plant and gifted the feature to the City of Ann Arbor for recreational purposes. At that time an overflow weir and bridge over the weir was constructed. The weir allowed the headrace to be fully submerged for canoe access. The pedestrian bridge allowed access to the trail to pedestrians, joggers and bikers. As a nature area, the headrace is home to a variety of plants including the endangered "Purple Turtlehead."

Services Provided

TSP Environmental teamed with Recreation Engineering and Planning and Beckett & Raeder, Inc. to perform design/build services necessary to redesign and reconstruct the headrace. The goal was to eliminate the canoe portage and to install a series of drop structures to create Class I White Water feature.

TSP Environmental was responsible for all construction phase services on the project:

- Cutting, removal and on-site shredding of approximately three acres of trees from embankments;
- Filtering (to remove Zebra Mussel Larvae) and pumping over three million gallons of water from the headrace;
- Excavating, loading, re-locating, placing, compacting and re-grading over 12,000 cubic yards of native soils;
- Import, locating, placing, compacting and grouting over 4,000 tons of limestone boulders at the Site;
- Placing over 120 cubic yards of cement grout at limestone structures and rip rap;
- Designing, forming, placing reinforcing steel and pouring two new pedestrian bridge abutments;
- Designing, shipping, off-loading, setting and securing a new 30-foot pre-fabricated steel pedestrian bridge;
- Forming, importing, placing and finishing over 100 cubic yards of concrete pathway paving;
- Importing, placing and compacting over 1,100 lineal feet of 10-foot wide ADA-compliant asphalt pathway;
- Finish grading, seeding and placing mulch on over three recreational areas around the headrace;
- Placing and compacting native fill near the Argo Dam to de-regulate the headrace embankment.

In total TSP Environmental built nine drop structures according to designs developed by Recreation Engineering and Planning and approved by the City of Ann Arbor. The headrace is in current use by Ann Arbor residents for canoeing and kayaking. Served by the nearby Argo canoe livery, the City Parks and Recreation department has purchased additional equipment to loan to residents interested in taking a ride down the channel.



Siloam Springs Whitewater Park Construction



Quick Reference

Owner: City of Siloam Springs
Engineer: Recreation Engineering & Planning
Contact Name: Gary Lacy
Contact Info: gary@boaterparks.com
Contract Value: \$1,419,000
Completion Date: 5/12/2014

Background

The City of Siloam Springs sits in an area of northern Arkansas populated by numerous rivers and waterways. One such waterway crosses the Fisher Ford highway south of the city. Local paddlers have been aware of the area for years as a prime location for kayaking. With the aid of a grant from the Walton Family Foundation, the City decided to develop the area into a public park featuring a custom designed whitewater feature.

Services Provided

Work began in the summer with the installation of portable dams to provide a dry working area along the side of the river. TSP successfully used a combination of bladder bags and barrier blocks to restrict the flow of water around the work site. Once dewatered, TSP began excavation of the pools and installation of limestone into the river.

TSP developed two limestone drops using material sourced from a local quarry. The two drops provided rapids sufficient for a Class II whitewater feature. In collaboration with the local canoe club, TSP fine-tuned the drops to maximize recreational potential. The limestone structures also allowed for the creation of a "play wave" which allows kayakers to paddle against the flow of water in order to perform tricks. Limestone placed in the river was grouted into place.

Outside the river, TSP performed significant work for the development of the park. TSP constructed a parking lot, paved pathways to the river, and completed general landscaping. Due to poor soil conditions at the site of the parking lot, TSP was required to treat the soil with lime in order to develop a suitable base for paving. The flatwork was performed by a local subcontractor and is the only aspect of the project which TSP did not self-perform.

In June of 2014, the City of Siloam Springs officially opened the whitewater park. The Arkansas Canoe Club has expressed their pleasure on multiple occasions and their members, along with the rest of the public, have begun to make frequent use of the feature.



Siloam Springs Whitewater Park Restoration



Quick Reference

Owner: City of Siloam Springs
Engineer: Recreation Engineering & Planning
Contact Name: Shane Seagle
Contact Info: shane@boaterparks.com
Contract Value: \$120,000
Completion Date: 10/3/2015

Background

Due to a record-setting 11-inch rainfall, the Illinois River near the Siloam Springs Kayak Park saw water rates rise from an average 600 cubic feet per second to over 86,000 CFS. This major increase caused extensive bank erosion in the park, washed “play boulders” downstream, deposited extensive quantities of river rock in the park, and adversely affected the park’s water level and whitewater features. The Walton Family Foundation provided funding to the City to design and install a permanent solution.

Services Provided

TSP mobilized personnel, equipment, and materials to the park to implement the Owner’s design. The full scope of work consisted of installing a grade control mattress at the downstream terminus of the park, removing up to 1,000 cubic yards of alluvial rock deposited between Drops 1 and 2, retrieving and relocating eight 6-foot diameter boulders, and reshaping and installing 500 tons of limestone armor on the riverbank on the upstream portion of the kayak park.



The first task involved temporarily stopping the 600 CFS water flow into the drop structures. Cutoff was achieved by quickly placing 2’x2’x6’ concrete blocks and sand bags into the crest of Drop 1 and the associated fish ladder. Once the water was stopped, TSP used hydraulic excavators and front end loaders to enter the dried riverbed, excavate 1,000 tons of gravel, and place it on the eroded riverbank to replace flood-scoured fill. Our staff then located the 6-foot “play boulders” that were washed downstream and placed them back in their original upstream locations. Once the water level critical work was completed, the concrete blocks and sandbags were removed from the river and moved to locations requested by the Owner for parking control. Excess gravel was stockpiled for future use in the grade control mattress.

The final task was to restore the “play wave” in the drop features by installing a grade control mattress at the downstream terminus of the kayak park. TSP staff



coordinated with local surveyors to establish the downstream property boundary. Our staff then worked with the Owner's Engineer to install the grade control mattress (GCM). Small alluvial gravel deposits were removed and stockpiled to expose the limestone riverbed. 3-foot boulders were used to construct the upstream and downstream GCM base. Voids were filled with 6" limestone rip-rap and small depressions were filled with stockpiled native river rock. The final elevation of the river and resulting "wave action" was set with input from the professional kayak staff of the Arkansas Canoe Club.

At the request of the Arkansas Canoe Club, TSP staff sent a spotter, outfitted in a wet suit with a retrieval harness, along with our excavator to locate a ledge of limestone immediately downstream of Drop 2. The ledge was described as a safety hazard which kayakers reported having hit with paddles, kayaks, and helmets while kayaking. Our staff quickly identified the ledge and removed it by hammering and scraping with the excavator bucket.

Once work was successfully completed, our staff performed final cleanup of the site and returned home to Michigan.



Troy Aquatic Habitat Restoration



Background

The City of Troy houses its municipal buildings on a campus that is bisected by the Lane Drain, a natural drainage system that passes through the area on its way to the Rouge River. The campus has numerous buildings, roads, trails and park features that were constructed to take advantage of this natural area. Two large stormwater conduits, each 54 inches in diameter, were installed beneath the two roads which cross the drain in order to preserve the flow of water.

The two stormwater conduits, in conjunction with a low head dam, represented an impediment to migrating fish and aquatic species. NOAA provided grant funding to the City of Troy to eliminate the low head dam and conduits and to re-design the culverts and streambanks along the Lane Drain for the purpose of improving the aquatic habitat.

Services Provided

TSP started work on the project by installing steel shoring into the path of the Lane Drain. The shoring was initially placed upstream, in a narrow section of the drain to allow dewatering of the main pond area. Bypass pumps were installed to move water around the work area. A second row of shoring was installed downstream of the main pond to protect the culverts and roadways in the event of heavy rainfall.

Once the pond area was dewatered, TSP set to work excavating the sediment from the base of the pond. At the direction of the Owner's Engineer, the sediment was segregated into stockpiles for reuse or sent to a landfill for disposal.

TSP also replaced all of the existing 54-inch diameter culverts with new 14-foot wide by 4-foot high pre-cast concrete box culverts beneath City Center and Town Center roads. This work involved closing those roads to traffic, removing the roadway to allow access to the culverts, excavating to remove the culverts, placing 226 lineal feet of new box culverts in sections, and restoring the roads.

Quick Reference

Owner: City of Troy
Engineer: Hubbel Roth & Clark
Contact Name: Steve VanDette
Contact Info: vandettesj@troymi.gov
Contract Value: \$1,717,000
Completion Date: 10/31/2014



At the openings of the new box culverts, TSP installed new 14-foot high cast in place reinforced concrete wing walls. The concrete was placed into forms and painted to provide the general appearance of stone walls. The foundations of the walls were placed at the same time as the box culverts.

After restoring the roadways, work began on restoring the flow channel of the Lane Drain. TSP used the stockpile of soil previously excavated from the pond, where possible, to fill and shape the channel. An additional 1,500 cubic yards of topsoil was also imported for additional shaping and to provide a more nutrient rich environment for seed and shrubs. In addition, TSP built and shaped riffles at several locations along the channel to control water flow and reduce erosion.



Huron River Habitat Improvements Project

Type of work: Aquatic Habitat Restoration

Location: Huron River between Forest Avenue and Spring Street, Ypsilanti, Michigan

Client: Huron River Watershed Council

Background

Environmental Consulting & Technology (ECT) conducted wildlife surveys on behalf of the Huron River Watershed Council (HRWC). They used the data collected to identify the type and location of habitat improvements that would provide the greatest benefit to the area. ECT coordinated with HRWC; the Michigan Department of Natural Resources (MDNR), Fisheries Division; Washtenaw County Parks; and City of Ypsilanti to come up with a master plan that would include other Huron River initiatives.

Due to Ypsilanti's rich public park system along the Huron River, a large urban population has access to the river. HRWC sought to improve the habitat of aquatic life in this area of interest because prior decades of development and neglect led to changes that decreased its potential as a recreational fishery in Ypsilanti.



Service Provided

In October 2015, TSP was the contractor chosen to complete the improvements project. We mobilized to the site in November 2015.

Work started with the felling of 27 trees on the shoreline of a 1.5 mile section of the Huron River, between Forest Avenue and Spring Street. Many trees were hard to reach from shore so TSP used boats to reach these trees with machinery. Each tree was secured in the riverbed with one or two stainless steel Duckbill earth anchors and galvanized wire rope.



After the trees were anchored, TSP constructed a J-hook vane within the flow of the river. To begin the installation of the J-hook vane, TSP excavated trench 18 inches deep by 6 feet wide with a shallow slope. TSP then positioned 80 tons of 12 inch limestone inside the trench beginning with a three foot height and terminating below sea level with a two foot height. The vane was finished with the placement of three large boulders to complete the "J" of the J-hook vane. After, TSP backfilled and compacted the excavated river substrates to ensure stability. The completed J-hook rock vane measures roughly 125

feet in length and 2 to 3 feet wide and is positioned in front of the visitor gazebo. The vane enables fish to nest around the existing gazebo and pier.

Our work also included excavating a 20 foot by 54 foot scour pond adjacent to the rock vane. The scour is in direct flow of the river after the boulders. The excavated sediment was kept onsite and was compacted on top of the existing riverbed.

For the duration of the project, TSP controlled sediment migration by providing shoreline stabilization work and installing silt fences, which permitted the ease of construction in the river.

Results

TSP completed the project in the Spring of 2016. The river modification and aquatic species activity near the existing pier provides a charming view for park visitors, enhances the habitat of wildlife and promotes recreational fishing for the City of Ypsilanti.

Ann Arbor Maintenance Facility Wetland Construction



Quick Reference

Owner: City of Ann Arbor
Contact Name: Nichole Woodward
Contact Info: nxwoodward@a2gov.org
Contract Value: \$330,000
Completion Date: 11/30/2014

Background

When the City of Ann Arbor constructed its new state-of-the-art equipment maintenance facility, the project eliminated one acre of existing wetland at the southwest corner of a 20-acre detention basin. Under an agreement with the State of Michigan, Department of Natural Resources, the City of Ann Arbor agreed to rebuild a wetland. After the wetland was built in 2010, record rainfalls caused the newly constructed wetland to become submerged, killing many wetland and emergent wetland species planted in the project work area.

Services Provided

Prior to reconstructing the wetland, TSP performed heavy civil construction services to promote rainfall runoff. Our objective was to minimize the amount of scouring or erosion of existing soils in the upland areas of the detention basin. Work consisted of constructing new engineered swails and rock check dams, building a subsurface stone mattress, and installing surface retention controls in high velocity runoff areas.



TSP then pumped approximately 29 million gallons of water from the detention basin to a nearby drain, eliminating excess rainfall accumulation and allowing for reconstruction. TSP then modified the berms and weirs to ensure that the detention basin surface water elevation is maintained to promote growth of wetland plantings, tubers and seed mixes.

Once the site was prepared for construction, TSP installed over 180 mounds of topsoil. Each mound was populated with up to three species of tree known to thrive in wetland areas. Approximately 350 wetland tree plantings were installed and then protected from wildlife with safety fence. After installing plantings, approximately 350 wetland tubers of approximately 12 species were planted. The project was then seeded with wetland edge, emergent wetland and upland seed mixes.

TSP then installed an extensive sprinkler system with generator and pump. The system was operated every other day through the drought of 2012 allowing for proper germination of seed mixes and the tubers and trees to take root.

At the end of our maintenance period in 2014, the majority of trees and plantings continued to thrive.



West Park Stormwater Completion Project



Background

West Park is a municipal park owned and operated by the City of Ann Arbor. The park has numerous trails and park features that were constructed to take advantage of the natural drainage systems that previously passed through the park leading ultimately to the Huron River. Most notably are the two large stormwater conduits (54-inch) that enter the park at the north and south ends of the park from the west.

Quick Reference

Owner: City of Ann Arbor
Contact Name: Nicholas S. Hutchinson,
P.E., City Engineer
Contact Info: (734) 794-6000 ext. 43633
Contract Value: \$482,822
Completion Date: 12/30/2013



The two stormwater conduits were modified by others in 2010 to include new sediment swirl concentrators for the purpose of improving the stormwater effluent entering the Huron River. Unfortunately, the concentrators failed, requiring replacement and re-work of the stormwater structures that divert flow at the north and south ends of the park.

Services Provided

TSP Environmental provided the personnel, materials and equipment needed to complete installation of stormwater fixtures necessary to complete the installation of the replaced stormwater particulate

concentrators. Work completed by TSP included the following:

- Installation of 60-inch bypass piping to maintain flow through the system while repairs were made;
- Installation of new 13' x 13' x 13' multi-component pre-cast stormwater diversion structures, complete with overflow stop logs and weirs at each Site;
- Installation of new 54-inch RCP between the flow diversion structures and the new structures;
- Installation of the new bypass / overflow RCP and headwalls at each Site;
- Formed, poured and finished new concrete sidewalk in work areas to replace sidewalk removed for work; and,
- Restoration of the park grounds using seed mixes approved by Owner's Natural Area Preservation department.

Results

The work was completed well under the Client's budget of \$550,000. However, due to inclement weather and unknown subsurface conditions, the project exceeded scheduled completion by two weeks.



PCB Remediation Former Textileleather RCRA Site



Quick Reference

Owner: City of Toledo
Engineer: Haley & Aldrich
Contact Name: Mr. William Burkett
Contact Info: 419-304-5851
Contract Value: \$1,100,000
Completion Date: April 1, 2016

Background

The City of Toledo purchased the 40-Acre former Textileleather property with the intention of remediating and re-developing the Site. The site is immediately west of the FCA Jeep Plant in Toledo and has significant potential for development. Unfortunately, historic operations at the Site contaminated the property with VOCs, SVOCs and PCBs.

Services Provided

TSP provided personnel, equipment and materials necessary to remediate environmental impacts at the Site. Three main areas on the Site had documented soil impacts; the largest being for the former Calendar Room area, where concrete first floor, walls, basement floor and sub-floor soils and groundwater were impacted with PCBs. The other two areas were impacted with VOCs and NAPLs.



Work started November 2015 with remediation of NAPL and VOC impacts.

Soils, and as necessary, groundwater were remediated at these areas. Soils were excavated, hauled and disposed in a Type II land disposal facility. Groundwater was pumped into on-site temporary ("Frac") tanks and then treated using TSP's packaged groundwater treatment system.

The former Calendar Room was previously flooded with approximately 6 feet of PCB-impacted groundwater. TSP treated approximately 80,000 gallons of PCB-impacted water to local POTW discharge standards and discharged the treated water to the Toledo POTW under a special discharge permit. TSP was also responsible for sampling and compliance monitoring of treatment/discharge activities without excursion or violation.

Once the Calendar Room was pumped dry TSP staff observed significant quantities of suspect ACM on pipes and equipment in the 6,000 SF basement of the Calendar Room. TSP obtained a contract



modification from the Owner and performed ACM abatement after the required 10-day Notice was filed with OEPA. The abatement work was performed between January 4 and 15, 2016; the Class I work was completed using non-contact heaters, allowing the abatement workers to conduct the work in the winter.

Immediately after abatement was completed, TSP arranged for the characterization of the basement ceiling, walls and floors regarding PCB concentration. Based on findings, TSP conducted one round of decontamination of ceilings and walls and two rounds of floor decontamination using *Less Than 10* and a foam-producing sprayer. TSP then documented successful decontamination of ceiling and walls. The floors were not adequately decontaminated and were characterized as PCB-impacted. TSP then performed demolition of the ceiling, walls, floors and 36-inch reinforced concrete caissons upon which the building was built. Following demolition, loading and hauling for off-site recycling or disposal, TSP performed PCB-impacted soil remediation and groundwater remediation.



Work completed under the contract included the following:

- Remediation of 485 tons of VOC and NAPL-impacted soils;
- Remediation of 2,057 tons of PCB-impacted soils;
- Remediation of 766 tons of PCB-impacted concrete;
- Remediation of 206 tons of PCB-impacted debris;
- Remediation of 1,013 tons of Decontaminated concrete;
- Removal and recycling of 249 tons of Broken Concrete;
- Abatement of 30 cubic yards of regulated asbestos-containing material;
- Removal, packaging, hauling and disposal of 5 gallons of PCB liquid;
- Remediation of 9,303 gallons of non-hazardous liquids;
- Pumping, treatment and permitted discharge of 305,600 gallons of treated groundwater.

The project was completed April 1, 2016 at a total cost of \$1,100,000 and within the required schedule.



Retaining Wall Restoration at Fish Hatchery Park



Quick Reference

Owner: City of Northville
Engineer: Soil and Materials Engineers
Contact Name: Chris Naida
Contact Info: naida@sme-usa.com
Contract Value: \$134,000
Completion Date: October 2018

Background

Fish Hatchery Park is a recreational complex owned and operated by the City of Northville. It is named after the original purpose for which the area was constructed – a fish hatchery. In fact, the fish hatchery formerly located at the park site was the first hatchery permitted, constructed and operated by the US Government. The park is bordered on east by Johnson Creek, a tributary to the Middle Rouge River. At present only one former hatchery pond remains at the site, which the City desires to maintain in perpetuity. The pond is separated from Johnson Creek by a concrete retaining wall. Recently, due to a storm even, a large diameter tree was felled and struck the concrete retaining wall, breaking the wall and causing lateral movement (pre-catastrophic failure). The City, through its Engineers, retained TSP Environmental to remedy the problem.



Services Provided

TSP Environmental provided heavy civil earthwork, demolition, poured concrete footing and retaining wall construction and site restoration services at the Site. TSP demolished a 40-foot section of the historic retaining wall and hauled the material off-site for recycling. A new steel-reinforced concrete footing was poured and finished. Immediately thereafter a new 12" thick steel reinforced concrete retaining wall was constructed. After a concrete curing period, the footing was backfilled with engineered fill and the sheet piling was removed using a hydraulic vibratory hammer, placing minimal loading on the new wall. The work area was then restored using native soils and the surfaces were seeded and mulch blanket installed.

Unique Challenges

Due to the proximity of Johnson Creek in relation to the pond, TSP had to develop a method to maintain separation between Johnson Creek and the pond. To meet this requirement, TSP had to drain the pond, which had mature fish (native and non-native species) living in the pond. TSP used a row boat and netted the native species for release into Johnson Creek. Non-native/invasive species were disposed.

Since there were no records of the existing retaining wall design, TSP relied upon geotechnical information obtained from the Engineer, which included geotechnical information that inferred that a footing existed beneath the existing retaining wall. Upon unearthing the retaining wall, it became clear that the wall was constructed on a bed of compacted limestone. The limestone bedding allowed communication of water from the creek into the work area. Under an approved contract modification, TSP switched the dewatering process to a cofferdam constructed of PZ-27 sheet piling. After placing the cofferdam, demolition and reconstruction of the wall commenced unimpeded.

Appendix A – Dam Repair Detailed Proposal

Response to Request for Proposal
Title: Repair of Scour Holes in Kansas River
Dam



Solicitation: CIP UT1885

RFP: R1815

Prepared for:

City of Lawrence

6 East 6th St

PO Box 708

Lawrence, KS 66044

Due Date: 06 NOV 2018

RESTRICTIONS ON DISCLOSURE AND USE OF DATA: This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed--in whole or in part--for any purpose other than to evaluate this proposal. If, however, a contract is awarded to this offeror as a result of--or in connection with--the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use information obtained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in all sheets.



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1.0 TECHNICAL APPROACH

Maris Inc is a Veteran Owned Small Business focused on Marine Construction and Operations on Federal Contracts. All Maris operations are conducted under the US Army Corps of Engineers Safety and Health Requirements Manual EM385-1-1 which is inclusive but more restrictive to national OSHA and the Association of Diving Contractors International (ADCI) standards. The core Maris personnel are made up of US Navy Underwater Construction Technicians specializing in remote marine construction activities.

1.1 Management

TSP Environmental, together with subcontractor Maris, Inc. will be performing onsite work. Maris will provide material acquisition, mobilization, barrier installation, dewatering operations, small boat operations, diving operations and scour repair support. Maris will provide all construction of the

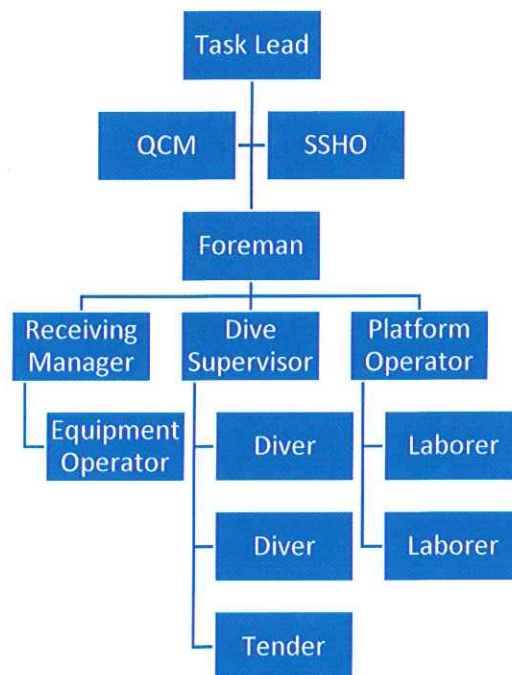


Figure 1. Operation Organization

1.1.1 Task Leader – Ronald Swan

The Task Leader has the overall responsibility for performance under the contract including management and coordination of all staff resources across all tasks awarded, contract execution quality assurance and project/customer liaison. The Task Leader will review all reports, submissions and expense reports related to the project. The Task Leader will ensure all submittals, CDRL deliverables, personnel, coordination, subcontractor oversight, and overall performance is acceptable to the Government COR. The Task Leader will ensure all contractual issues are proactively managed including leading the weekly contracting meetings, subcontractor tasking and pay management, and managing change orders. The Task Leader will assign all project personnel to roles and will ensure safety and quality control oversight. The Task Leader will be the primary point of contact with the Government for performance considerations (technical, safety, quality, security, cost and schedule) and reporting. The Task Leader has the authority to commit company resources and will be responsible for impact decisions regarding additional support as required to complete the project efficiently, safely, within cost and on-time.



1.1.2 Foreman – Shay Meskill

The Foreman will manage the details of all preparation and onsite installation. The Foreman will make daily decisions as needed to provide guidance on daily objectives. The Foreman will take prime responsibility for the development and execution of the onsite specific Activity Hazard Analysis's (AHA), Accident Prevention Plan (APP) and Environmental Protection Plan (EPP) in coordination with the Site Safety and Health Officer (SSHO). The Foreman will lead the emergency drills to validate the APP and EP prior to the start of reconfiguration operations.

1.1.3 SSHO – Scott Murray

The SSHO is responsible for reviewing all operational procedures with a focus on safety. The SSHO will develop the safety standards for review by the Task Lead. The SSHO will coordinate all operations with local authorities to ensure the project operations do not incur unexpected safety conflicts with ongoing local operations. The SSHO will be onsite during all field operations to support the Foreman. The SSHO will be qualified per EM385-1-1.

1.1.4 QC Manager – Hugo Larsson

The QC Manager will provide oversight of all submittals, operational approaches and will ensure each Government requirement is met properly. The QC Manager will create and manage the submittal registry. Our QC Manager has a current valid training certification from the USACE Construction Quality Management for Contractors.

1.1.5 Receiving Manager – Dane Dinsmore

The receiving manager will coordinate all material deliveries and manage daily activities at the staging areas. The receiving manager will act as the spotter for all equipment operations.

1.1.6 Receiving Equipment Operator – Alex Albin

The Receiving Equipment Operator will operate the required forklift for deliveries.

1.1.7 Surface Supplied Diving Supervisor – Eric Eaton

The Surface Supplied Air Diving Supervisor is in charge of the planning and execution of the diving operation, including the responsibility for the safety and health of the dive team. The diving supervisor shall possess the proper ADCI supervisor certification card, enclosed as a supplement and referenced in Table (1), and be knowledgeable and familiar with all techniques, procedures, emergency procedures and operational parameters for the diving mode under his or her direct supervision. In carrying out these responsibilities, the diver supervisor's duties shall include those listed in the International Consensus Standards for Commercial Diving and Underwater Operations Section 3.4.1.

1.1.8 Surface Supplied Diver – Jeremy Yerrick, Sonny Ramos

The Surface Supplied Air Diver is assigned by the Surface Supplied Air Diving Supervisor to perform specific tasks in the water and topside. The diver must be medically certified as fit to dive, have completed a formal commercial diving course of instruction, have detailed knowledge of diving theory and practice, and have a full understanding of the diving equipment in use and the tasks assigned. All divers shall be in possession of an up-to date diver's logbook, which can be used to establish levels of experience. Divers will carry out their duties and responsibilities in accordance with International Consensus Standards for Commercial Diving and Underwater Operations Section 3.3.1.



1.1.9 Surface Supplied Tender – Andrew Wilde

The Tender is assigned by the Surface Supplied Air Diving Supervisor to perform various duties including those listed in International Consensus Standards for Commercial Diving and Underwater Operations Section 3.2.1.

1.1.10 Modular Work Platform Operator – Dalton Weir

The Work Platform Operator will be qualified to the standards of the USCG vessel size. The vessel operations will ensure all transits and moorings are conducted within USCG safety practices. The Work Platform Operator will actively support material movement to support the divers operations and advise the Foreman on material movement challenges.

1.1.11 Laborers – Alex Hartwell, Tyler Swanson

The Laborers will execute all tasks as assigned by the Work Platform Operator. The Laborers will ensure all the material movements and actions taken are within the EM385-1-1 safety practices. The laborer will provide focused attention in supporting the logistics activities.

1.2 Repair Design

The recommended repair designs in sequence of preference are as follows;

1. Repair major scour holes by dewatering the immediate area, prepping the scour hole and installing a concrete fill with 2ft protective collar
2. Repair major scour holes that cannot be safely dewatered due to actively eroding backfill should be repaired using an alternative protective collar installation
3. If a masonry style repair is required for aesthetics the voids will be repaired using underwater grout and fill bricks by divers.
4. For small holes the area will be sealed using temporary concrete bolts and grout injected.

1.2.1 Repair Scour Holes with Collar

The size of the scour areas that demand structural concrete repair standards to include the following guidelines.

1. The existing scour hole shall be cleared of all organic growth.
2. Where practical the scour hole will be dewatered and a corrosion inhibiting bonding agents shall be sprayed in.
3. A 2ft wide protective collar should be added to all major void areas to prevent repeat scouring.
4. Minimum cover of steel reinforcements is 3 inches.
5. Reinforcing steel shall be grade 60 #5 conforming to ASTM A615.
6. Dowell rods shall be placed into the existing surrounding hard surface a minimum of 6 inches and extend past the rebar a minimum of 12 inches.

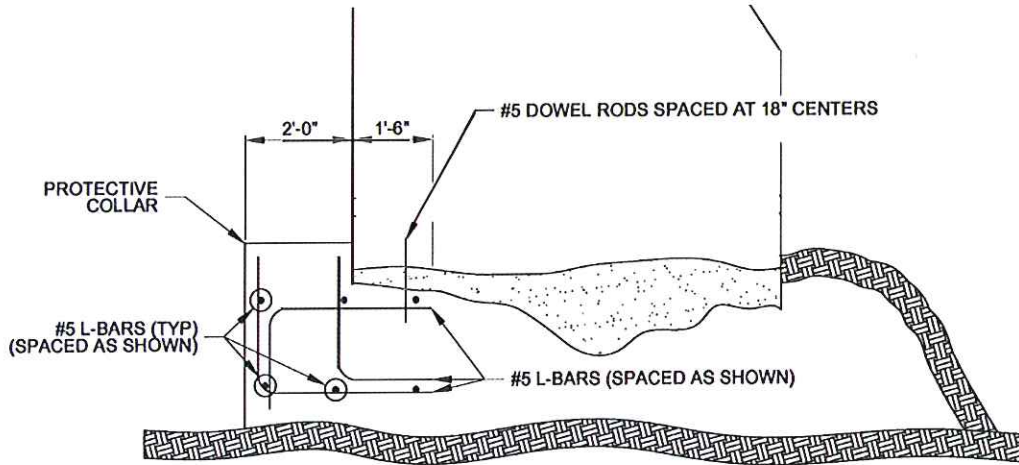


Figure 2. Scour Repair Design

1.2.2 Repair Collapsed Scour Holes

For areas that prevent immediate dewatering from active erosion safety concerns, a modified concrete fill and collar installation will be pursued. This requires two pours, the first pour established a base layer for drilling/dowling. The forms will be set up against the existing wall by temporarily installing angle brackets and concrete anchors. The forms will be dewatered immediately before the concrete placement. After the first pour sets (72 hours) a reinforcement will be drilled in, rebar installed and prepared for the second pour. The second creates the majority of the repair structures.

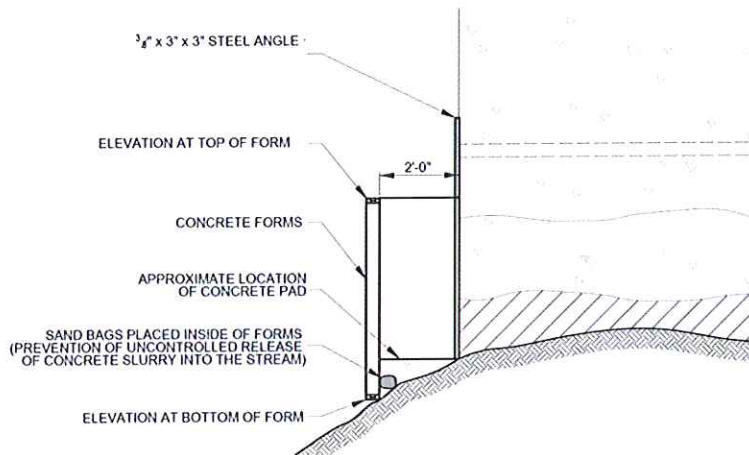


Figure 3. Alternate Collar Approach

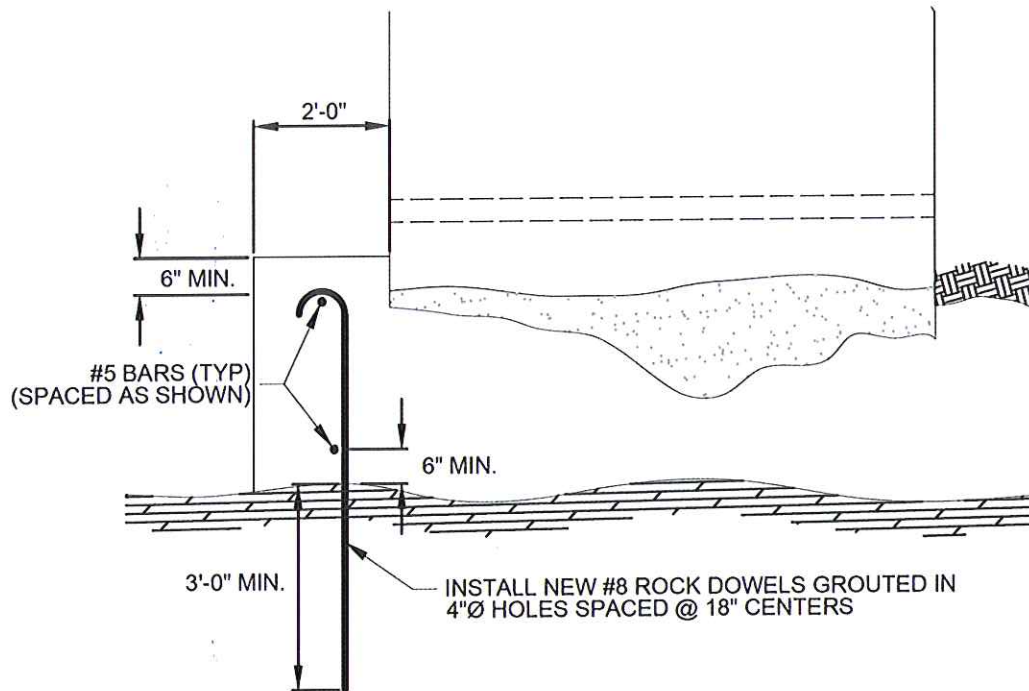


Figure 4. Alternative Collar Reinforcement

1.2.3 Repoint Masonry Walls

Use of a masonry style wall will provide a more aesthetic look but will provide a shorter lifespan of the repair as turbulent water flow can create penetrating pathways easier along grout paths. Maris would follow typical marine masonry wall repair methods shown below.

1. Fill large voids between granite stone with smaller granite stones and point.
2. Fill area's missing granite blocks with square large granite stones and point.
3. Point all open and exposed gaps, voids, cracks between granite blocks.
4. Pointing shall be at least 2"-8" (Achieve maximum depth of 8" or greater when possible) deep between cracks, voids, gaps and spaces between all granite blocks.
5. Add backer rod when required per manufactures recommendations.

The grout material would be the same used in the injection method below.

1.2.4 Grout Inject Small Holes

Each area will be cleaned of organic growth and then sealed with a two port injection cover plate using temporary concrete anchors. The grout will then be mixed on the support boat and injected into the void. The void is pumped with grout until the overflow tube has grout in it. The form is then depressurized, removed and the surface is finished.

Grout Product. Densona SeaShield 510 UW grout

1. Formulated for freshwater application and exposure,
2. Compressive Strength ASTM 109 7 days 6000 psi, 28 days 7500 psi,



3. Bond Strength ASTM C 882 28 day 2000 psi,
4. Working time 30 minutes,
5. Grout shall not contain metallic aggregate, expansive cement, or gas generating additive such as aluminum powder,
6. Meets performance requirement ASTM 1107.

1.2.5 Apron Repair

After the nearby scour hole has been properly repaired, the apron should be repaired by cutting back all failed concrete. Remove the failed concrete and install a new concrete pad patch. The new pad rebar will be tied to epoxied dowels into the surrounding structures.

1.3 Method of Execution

1.3.1 Project kick off

A project kick-off meeting within 10 days of award to take place either by teleconference or at a specified location to be determined by the Contracting Officer's Representative (COR). At this meeting, Maris will present a notional schedule to the Government based on known lead times along with a review of the material and equipment list provided in the SOW. Since the terms of the contract are Firm Fixed Price based on the solicited RFP, any Government directed changes to the currently-identified procurement list will be documented in the meeting minutes and provided to the Government for future consideration.

1.3.2 Preconstruction

Prior to the mobilization of any equipment or purchase of materials Maris will create the following pre-construction submittals for approval: Project Execution Plan (to include traffic control), Material Submission, Quality Control Plan, Environmental Plan (to include erosion control and dewatering), and Accident Prevention Plan (to include fire prevention plan, and activity hazard analysis). Additional submittals will be provided as dictated by the SOW.

1.3.3 Mobilization

Maris will deploy three work trucks, small field office, tool trailer, modular work platform, inflatable boat, telehandler, dump trailer and materials to the site. Materials will be moved to the site via heavy equipment and commercial trucking. The primary method of personnel access to the site will be to port the small boat, mobile hydraulic tools and hand tools along the rough river frontage south of the project site (along the Marriott) utilizing the small parking lot downstream of the Marriott. All major support materials would be staged in this parking lot. Minor materials may be moved thru the BMPC South Power House access ladderway. Environmental controls and spill/fire response equipment will be the first items to be installed. All equipment will be cleaned and inspected before entering public service land. Traffic prevention measures will be installed per the project execution plan.

1.3.4 Dewatering

The immediate work site will be dewatered using a hydrobarrier system. This system is deployed by hand and then filled with local waters to develop the barrier. This reduces concerns over accessibility to the site as the barrier is hand portable. All sump pumps will be hydraulically driven with biodegradable hydraulic fluid per USACE standards to prevent any contamination concerns. Maris proposes using the Nilex Aqua Barrier system in a tee-pee configuration. The same Stanley hydraulic pumps used to dry out the work area will be used to fill the barriers.

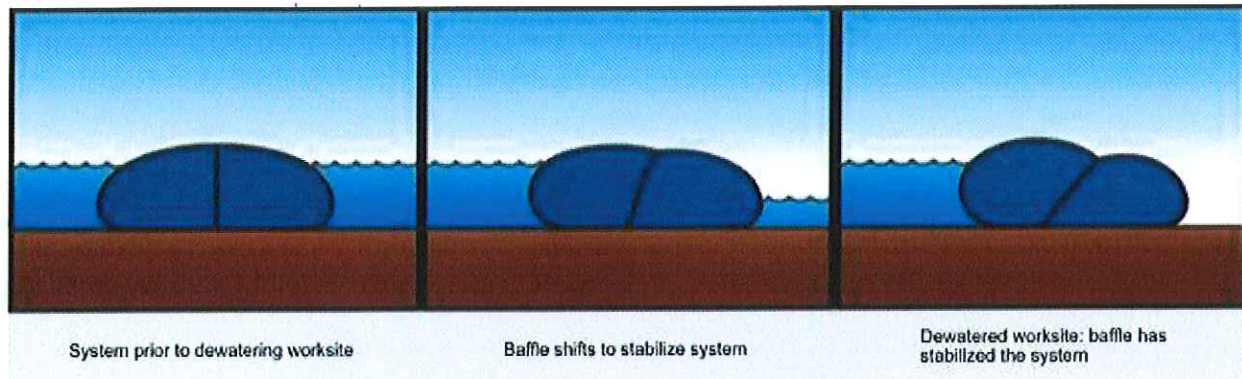


Figure 5. HydroBarrier Function



Figure 6. Small Hydrobarrier

1.3.5 Drying the scour area

Once the Aqua Barrier is installed, the hydraulic pumps will be shifted to pump the remaining water out of the dry work area and back into the natural flow. During this process, the Aqua Barrier will be monitored for shifting. Dry work site access will be established by installing the egress ladder and ladder anchors will be installed using a hammer drill and concrete wedge anchors. All personnel utilizing the ladder will be required to be trained and don the proper equipment for fall protection operations. A water sump will be developed to keep the work area dry. The scour conditions will be inspected.



1.3.6 Preparing the scour area

The existing scour area will be prepared by removing any debris out from under the void, loading it into buckets and removed out of the dry work area by hand lines. Once all loose material has been removed, the organic growth will be removed using a pressure washer and treated with anti-corrosion per manufacturer specifications. The dowels, rebar and forms will then be installed.

1.3.7 Placing the concrete

The concrete will be delivered as provided in the concrete mix design to the south power house. The concrete company will pump the material to the project site using a concrete pump truck and additional flex hoses as needed. These hoses will be required to be routed along the powerhouse flume walkway. The concrete will be continually pumped working from the back of the void forward and upward. Wherever accessible, the concrete will be vibrated in lifts. Once reaching the top of the form, the accessible concrete will be troweled and finished. A cloth layer will then be placed overtop during the cure period of a minimum of 72 hours prior to full re-watering.

1.3.8 Restoring the site

The site will be restored to its original condition to include the following key steps;

1. The concrete forms will be removed and the results will be inspected.
2. The egress ladder will be removed, concrete anchors cut flush
3. The dry work area will be pumped full of water to match the natural water line
4. The aqua barrier will be pumped empty and removed
5. All temporary utilities, barriers and containers will be removed.

1.3.9 Closeout Inspection

Upon completion of the project tasks an acceptance inspection will be scheduled with the Contracting Officers Representative or chosen representative. A completion 'punch list' will be provided by the government representative for Maris to complete. Upon completion, the contractor will request written acceptance of the project completion by the government.

1.3.10 Post Installation Documentation

A Project Completion report containing requested submittals and high definition photography and video will be provided to the government with 14 days of project completion.

1.4 Equipment



Figure 7. Hydraulic Pump



Figure 8. Hydraulic Power Unit



Figure 9. Hydraulic Breaker



Figure 10. Hydraulic Chipping Hammer



Figure 11. Hydraulic Hammer Drill



Figure 12. Hydraulic Concrete Saw



Figure 13. Modular Work Platform



Figure 14. Rescue Boat



Figure 15. Concrete Pump Truck



2.0 RISK MANAGEMENT

2.1 Change in Site Conditions

A major factor in change orders on Firm Fixed Price (FFP) construction contracts are changes in site conditions. In order to counteract major changes, Maris has provided a variety of alternative approaches to manage the scour conditions based on extensive experience.

2.2 Concrete

The RFP notes a concrete design at 1500 psi. This is unacceptable for structural concrete, the mix below is recommended to meet ASTM C387. If a flowable concrete was intended, the scour holes are too large to be treated as “grouting” or “pointing” and should be considered a structural repair.

Composition of Minor Structure Concrete

Property	Specification
Cement content	611 pounds per cubic yard minimum
Water/cement ratio	0.49 maximum
Slump	5 inches maximum
Air content	4 % minimum
Size of coarse aggregate	AASHTO M 43 with 100% passing the 1½-inch sieve
28-day compressive strength	3,500 pounds per square inch minimum

2.3 Boat Ramp

With the boat ramp location near the Obermeyer Gates a floating barrier should be installed to notify public boaters. Maris regularly installs floating barrier system as well as specialty floating security barrier systems for the Navy. A floating barrier is included as a separate line item in the option.

2.4 Environmental

An Environmental Protection Plan will be developed per EM385-1-1 standards after award. Environmentally Accepted Lubricants will be used in accordance with USACE regulations for construction activities near bodies of water. 100% vegetable oil based hydraulic fluids will be used at all times. Utilization of local contractors and material sources will reduce unneeded emissions for material delivery. Bio-fuels will be used for all gasoline engines as required by the State of Kansas.

2.5 Quality

Maris understands it is responsible for the quality of all work performed under the resulting task order (including subcontracted products and services). This includes responsibility for administering an internal quality control plan, administering self-inspections, and reporting on these elements. The Government is responsible for conducting the verification elements cited in



the methods of surveillance to determine whether the contractor has met the stated performance standards. If the contractor has not met the minimum requirements, it may be asked to develop a corrective action plan to show how and by what date it intends to bring performance up to the required levels. Changes to performance standards and methods of surveillance will be incorporated via contract modification at the convenience of the contracting officer.

2.6 Safety

Maris continues to excel with the implementation of strategic methodologies that focus on risk mitigation, process improvement, and employee education. Maris maintains a comprehensive Corporate Environmental, Safety, and Health (ESH) Manual, based on OSHA and EM-385 requirements that include the safety policies, practices, procedures, and materials that exist within our company. The ESH Manual provides instructions, guidance, and tools for both corporate and local office management to administer ESH compliance and monitor our accident prevention program. Mandatory ESH training is required for Maris personnel and subcontractors that work in hazardous work environments. Personnel and subcontractors also attend refresher training sessions throughout the year to ensure they are up-to-date with any new or updated regulations and requirements. Maris actively demonstrates a proactive approach to safety and risk mitigation.

An Accident Prevention Plan and Activity Hazard Analysis will be provided upon award of contract.

3.0 Experience

3.1 Resumes



SHAY MESKILL – FOREMAN

EDUCATION & QUALIFICATIONS:

2003, Basic Open Water Diver, PADI
2003, Engineer In Training 09186, State of Arizona Board of Technical Registrations
2003, B.S. Civil Engineering, Arizona State University
2005, Civil Engineer Corps Officer School (CECOS) Basic
2005, Level I Contracting Officer, DAWIA
2005, Seabee Combat Warfare Qualified, USN
2005, International Hazmat Certifier, 49CFR
2005, Intermodal Container Officer, USN
2005, Air Load Planner/CALM, USN
2006, NAVFAC P-307 Crane Certifying Official Qualified
2006, Dynamics of International Terrorism, USAF Special Operations School
2006, Minimum Operating Strip Selection, USAF Air Education and Training
2006, Airfield Pavement Construction Inspector, USAF Air Education and Training
2006, Force Protection II Responsible Officers Course, USAF Special Operations School
2007, Contingency Airfield Pavement Evaluator, USAF Civil Engineer Support Agency
2007, Facility Design Course, USAF Air Education and Training Command
2008, Combat Life Saver Trained, USAF
2008, Basic Airborne Course, USA Infantry School
2009, Advanced Open Water Diver, PADI
2009, Diver Propulsion Vehicle Diver, PADI
2009, Altitude Diver, PADI
2010, Rescue Diver, PADI
2010, M.S. Coastal Engineering, Oregon State University
2010, Marine Engineer Dive Officer, Naval Diving and Salvage Training Center
2010, Diving Coordinator, Naval Diving and Salvage Training Center
2011, Crane Rigger Qualified, USN
2011, Small Boat Operator Qualified, USN
2011, Operator Qualified, HYPACK
2011, ROV Operator Qualified, Seabotix
2011, Single Point Bathymetric Surveyor Qualified, SeaFloor Systems
2012, Lightweight UUV Operator, Ocean Server
2012, Towed Magnetometer Surveyor Qualified, SeaSpy
2012, AUV Operator Qualified, Iver 2
2012, AUV Operator Qualified, Remus
2012, Side Scan Sonar Surveyor Qualified, Marine Sonics
2012, Level II Contracting Officer, DAWIA
2013, AUV Operator Qualified, Bluefin
2013, M.B.A, Arizona State University
2014, Underground Storage Tank Operator Class A, Idaho and Oregon
2014, Commercial Driving License, Idaho
2015, Air Diver, ADCI
2015, M.S. Alternative Energy Management, Everglades University
2016, Construction Quality Management for Contractors, USACE
2016, Project Manager Professional, PMI
2017, 30HR Construction Safety, OSHA
2018, Bridge Inspector I, FHWA

YEARS OF RELEVANT EXPERIENCE: 15 years

PROJECT: USN PSB Rehabilitation - RELEVANT EXPERIENCE HIGHLIGHTS: Completed the fabrication of 4 new Port Security Barrier sections and three legged mooring system. Upgraded the PSB system at Nuclear Power Training Unit Charleston to include relocating 3 existing moorings and installation of a new mooring leg and PSB connection chain.

PROJECT: USN N-PSB Repair Kitsap - RELEVANT EXPERIENCE HIGHLIGHTS: Completed the repair of 7 Nearshore Port Security Barriers for Naval Base Kitsap-Bremerton.

PROJECT: NOAA Seawall Repair - RELEVANT EXPERIENCE HIGHLIGHTS: Repaired all mortar joints and reset multiple failing sections of the protective seawall of the North East Fisheries Science Center in Woods Hole, MA.

PROJECT: USN Punta Salinas HDD - RELEVANT EXPERIENCE HIGHLIGHTS: Provided all surveying and marine operations for a 2300ft horizontal directionally drilled cable landing in Punta Salinas, PUR. Provided immediate drilling mud remediation after a subsea drilling spill.

PROJECT: USFS Professional Engineering Services - RELEVANT EXPERIENCE HIGHLIGHTS: Maris is supporting the White River National Forest with engineering services in support of remote bridge installations and maintenance. Work includes design, constructability reviews, work supervision and commissioning.

PROJECT: USCG Floating Dock Repair - RELEVANT EXPERIENCE HIGHLIGHTS: Fabricated and installed finger pier attachments to repair the small boat operational dock at USCG Station Yerba Buena, CA. Additional dive operations were provided to balance the floatation of the existing docks.

PROJECT: USCG Transmitter Building Demolition - RELEVANT EXPERIENCE HIGHLIGHTS: Demolished a transmitter building, water tank and fuel tank at the USCG remote communications station in Pungo, VA.

PROJECT: USACE Breakwater Repair - RELEVANT EXPERIENCE HIGHLIGHTS: Deployed all materials from Seattle, WA to Dutch Harbor, AK to repair the two protective floating breakwaters for the Carl E Moses harbor.

PROJECT: BLM Boat Landing Upgrade - RELEVANT EXPERIENCE HIGHLIGHTS: The boat landing at Take Off Point, AZ was upgraded to include stabilization of the courtesy dock pilings and extension of the boat ramp. This project is being completed completely by diving operations due to remote access.

PROJECT: Dworshak Dam Mooring Bitt Refurbishment - RELEVANT EXPERIENCE HIGHLIGHTS: Two floating log booms bitts are being fabricated at USACE standards to upgrade from the existing system along the 800 ft dam face at Dworshak Dam, ID. Marine operations and weight handling will be completed in accordance with the EM385-1-1.

PROJECT: Magnetic Silencing Facility Upgrade, Lambert's Point - RELEVANT EXPERIENCE HIGHLIGHTS: Acting as the lead engineer onsite Mr. Meskill developed all the project planning documents in accordance with USACE EM385-1-1, NAVFAC P-307, Navy Dive Manual, OSHA and local regulations. I manage all reporting and I am the primary liaison with the government contracting team, local government regulators and subcontractors. The project involves the replacement of all 256 sensors, 30 cable risers and surface cabling for the Lamberts Point Deperming Range near Norfolk, VA.

PROJECT: Crane Barge Remount - RELEVANT EXPERIENCE HIGHLIGHTS: A 30Ton crane was removed and replaced at the US Navy Sound Measurement Platform (SMP) at Seneca Lake, New York. A US Navy Crane Center approved mounting platform was designed and prefabricated offsite to avoid interrupting ongoing research at the SMP. The new platform was installed using a mobilized crane platform under EM385-1-1 standards. All welds were inspected using Non-Destructive Testing for approval of the new marine crane by the Navy Crane Center.

PROJECT: Floating Dock Repair - RELEVANT EXPERIENCE HIGHLIGHTS: Repaired 5 guide piles and brackets for the NOAA floating dock in Monterey, CA. 2 of the 5 pile guides were unusable and new brackets had to be re-designed, fabricated and installed. The system was made up of two upper bracket arms and two underwater bracket arms for each pile. Crane and diving operations were conducted under OSHA and NOAA standards. All replacement brackets were custom fit and fabricated. One of the existing piles was laying on the seafloor and had to be recovered via coordinated diver and crane operations.

PROJECT: Wolf Creek Dam Monolith Inspections - RELEVANT EXPERIENCE HIGHLIGHTS: Under EM385-1-1 standards a dive team was mobilized to inspect and report on leaks developing over three monoliths at the USACE Wolf Creek Dam in Kentucky. Divers provided a detailed report, photos and video for each feature of the monoliths found down to 100ft water depth. Significant damage was discovered and a repair scope of work and estimate was provided. All findings were reported in a Microstation developed drawing.

PROJECT: Monitoring Platform Replacement - RELEVANT EXPERIENCE HIGHLIGHTS: Under EM385-1-1 standards a dive team and barge crane was used to remove all debris and replace a USGS monitoring platform in Savannah, Georgia. A hydrographic and sidescan survey was used to verify that all debris was cleared from the previous platform location. A new 30ft tall platform was constructed using pile driving and aerial man basket work under new fall protection requirements.

PROJECT: Cable Landing Geotechnical Investigation - RELEVANT EXPERIENCE HIGHLIGHTS: Conducted 5 geotechnical borings at the Puerto Rico Air National Guard base in Punta Salinas. 35 coring segments were selected for 5 soil characterization tests to complete a profile down to 1100 ft. This project was completed in preparation for a horizontally drilled subsea communications cable landing.

PROJECT: NWS Earle Fleet Mooring Removal - RELEVANT EXPERIENCE HIGHLIGHTS: In coordination with UCTONE and Seaward Marine Corp the 8M fleet mooring was removed. Components were selectively destructed and lab tested for a national study on fleet mooring performance. As the lead engineer, Mr. Meskill developed all the project planning documents in accordance with USACE EM385-1-1, NAVFAC P-307, Navy Dive Manual, OSHA and local regulations.

RELEVANT PROJECT: Hawaii NOAA Buoy Recovery - RELEVANT EXPERIENCE HIGHLIGHTS: Mobilized a 120ft vessel to recovery a 3 meter NOAA buoy that had drifted 900 miles from Oahu, Hawaii into a national marine monument. To prevent further damage of the dragging mooring chain and line, divers were deployed to clear up the seafloor and recover the buoy. In order to prevent damage to local corral, a small fishing vessel was outfitted with a custom designed cradle to recover the buoy and avoid large crane ship requirements. This project was coordinated with the NOAA National Data Buoy Center, local NOAA technicians and the State of Hawaii national monument.



ERIC EATON – DIVE SUPERVISOR

EDUCATION & QUALIFICATIONS:

1987, BU “A” School
1993, BU “C” School
1996, Navy Second Class Diver, NDSTC
1996, Basic U/W Construction Technician
1997, Small Boat Operator qualified, USN
1997, Arctic Survival School, USAF
1998, Zodiac Repair Technician
1998, US Divers/Kirby Morgan Repair Technician
1999, Navy First Class Diver, NDSTC
1999, Seabee Combat Warfare Qualified, USN
2000, Advanced U/W Construction Technician, NDSTC
2002, US DOT Bridge Inspector School
2003, Navy Mixed Gas Diver, NDSTC
2003, Navy Master Diver, NDSTC
2004, OPDS SALM Technician
2004, Diving Salvage Warfare Qualified, USN
2006, Master Underwater Construction Technician, USN
2008, Seabotix Lbv-150 Technician
2008, SSI Expedient Bathy Technician
2009, NAVFAC P-307 Crane Rigger/Inspector Qualified
2009, ORCA Mixed Gas Supervisor Qualified.
2011, Operator Qualified, HYPACK
2011, ROV Operator Qualified, VLBV300, Seabotix
2011, Single Point Bathymetric Surveyor Qualified, SeaFloor Systems
2012, Towed Magnetometer Surveyor Qualified, SeaSpy
2012, AUV Operator Qualified, Iver 2
2012, AUV Operator Qualified, Remus
2012, Side Scan Sonar Surveyor Qualified, Marine Sonics
2013, Edgetech USBL Operator
2014, Klein 3900 Operator
2015, RESON SEABAT Technician
2015, Marine Magnetics Operator
2016, Construction Quality Management for Contractors, USACE
2017, 30HR Construction Safety, OSHA

YEARS OF RELEVANT EXPERIENCE: 29

PROJECT: USN Punta Salinas HDD - RELEVANT EXPERIENCE HIGHLIGHTS: Provided all surveying and marine operations for a 2300ft horizontal directionally drilled cable landing in Punta Salinas, PUR. Provided immediate drilling mud remediation after a subsea drilling spill.

PROJECT: EXWC Dive Operations Branch Maintenance - RELEVANT EXPERIENCE

HIGHLIGHTS: Provided annual vessel operations for NAVFAC Engineering and Expeditionary Warfare Center Diving Operations Division for the past two years This includes \$2.4M in diving equipment, WHE, vehicles and three worldwide deployable diving vessels. Annually provide Underwater Construction Team TWO expeditionary survey equipment training, inventory, and equipment management.

PROJECT: USFS Swan Lake Boardwalk - RELEVANT EXPERIENCE HIGHLIGHTS: One boardwalk is being demolished and two new ones installed at Swan Lake, WA. Due to the remote location, all equipment and materials are being mobilized to the project site via the Maris mobile dive support platform. 25 underwater earth anchors are being installed by qualified divers to act as piling systems for the boardwalks.

RELEVANT PROJECT: POSYDON Marine Support - RELEVANT EXPERIENCE

HIGHLIGHTS: Supplied two charter vessels and deployment crew for the testing of the Positioning System for Deep Ocean Navigation system (POSYDON) in support of a Defense Advanced Research Project Agency (DARPA) contract. Maris provided the planning and execution of the 89ft Receiver vessel and deck crew to transit out to 5 positions up to 500 miles offshore to deploy and recover a 7 node cable array during the at-sea trial. Maris also provided the 100ft Calibration vessel and deck crew to transit out to 3 positions up to 250 miles offshore to deploy and recover a 22 node cable array. All operations were extremely successful and will strongly position the customer for Phase 2 of the POSYDON effort.

RELEVANT PROJECT: SHDAS Cable Installation, Loc Undisclosed - RELEVANT

EXPERIENCE HIGHLIGHTS: Coordinated and installed shore landing facilities and operations for SHDAS. Coordinate nearshore support vessels and personnel for HDD cable landing for multiple power and communication cables. Designed and wrote OEM manuals for shoreside facilities.

PROJECT: Dworshak Dam Mooring Bitt Refurbishment - RELEVANT EXPERIENCE

HIGHLIGHTS: Two floating log booms bitts are being fabricated at USACE standards to upgrade from the existing system along the 800 ft dam face at Dworshak Dam, ID. Marine operations and weight handling will be completed in accordance with the EM385-1-1.

RELEVANT PROJECT: Magnetic Silencing Facility Upgrade, Kingsbay - RELEVANT

EXPERIENCE HIGHLIGHTS: Replacement of all 56 sensors, cable trays and surface cabling for the Magnetic Treatment Facility and Undersea Magnetic Measurement Facility at Kingsbay, Georgia. All sensors were re-aligned, tested and commissioned upon completion. Due to construction and local maintenance needs a small boat floating dock was installed near the treatment pier by the governments request. Single beam bathymetric surveys were completed to verify vessel assets ability to access the facility as needed during construction.

RELEVANT PROJECT: Joint Base San Antonio Dock - RELEVANT EXPERIENCE

HIGHLIGHTS: Conducted a full bathymetric survey and mooring assessment of the existing dock and breakwater floating systems. Found extensive damage to traditional dead weight anchoring and developed and installed a new anchor mooring system utilizing low cost and environmentally friendly subsea earth anchors. 18 Earth Anchors were installed which replaced 86 existing clump anchors which tripled the systems loading capacity and saved over \$150K in direct replacement costs. All mooring lines and topside winch systems were serviced with 3 winches being replaced.

RELEVANT PROJECT: Expedient Underwater Explosive Detection System Design, Build and Delivery - RELEVANT EXPERIENCE HIGHLIGHTS: Researched, designed and delivered 3 small boat package systems utilizing Wing Cat Boats, Klein Sidescan, EXWC Power Package and Marine Magnetics towed Mag array to locate and identify UXO for future removal.

RELEVANT PROJECT: Deep Water ROV Inspection of Mooring Legs - RELEVANT EXPERIENCE HIGHLIGHTS: Deployed Seabotix VLBV300 to document wear to 23 2" chain mooring legs in 300 FSW in Bangor, WA.

RELEVANT PROJECT: In Situ Mooring Chain Repair - RELEVANT EXPERIENCE HIGHLIGHTS: Used expedient diver vessel in lieu of barge and crane to cut and replace damaged sections of Security Barrier mooring chain in the water column in San Diego, CA and Mayport, GA.

RELEVANT PROJECT: San Nicolas Island and San Clemente Island Fuel Moorings - RELEVANT EXPERIENCE HIGHLIGHTS: Utilized various contracted support vessels, tugs and barges to complete 7 total years of maintenance and repairs for the offshore fueling point moorings and transfer systems. Three point anchor leg mooring buoys were recovered, replaced and maintained based on each years requirements.

RELEVANT PROJECT: NAVFAC JBPH WWTP Outfall Repair - RELEVANT EXPERIENCE HIGHLIGHTS: Repaired the Joint Base Pearl Harbor WasteWater Treatment Plant offshore pipeline. The 32ft Research Support Vessel and mobile diver barge was airlifted from California to Pearl Harbor to support diving operations. A local commercial landing craft was mobilized to support heavy lifting operations.

RELEVANT PROJECT: Cable Landing Planning Survey - RELEVANT EXPERIENCE HIGHLIGHTS: Deployed 8 personnel and all supporting diving equipment and boats to Guantanamo Bay, Cuba. Conducted diver, sidescan and bathymetric survey of cable landing routes.

RELEVANT PROJECT: Subsea Cable Inspections - RELEVANT EXPERIENCE HIGHLIGHTS: Conducted diving, active cable tracking, seafloor coring, ROV, sidescan, and bathymetric survey operations for 5 subsea communication cables and performed routine maintenance.

RELEVANT PROJECT: Horizontally Drilled Cable Landing and Maintenance - RELEVANT EXPERIENCE HIGHLIGHTS: Indiscriminately deployed full diving capabilities to a remote location to perform nearshore diving capabilities in support of a horizontally drilled transoceanic multiple subsea communication cable landing. Conducted diving, ROV, sidescan, and bathymetric survey operations for 14 existing communication cables and performed routine maintenance.

RELEVANT PROJECT: Horizontally Drilled lines - RELEVANT EXPERIENCE HIGHLIGHTS: Deployed full diving and vessel capabilities to a San Nicolas Islands to install 1500 LF of 6" steel fuel line to offshore riser.

RELEVANT PROJECT: Inspect, Repair and Stabilize Cable Systems, PMRF Kauai - RELEVANT EXPERIENCE HIGHLIGHTS: Inspected, repaired and shore stabilized over 5 miles of cable.

RELEVANT PROJECT: Subsea Cable Removal, Centerville CA - RELEVANT EXPERIENCE HIGHLIGHTS: Deployed full diving capabilities and support vessels to Centerville, CA. Removed and recycled 2 miles of subsea cable from the former Naval Base.

RELEVANT PROJECT: Niue Island Wharf Upgrade - RELEVANT EXPERIENCE HIGHLIGHTS: Mobilized 22 DOD personnel and equipment to install a 600 Square Meter Wharf upgrade. 620 CM of concrete using precast and cast in place methods.

RELEVANT PROJECT: ARCTIC Mobilization - RELEVANT EXPERIENCE HIGHLIGHTS: Mobilized 30 DOD and equipment to support Arctic Ice Diving and Camp Operations.



SONNY RAMOS - DIVER

EDUCATION & QUALIFICATIONS:

2001, Navy Builder "A" School
2001, Naval Safety Supervisor Course
2002, Navy Enlistee Leadership Training
2003, Hazmat Inspection and Certifying Course
2009, Underwater Diver Technician, Naval Diving and Salvage Training Center
2009, Small Boat Operator Qualified
2009, Small Boat Engineer Qualified
2010, Seabotix ROV Operator Qualified
2010, Seafloor Systems Single Point Bathymetric Surveyor Qualified
2012, Seaspy Towed Magnetometer Surveyor Qualified
2010, Inside Tender Qualified
2012, Hyperbarics Chamber supervisor Qualified
2011, Kirby Morgan KM 37 and KM 21 helmet certified repair course
2011, Load Planner Certifier Course

YEARS OF RELEVANT EXPERIENCE: 15 years

PROJECT: USN Punta Salinas HDD - RELEVANT EXPERIENCE HIGHLIGHTS: Provided all surveying and marine operations for a 2300ft horizontal directionally drilled cable landing in Punta Salinas, PUR. Provided immediate drilling mud remediation after a subsea drilling spill.

PROJECT: USCG Floating Dock Repair - RELEVANT EXPERIENCE HIGHLIGHTS: Fabricated and installed finger pier attachments to repair the small boat operational dock at USCG Station Yerba Buena, CA. Additional dive operations were provided to balance the floatation of the existing docks.

PROJECT: NPS Fuel Barge Certification - RELEVANT EXPERIENCE HIGHLIGHTS: Repaired and inspected the hull for a National Park Service remote fuel barge on Diablo Lake, WA

PROJECT: EXWC Dive Operations Branch Maintenance - RELEVANT EXPERIENCE HIGHLIGHTS: Provided annual vessel operations for NAVFAC Engineering and Expeditionary Warfare Center Diving Operations Division for the past two years This includes \$2.4M in diving equipment, WHE, vehicles and three worldwide deployable diving vessels. Annually provide Underwater Construction Team TWO expeditionary survey equipment training, inventory, and equipment management.

RELEVANT PROJECT: Joint Base San Antonio Dock - RELEVANT EXPERIENCE HIGHLIGHTS: Conducted a full bathymetric survey and mooring assessment of the existing dock and breakwater floating systems. Found extensive damage to traditional dead weight anchoring and developed and installed a new anchor mooring system utilizing low cost and environmentally friendly subsea earth anchors. 18 Earth Anchors were installed which replaced 86 existing clump anchors which tripled the systems loading capacity and saved over \$150K in direct replacement costs. All mooring lines and topside winch systems were serviced with 3 winches being replaced.

RELEVANT PROJECT: LCS2 RMMV Sea Trial Testing - RELEVANT EXPERIENCE HIGHLIGHTS:

Supplied support boats, personnel, and emergency diving/ROV support for the at-sea testing of the RMMV system for the LCS2 program in Port Hueneme, CA. As a selected diver participant he trialed RMMV at sea recover safe practices and developed standards for diver interaction.

RELEVANT PROJECT: Kwajalien Atoll Ebeye Pier Restoration - RELEVANT EXPERIENCE HIGHLIGHTS:

Construction crew leader for the demolition and repair of the concrete pier structure that supported Ebeye Island's ferry system. Assets required were underwater lift bag salvage operations to remove 7 lb sections of prefabricated concrete sections and overhead rigging with a shore mobile crane. Hydraulic tools used were jack-hammer and chipping hammer. Topside concrete forming and placement of 30 yard rebar reinforced concrete patch in order to put Ferry pier back in service.

RELEVANT PROJECT: Cable Removal, Half Moon Bay CA - RELEVANT EXPERIENCE HIGHLIGHTS:

Deployed full diving capabilities and support vessels to Half Moon Bay, CA. Removed and recycled 1.5 miles of subsea cable from the Monterey Bay National Marine Sanctuary.

RELEVANT PROJECT: PMRF Missile Range, Barking Sands Kauai - RELEVANT EXPERIENCE

HIGHLIGHTS: Inspections consist of a full visual assessment of all active hydrophone cables up to 130 feet to include the deep water buoys at depths ranging from 90-130ft. Maintenance of these systems includes installing split-pipe or rubber wrapping for cable protection as required, checking stabilization points to ensure they are holding/preventing cable movement and inspecting zinc anodes for corrosion. In addition to normal M&R, the subsequent special project to be conducted this summer includes the locating and marking of a four-point mooring zone to assist the cable splicing vessel in splicing operations on the failed BARSTUR hydrophone cables system ISO future training evolutions.

RELEVANT PROJECT: HDAS Cable Inspection and Repair, Diego Garcia - RELEVANT EXPERIENCE

HIGHLIGHTS: Conduct inspection and repair of HDAS cables up to 110 Feet Sea Water (FSW). Perform Level I inspections of (2) cables from shore-line to 110 FSW, documenting the condition of all existing stabilization points, split pipe and damaged areas. Divers completed repairs of damaged split pipe in tidal zone by installing protective covering.

RELEVANT PROJECT: Hickam Installation Honolulu HI - RELEVANT EXPERIENCE HIGHLIGHTS:

Inspect, clean and repair 20 deteriorated piles IAW Appledore Marine Engineering INC.

RELEVANT PROJECT: West side peninsula of South Korea. - RELEVANT EXPERIENCE HIGHLIGHTS:

Provided 6 personnel to the USNS VADM Wheeler IOT provide hydrographic and bathymetric surveys, and conduct underwater inspections on the conduit placement ISO Off-Shore Petroleum Discharge System (OPDS). Provide emergent underwater support to all participating watercraft.

RELEVANT PROJECT: Emergency Relief, Japan - RELEVANT EXPERIENCE HIGHLIGHTS: In relief of the Natural disaster that hit Japan in March 2011, My dive team was tasked with the immediate Survey and clearance of five separate harbors spanning over 200 miles of coast line.

RELEVANT PROJECT: Yokosuka Naval Base Japan - RELEVANT EXPERIENCE HIGHLIGHTS:

Conduct in-water inspection and maintenance of 9 fleet mooring buoys in the CFAY Harbor. Specific tasking includes: replacing zinc anodes on riser chain, inspection of U/W jewelry, Go-No-Go gauging of 3 spots on riser chain, ground ring location and measurements, and anchor leg inspection if possible

RELEVANT PROJECT: Naval Base San Clemente Island - RELEVANT EXPERIENCE HIGHLIGHTS:

Inspection of 11 Fleet Moorings located at Naval Auxiliary Landing Field (NALF) San Clemente Island, CA, Commander Naval Region Southwest (CNRSW), to verify the capacity and condition of the moorings.

RELEVANT PROJECT: Kwajalein Missile Impact Scoring System (KMISS) Range - RELEVANT
EXPERIENCE HIGHLIGHTS: identify, track, cut and prepare an undersea cable on L-Array located off Gagan island, Kwajalein Atoll. The mission consists of multiple dives ranging from 25 feet of sea water (fsw) to 180fsw, with an end goal of replacing the seaward end of the cable with an anode cap. We cut, recover and cap the cable's damaged end. Cut cable will be re-laid on the sea floor to be recovered at a later date. Also perform inspections and preventive maintenance on all cables in the range.

RELEVANT PROJECT: Pearl Harbor HI, Inspection and Repair of Fleet Moorings - RELEVANT
EXPERIENCE HIGHLIGHTS: Conduct inspection, survey, and anode replacement of 103 fleet moorings, max water depth is 50fsw. Mooring locations are at Naval Inactive Ship Maintenance Facility, Naval Station Pearl Harbor. Inspect and document 15 Anti-Terrorism Force Protection (ATFP) single leg moorings along the Ford Island Bridge and South Channel.



JEREMY YERRICK – DIVER

EDUCATION & QUALIFICATIONS:

2005, B.S. Supply Chain Management, University of Nevada Reno
2005, B.S. Economics, University of Nevada Reno
2007, Honor Graduate, Constructionman Builder, Navy Construction Training Center
2010, Honor Graduate, Underwater Construction Tech, Naval Diving and Salvage Training Center
2010, Underwater Demolition Qualified, Naval Diving and Salvage Training Center
2011, Air Diver, ADCI
2011, Small Boat Operator Qualified, USN
2012, Recompression Chamber Inside Tender, USN
2012, ROV Operator Qualified, Seabotix
2012, Single Point Bathymetric Surveyor Qualified, SeaFloor Systems
2012, Single Point Bathymetric Surveyor Qualified, SeaFloor Systems
2012, International Hazmat Certifier, 49CFR
2013, Bridge Inspector, National Highway Institute
2013, 1st Class Tower Crane Operator, Montana
2014, Commercial Driving License, Oregon
2014, Firefighter I, Baker City Fire Department
2016, EMT, Oregon

YEARS OF RELEVANT EXPERIENCE: **9 years**

PROJECT: USN Punta Salinas HDD - RELEVANT EXPERIENCE HIGHLIGHTS: Provided all surveying and marine operations for a 2300ft horizontal directionally drilled cable landing in Punta Salinas, PUR. Provided immediate drilling mud remediation after a subsea drilling spill.

RELEVANT PROJECT: Joint Base San Antonio Dock - RELEVANT EXPERIENCE HIGHLIGHTS: Conducted a full bathymetric survey and mooring assessment of the existing dock and breakwater floating systems. Found extensive damage to traditional dead weight anchoring and developed and installed a new anchor mooring system utilizing low cost and environmentally friendly subsea earth anchors. 18 Earth Anchors were installed which replaced 86 existing clump anchors which tripled the systems loading capacity and saved over \$150K in direct replacement costs. All mooring lines and topside winch systems were serviced with 3 winches being replaced.

RELEVANT PROJECT: Commercial Cardlock Fueling Facility, Baker City - RELEVANT EXPERIENCE HIGHLIGHTS: Designed and constructed a 6 dispenser commercial cardlock fueling facility including coordination of EPA fuel tank permits, state fuel retailing permits, state fire marshal permits, city construction approval and state agency purchase contracts.

RELEVANT PROJECT: Commercial Cardlock Fueling Facility, North Powder - RELEVANT EXPERIENCE HIGHLIGHTS: Surveyed and developed a unique solution to allow for state access to road maintenance structures and updated restricted access right of ways from new freeway installation. Designed and constructed a 6 dispenser commercial cardlock fueling facility including coordination of EPA fuel tank permits, state fuel retailing permits, state fire marshal permits, city construction approval and state agency purchase contracts.

RELEVANT PROJECT: Kwajalien Atoll Ebeye Pier Restoration - RELEVANT EXPERIENCE

HIGHLIGHTS: Construction crew leader for the demolition and repair of the concrete pier structure that supported Ebeye Island's ferry system. Assets required were underwater lift bag salvage operations to remove 7 lb sections of prefabricated concrete sections and overhead rigging with a shore mobile crane. Hydraulic tools used were jack-hammer and chipping hammer. Topside concrete forming and placement of 30 yard rebar reinforced concrete patch in order to put Ferry pier back in service.

RELEVANT PROJECT: Cable Removal, Half Moon Bay CA - RELEVANT EXPERIENCE

HIGHLIGHTS: Deployed full diving capabilities and support vessels to Half Moon Bay, CA. Removed and recycled 1.5 miles of subsea cable from the Monterey Bay National Marine Sanctuary.

RELEVANT PROJECT: NAVFAC JBPH Pier Pile Restoration - RELEVANT EXPERIENCE

HIGHLIGHTS: Project foreman for 12 divers in the restoration of 10 pier piles at NAVSTA Pearl Harbor.

RELEVANT PROJECT: San Clemente Island Fuel Mooring Inspection - RELEVANT

EXPERIENCE HIGHLIGHTS: Utilized contracted support vessels, tugs and barges to complete three point anchor leg mooring inspections.

RELEVANT PROJECT: Subsea Cable Removal - RELEVANT EXPERIENCE HIGHLIGHTS:

Deployed full diving capabilities and support vessels to Half Moon Bay, CA. Removed and recycled 1.5 miles of subsea cable from the Monterey Bay National Marine Sanctuary.


RELEVANT PROJECT: Tsunami Relief Beach Clearance - RELEVANT EXPERIENCE

HIGHLIGHTS: Deployed with multi departmental assets to conduct small boat surveys and identify targets for beach clearance. Coordinated logistics for safe passage markings and ship traffic control.



2.7 Project Experience

PAST PERFORMANCE REFERENCE INFORMATION FORM

1. Complete name of Government agency, commercial firm, or other organization USACE Gooding Diversion Rehab, USACE Walla Walla Subcontractor to SST	
2. Complete address Sound & Sea Technology, Inc. 3507 Shelby Road Lynnwood, WA 98087	
3. Contract number or other reference 18003228	4. Date of contract September 17 th , 2018
5. Date work was begun October 8 th , 2018	6. Date work completed Ongoing
7. Estimated contract price \$271,985.00	8. Final amount invoiced or amount invoiced to date Ongoing
9a. Technical point of contact (name, title, address, telephone no. and email address) Michèle G. Bullock Sound & Sea Technology, Inc. 3507 Shelby Road Lynnwood, WA 98087 Cell: 206-300-5729 Office: 425-743-1282 mbullock@soundandsea.com	9b. Contracting or purchasing point of contact (name, title, address, telephone no. and email address) Doug Crutchfield Sound & Sea Technology, Inc 206.595.6793 dcrutchfield@soundandsea.com
10. Location of work (country, state or province, county, city) Gooding, ID	
11. Description of contract work Diverted water flow for the Gooding Diversion Dam to replace the 50ft x 80ft spillway apron and footer. All slopes were stabilized and rip rap placed 250ft downstream. Cold weather concrete placement methods were required. All work was conducted under EM385-1-1 safety standards.	
	



12. Current status of contract (choose one):

- Work continuing, on schedule
- Work continuing, behind schedule
- Work completed, no further action pending or underway
- Work completed, routine administrative action pending or underway
- Work completed, claims negotiations pending or underway
- Work completed, litigation pending or underway

- Terminated for convenience
- Terminated for default
- Other (explain)



PAST PERFORMANCE REFERENCE INFORMATION FORM

1. Complete name of Government agency, commercial firm, or other organization USAED New England	
2. Complete address 696 Virginia Rd Concord, MA 01742	
3. Contract number or other reference W912WJ18P0094	4. Date of contract May 25 th , 2018
5. Date work was begun June 2 nd , 2018	6. Date work completed Ongoing
7. Estimated contract price \$110,668	8. Final amount invoiced or amount invoiced to date
9a. Technical point of contact (name, title, address, telephone no. and email address) Fred Pike, P.E. USACE Project Engineer/COR Construction Division-New England District Westover Resident Office, Chicopee, MA (c)978-992-1822 (o)978-318-8392	9b. Contracting or purchasing point of contact (name, title, address, telephone no. and email address) Sara J. Torres Contract Specialist US Army Corps of Engineers New England District Office: 978-318-8478 Fax: 978-318-8207
10. Location of work (country, state or province, county, city) Townshend, VT	
11. Description of contract work Dewatering a 140-100cfs spillway flow to complete minor demolition and concrete reinstallation of scoured areas underneath a spillway retaining wall in Townshend, VT. Water diversion, marine operations and fall protection standards fall within EM385-1-1.	
12. Current status of contract (choose one): <input checked="" type="checkbox"/> Work continuing, on schedule <input type="checkbox"/> Work continuing, behind schedule <input type="checkbox"/> Work completed, no further action pending or underway <input type="checkbox"/> Work completed, routine administrative action pending or underway <input type="checkbox"/> Work completed, claims negotiations pending or underway <input type="checkbox"/> Work completed, litigation pending or underway <input type="checkbox"/> Terminated for convenience <input type="checkbox"/> Terminated for default <input type="checkbox"/> Other (explain)	



PAST PERFORMANCE REFERENCE INFORMATION FORM

1. Complete name of Government agency, commercial firm, or other organization USCG CEU Cleveland	
2. Complete address 1240 E 9 th St Rm 2179 Cleveland, OH 44199	
3. Contract number or other reference 70Z08318CPCR12100	4. Date of contract August 9 th , 2018
5. Date work was begun August 23 rd , 2018	6. Date work completed Ongoing
7. Estimated contract price \$242,643.00	8. Final amount invoiced or amount invoiced to date
9a. Technical point of contact (name, title, address, telephone no. and email address) Jason Lassiter, LT Jason.f.lassiter@uscg.mil	9b. Contracting or purchasing point of contact (name, title, address, telephone no. and email address) Tom Wallace Contract Specialist U. S. Coast Guard, Civil Engineering Unit (CEU) 1240 East Ninth Street, Rm 2179 Cleveland, OH 44199 Ph 216-902-6110 Fax 216-902-6278 Thomas.e.wallace@uscg.mil
10. Location of work (country, state or province, county, city) Two Rivers, WI	
11. Description of contract work Demolishing an existing 50ft steel Aid to Navigation Tower in Menominee, MI. A new 50ft steel tower will be erecting after concrete foundation improvements are complete.	
12. Current status of contract (choose one): <input checked="" type="checkbox"/> Work continuing, on schedule <input type="checkbox"/> Work continuing, behind schedule <input type="checkbox"/> Work completed, no further action pending or underway <input type="checkbox"/> Work completed, routine administrative action pending or underway <input type="checkbox"/> Work completed, claims negotiations pending or underway <input type="checkbox"/> Work completed, litigation pending or underway <input type="checkbox"/> Terminated for convenience <input type="checkbox"/> Terminated for default <input type="checkbox"/> Other (explain)	




PAST PERFORMANCE REFERENCE INFORMATION FORM

1. Complete name of Government agency, commercial firm, or other organization USAED New England	
2. Complete address USAED New England 696 Virginia Rd Concord, MA 01742	
3. Contract number or other reference W912WJ18P0024	4. Date of contract January 17 th , 2018
5. Date work was begun April 3 rd , 2018	6. Date work completed Scheduled June 11 th , 2018
7. Estimated contract price \$79,664	8. Final amount invoiced or amount invoiced to date \$86,468.00
9a. Technical point of contact (name, title, address, telephone no. and email address) Drew McInerney Flood Risk Management Woonsocket Falls Dam, West Hill Dam & CRNVSA 518 East Hartford Ave. Uxbridge, MA 01569 (O) 978-318-8472 (C) 774-200-6675	9b. Contracting or purchasing point of contact (name, title, address, telephone no. and email address) Joseph Zanca Sara J. Torres Contract Specialist US Army Corps of Engineers New England District 978-318-8478 ph 978-318-8207 fx
10. Location of work (country, state or province, county, city) Woonsocket, RI	
11. Description of contract work Design, fabricate and install Trunnion Access system for the Woonsocket Falls Dam. All operations taking place under EM385-1-1 standards including updated fall protection requirements. Additional access system was requested by the government and completed within a contract modification.	
12. Current status of contract (choose one): Work continuing, on schedule Work continuing, behind schedule <input checked="" type="checkbox"/> Work completed, no further action pending or underway Work completed, routine administrative action pending or underway Work completed, claims negotiations pending or underway Work completed, litigation pending or underway Terminated for convenience Terminated for default Other (explain)	



PAST PERFORMANCE REFERENCE INFORMATION FORM

1. Complete name of Government agency, commercial firm, or other organization Punta Salinas USN Horizontal Directional Drilling, NAVFAC EXWC Subcontractor to SST			
2. Complete address Sound & Sea Technology, Inc. 3507 Shelby Road Lynnwood, WA 98087			
3. Contract number or other reference 18003171	4. Date of contract April 18 th , 2018		
5. Date work was begun October 17 th , 2018	6. Date work completed September 20 th , 2018		
7. Estimated contract price \$143,083.00	8. Final amount invoiced or amount invoiced to date \$334,083.00		
9a. Technical point of contact (name, title, address, telephone no. and email address) Frederick Arnold P.G. Sound & Sea Technology 2193 Portola Rd. Unit B Ventura CA 93003 (805) 642-1440 ex304 (805) 889-4073 cell farnold@soundandsea.com	9b. Contracting or purchasing point of contact (name, title, address, telephone no. and email address) Doug Crutchfield Sound & Sea Technology, Inc 206.595.6793 dcrutchfield@soundandsea.com		
10. Location of work (country, state or province, county, city) San Juan Puerto Rico			
11. Description of contract work Provided all surveying and marine operations for a 2300ft horizontal directionally drilled cable landing in Punta Salinas, PUR. Scope was extended to include immediate drilling mud remediation after a subsea drilling spill.			
			
12. Current status of contract (choose one): <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> Work continuing, on schedule Work continuing, behind schedule <input checked="" type="checkbox"/> Work completed, no further action pending or underway Work completed, routine administrative action pending or underway Work completed, claims negotiations pending or underway Work completed, litigation pending or underway </td> <td style="width: 50%; vertical-align: top;"> Terminated for convenience Terminated for default Other (explain) </td> </tr> </table>		Work continuing, on schedule Work continuing, behind schedule <input checked="" type="checkbox"/> Work completed, no further action pending or underway Work completed, routine administrative action pending or underway Work completed, claims negotiations pending or underway Work completed, litigation pending or underway	Terminated for convenience Terminated for default Other (explain)
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PAST PERFORMANCE REFERENCE INFORMATION FORM

1. Complete name of Government agency, commercial firm, or other organization USACE Dworshak Project			
2. Complete address 201 N Third Ave Walla Walla, WA 99362			
3. Contract number or other reference W19EF16Q0167	4. Date of contract September 14 th , 2016		
5. Date work was begun July 10 th , 2017	6. Date work completed August 26 th , 2017		
7. Estimated contract price \$99,520.00	8. Final amount invoiced or amount invoiced to date \$107,816.00		
9a. Technical point of contact (name, title, address, telephone no. and email address) David Kloewer Engineer david.j.kloewer@usace.army.mil	9b. Contracting or purchasing point of contact (name, title, address, telephone no. and email address) Kelly J. Gardner Contract Performance Specialist Contracting Officer's Representative USACE Dworshak Project (208) 476-1296 kelly.j.gardner@usace.army.mil		
10. Location of work (country, state or province, county, city) Orofino, ID			
11. Description of contract work Two floating log booms bits were fabricated at USACE standards to upgrade from the existing system along the 800 ft dam face at Dworshak Dam, ID. Marine operations and weight handling were completed in accordance with the EM385-1-1.			
12. Current status of contract (choose one): <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> Work continuing, on schedule Work continuing, behind schedule <input checked="" type="checkbox"/> Work completed, no further action pending or underway Work completed, routine administrative action pending or underway Work completed, claims negotiations pending or underway Work completed, litigation pending or underway </td> <td style="width: 50%; vertical-align: top;"> Terminated for convenience Terminated for default Other (explain) </td> </tr> </table>		Work continuing, on schedule Work continuing, behind schedule <input checked="" type="checkbox"/> Work completed, no further action pending or underway Work completed, routine administrative action pending or underway Work completed, claims negotiations pending or underway Work completed, litigation pending or underway	Terminated for convenience Terminated for default Other (explain)
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PAST PERFORMANCE REFERENCE INFORMATION FORM

1. Complete name of Government agency, commercial firm, or other organization NOAA Western Acquisition Division			
2. Complete address SOU6 325 Broadway Boulder, CO 80305			
3. Contract number or other reference RA133C17RQ0119	4. Date of contract February 14 th , 2017		
5. Date work was begun March 31 st , 2017	6. Date work completed April 11 th , 2017		
7. Estimated contract price \$147,354.00	8. Final amount invoiced or amount invoiced to date \$147,354.00		
9a. Technical point of contact (name, title, address, telephone no. and email address) Dave Lott NMSP/W Coast Regional Office 99 Pacific St BLDG 100 – Suite F Monterey, CA 93940 Dave.lott@noaa.gov	9b. Contracting or purchasing point of contact (name, title, address, telephone no. and email address) Diana Romero Western Acquisitions Division 325 Broadway Boulder, CO 80305 Diana.romero@noaa.gov		
10. Location of work (country, state or province, county, city) Monterey, CA			
11. Description of contract work Demolished and replaced 5 guide piles and brackets for the NOAA floating dock in Monterey, CA. 2 of the 5 pile guides were unusable and new brackets had to be re-designed, fabricated and installed. The system was made up of two upper bracket arms and two underwater bracket arms for each pile. Crane and diving operations were conducted under OSHA and NOAA standards. All replacement brackets were custom fit and fabricated. One of the existing piles was laying on the seafloor and had to be recovered via coordinated diver and crane operations.			
12. Current status of contract (choose one): <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;"> Work continuing, on schedule Work continuing, behind schedule <input checked="" type="checkbox"/> Work completed, no further action pending or underway Work completed, routine administrative action pending or underway Work completed, claims negotiations pending or underway Work completed, litigation pending or underway </td> <td style="width: 50%;"> Terminated for convenience Terminated for default Other (explain) </td> </tr> </table>		Work continuing, on schedule Work continuing, behind schedule <input checked="" type="checkbox"/> Work completed, no further action pending or underway Work completed, routine administrative action pending or underway Work completed, claims negotiations pending or underway Work completed, litigation pending or underway	Terminated for convenience Terminated for default Other (explain)
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PAST PERFORMANCE REFERENCE INFORMATION FORM

1. Complete name of Government agency, commercial firm, or other organization USCG Engineering Unit Cleveland			
2. Complete address CEU Cleveland 1240 East 9th Street, Rm. 2179 Cleveland, OH 44199-2060			
3. Contract number or other reference 70Z08318CPCR00600	4. Date of contract 03/14/2018		
5. Date work was begun 06/18/2018	6. Date work was completed 07/15/2018		
7. Estimated contract price \$95,061.00	8. Final amount invoiced or amount invoiced to date \$93,000.00		
9a. Technical point of contact (name, title, address, telephone no. and email address) Anthony Danicki, P.E. Project Manager, Construction Section USCG Civil Engineering Unit Cleveland 1240 E. Ninth Street (Room 2179) Cleveland, OH 44199-2060 Ph: 216-902-6254 Cell: 216-832-9688 Fax: 216-902-6277	9b. Contracting or purchasing point of contact (name, title, address, telephone no. and email address) Valerie J. Varga Contract Specialist U.S. Coast Guard Civil Engineering Unit - Room 2179 1240 E. Ninth Street Cleveland, Ohio 44199 Phone (216) 902-6259 E-mail: Valerie.J.Varga@uscg.mil		
10. Location of work (country, state or province, county, city) Pungo, VA			
11. Description of contract work Demolished GSK/Storage Building 2 and Water Tank at USCG Remote Transmitter Facility Pungo, VA. Work included the testing and proper disposal of asbestos and lead materials. An underground Furnace Oil Tank and surrounding soil was also be removed.			
12. Current status of contract (choose one): <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> Work continuing, on schedule Work continuing, behind schedule Work completed, no further action pending or underway <input checked="" type="checkbox"/> Work completed, routine administrative action pending or underway Work completed, claims negotiations pending or underway Work completed, litigation pending or underway </td> <td style="width: 50%; vertical-align: top;"> Terminated for convenience Terminated for default Other (explain) </td> </tr> </table>		Work continuing, on schedule Work continuing, behind schedule Work completed, no further action pending or underway <input checked="" type="checkbox"/> Work completed, routine administrative action pending or underway Work completed, claims negotiations pending or underway Work completed, litigation pending or underway	Terminated for convenience Terminated for default Other (explain)
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PAST PERFORMANCE REFERENCE INFORMATION FORM

1. Complete name of Government agency, commercial firm, or other organization White River National Forest	
2. Complete address 900 Grand Avenue Glenwood Springs, CO 81602	
3. Contract number or other reference 1282D718Q0003	4. Date of contract February 22 nd , 2018
5. Date work was begun February 23 rd , 2018	6. Date work completed Ongoing
7. Estimated contract price \$50,000.00	8. Final amount invoiced or amount invoiced to date Ongoing
9a. Technical point of contact (name, title, address, telephone no. and email address) Greg Rosenmerkel Engineering, Minerals & Fleet Staff Officer Forest Service White River National Forest p: 970-945-3205 c: 970-366-6823 gregoryrosenmerkel@fs.fed.us	9b. Contracting or purchasing point of contact (name, title, address, telephone no. and email address) Lonnie D. Root Contracting Officer Forest Service White River National Forest - Supervisor's Office p: 970-945-3225 f: 970-945-3266 lroot@fs.fed.us
10. Location of work (country, state or province, county, city) White River National Forest, CO	
11. Description of contract work Providing a multi year technical engineering bridge design support in coordination with the USAF Academy Cadets. Services include providing review comments, help develop bill of materials and list of equipment necessary to the construction of bridge, and provide on-site construction management on the White River National Forest. The first Task Order was completed in July 2018 installing a 60ft glue lam bridge across McCullough Creek trail near Breckenridge, CO using 15 US Air Force Academy Cadets for labor.	
12. Current status of contract (choose one): <input checked="" type="checkbox"/> Work continuing, on schedule <input type="checkbox"/> Work continuing, behind schedule <input type="checkbox"/> Work completed, no further action pending or underway <input type="checkbox"/> Work completed, routine administrative action pending or underway <input type="checkbox"/> Work completed, claims negotiations pending or underway <input type="checkbox"/> Work completed, litigation pending or underway <input type="checkbox"/> Terminated for convenience <input type="checkbox"/> Terminated for default <input type="checkbox"/> Other (explain)	



PAST PERFORMANCE REFERENCE INFORMATION FORM

1. Complete name of Government agency, commercial firm, or other organization USFS Colville National Forest													
2. Complete address 765 S Main Colville, WA 99114													
3. Contract number or other reference AG05G1P170023	4. Date of contract June 5 th , 2017												
5. Date work was begun September 6 th , 2017	6. Date work completed 22 nd April, 2018												
7. Estimated contract price \$82,501.32	8. Final amount invoiced or amount invoiced to date \$94,861.08												
9a. Technical point of contact (name, title, address, telephone no. and email address) Lucy Reeves, PE Civil Engineer Forest Service Colville National Forest p: 509-684-7244 f: 509-684-7280 lmreeves@fs.fed.us 765 S Main Colville, WA 99114	9b. Contracting or purchasing point of contact (name, title, address, telephone no. and email address) Cathy VanAlyne, Contract Specialist Region 6 COR Training and Bureau Certification Manager Forest Service R6 AQM - Contracting North p: 509-684-7114 f: 509-684-7280 cvanalyne@fs.fed.us Colville National Forest 765 South Main Street Colville, WA 99114												
10. Location of work (country, state or province, county, city) Swan Lake, WA													
11. Description of contract work Deployed equipment and materials to a remote location in North Eastern Washington. Demolished an existing 50ft puncheon, installed 2 new 60ft cedar boardwalks requiring 25 helical piles. Sourced local rocks to complete landing foundations and tied in trail approaches including rock base layer and compaction. Due to the remote location, all materials were brought to the project site via contractor barge and overland via trail. Two 25ft extensions are being added upon clearance of winter weather.													
12. Current status of contract (choose one): <table border="0"> <tr> <td>Work continuing, on schedule</td> <td>Terminated for convenience</td> </tr> <tr> <td>Work continuing, behind schedule</td> <td>Terminated for default</td> </tr> <tr> <td><u>Work completed, no further action pending or underway</u></td> <td>Other (explain)</td> </tr> <tr> <td>Work completed, routine administrative action pending or underway</td> <td></td> </tr> <tr> <td>Work completed, claims negotiations pending or underway</td> <td></td> </tr> <tr> <td>Work completed, litigation pending or underway</td> <td></td> </tr> </table>		Work continuing, on schedule	Terminated for convenience	Work continuing, behind schedule	Terminated for default	<u>Work completed, no further action pending or underway</u>	Other (explain)	Work completed, routine administrative action pending or underway		Work completed, claims negotiations pending or underway		Work completed, litigation pending or underway	
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Work completed, routine administrative action pending or underway													
Work completed, claims negotiations pending or underway													
Work completed, litigation pending or underway													



PAST PERFORMANCE REFERENCE INFORMATION FORM

1. Complete name of Government agency, commercial firm, or other organization USDA Forest Service													
2. Complete address USDA Forest Service Idaho Montana Acquisition Team 3815 Schreiber Way Coeur D Alene, ID 83815													
3. Contract number or other reference AG02RCC170026	4. Date of contract 06/28/2017												
5. Date work was begun 10/08/2017	6. Date work was completed												
7. Estimated contract price \$60,011.00	8. Final amount invoiced or amount invoiced to date \$60,011.00												
9a. Technical point of contact (name, title, address, telephone no. and email address) Matthew R Varcoe Civil Engineering Tech NFFE Local 1295 President. Forest Service Idaho Panhandle National Forests p: 208-265-6623 f: 208-265-6670 mvarcoe@fs.fed.us 1602 Ontario Street Sandpoint ID, ID 83864 www.fs.fed.us	9b. Contracting or purchasing point of contact (name, title, address, telephone no. and email address) Deanne M. Acree Purchasing Agent CPARS Alternate Focal Point Forest Service Idaho Panhandle NF P: 208-765-7461 F: 208-765-7229 dacree@fs.fed.us 3815 N. Schreiber Way Coeur D'Alene, ID 83815												
10. Location of work (country, state or province, county, city) Priest River, ID													
11. Description of contract work A timber platform and access way are being developed alongside Priest River, ID. This access restricted site requires application of specialty construction methods and equipment to accomplish the groundwork. Precast concrete footers had to be specially fabricated and placed.													
12. Current status of contract (choose one): <table border="0"> <tr> <td>Work continuing, on schedule</td> <td>Terminated for convenience</td> </tr> <tr> <td>Work continuing, behind schedule</td> <td>Terminated for default</td> </tr> <tr> <td><input checked="" type="checkbox"/> Work completed, no further action pending or underway</td> <td>Other (explain)</td> </tr> <tr> <td>Work completed, routine administrative action pending or underway</td> <td></td> </tr> <tr> <td>Work completed, claims negotiations pending or underway</td> <td></td> </tr> <tr> <td>Work completed, litigation pending or underway</td> <td></td> </tr> </table>		Work continuing, on schedule	Terminated for convenience	Work continuing, behind schedule	Terminated for default	<input checked="" type="checkbox"/> Work completed, no further action pending or underway	Other (explain)	Work completed, routine administrative action pending or underway		Work completed, claims negotiations pending or underway		Work completed, litigation pending or underway	
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Idaho Panhandle National Forests
 3815 Schreiber Way
 Coeur d'Alene, Idaho 83815
 Web: <http://www.fs.fed.us/ipnf>

News Release

Media Contact: (208) 765-7211
 smcooper@fs.fed.us



Completed raft slide and angler access on the Priest Lake Ranger District

Nordman, Idaho (May 18, 2018) The Idaho Panhandle National Forests has recently completed the Priest River Angler Access and Raft Slide Project on the Priest Lake Ranger District. The raft slide and angler access are located on the west side of the lower Priest River about 1,500 feet south of Outlet Dam (Priest Lake) at MP 25.5 of State Highway 57 on the Priest Lake Ranger District.

The project addressed user safety and streambank damage associated with carrying light watercraft from the highway pull-out down to the river. The raft slide, which was constructed with a set of sturdy stairs and hand railings on both sides, will allow users to safely and effectively "slide" their rafts, canoes, kayak, or tubes down an angled platform in a controlled manner. The previous access route to the water was very steep and highly eroded. Boats had to be lowered to the waterline with a rope or let them "free-slide". This was unsafe and damaging to both equipment and the streambank.



New raft slide and angler access on the Priest Lake Ranger District (USDA Photo)

This project was made possible by a Federal Lands Access Project (FLAP) grant, partner donations, and the Idaho Panhandle RAC recommendation to fund a portion the project using Title II funds. Maris Inc. out of Boise, Idaho did an outstanding job on the construction!

Additional site improvements are planned to include an expanded parking area that will be designed and constructed by Idaho Transportation Department. The design will allow parking for more vehicle-trailer combinations as it is anticipated the improved river access provided by the raft slide will increase raft use at this location. In the meantime, users are encouraged to be very careful when pulling back onto the highway at this location as summer traffic increases on Highway 57. If you have any questions on this project, please contact the Priest Lake Ranger Station at 208-443-2512.

###



We're getting great feedback and support for the completion of the raft slide. Even one of the biggest critics against a lot of what we do to manage the Forest said something to the effect of "Finally, the Forest has something to be proud of". The Forest sent out a news release last week (see attached). Again, thanks for your efforts.



Sean Stash
Supervisory Fisheries Biologist
Forest Service
Idaho Panhandle National Forests, Sandpoint Ranger District

p: 208-265-6654

sstash@fs.fed.us

1602 Ontario Street

Sandpoint, ID 83864

www.fs.fed.us



Caring for the land and serving people



PAST PERFORMANCE REFERENCE INFORMATION FORM

1. Complete name of Government agency, commercial firm, or other organization USACE Savannah													
2. Complete address USACE Contracting Division-Savannah 100 W Oglethorpe Ave Savannah, Ga. 31401													
3. Contract number or other reference W912HN17P0010	4. Date of contract February 2 nd , 2017												
5. Date work was begun April 7 th , 2017	6. Date work completed April 14 th 2017												
7. Estimated contract price \$91,386.24	8. Final amount invoiced or amount invoiced to date \$82,973.24												
9a. Technical point of contact (name, title, address, telephone no. and email address) Ryan M. Lanier Engineering Technician (Civil) SAS, Dredging Team Leader (OP-NN) (912)652-5219 Ryan.m.lanier@usace.army.mil	9b. Contracting or purchasing point of contact (name, title, address, telephone no. and email address) Gerard F. Leo USACE Contracting Division-Savannah 100 W Oglethorpe Ave Savannah, Ga. 31401 Office# (912) 652-5770 Email: gerard.f.leo@usace.army.mil												
10. Location of work (country, state or province, county, city) Savanna, GA													
11. Description of contract work Under EM385-1-1 standards a dive team and barge crane was used to remove all debris and replace a USGS monitoring platform in Savannah, Georgia. A hydrographic and sidescan survey was used to verify that all debris was cleared from the previous platform location. Concessions were given to the government based on the limited debris discovered for removal. A new 30ft tall platform was constructed using pile driving and aerial man basket work under new fall protection requirements.													
12. Current status of contract (choose one): <table border="0"> <tr> <td>Work continuing, on schedule</td> <td>Terminated for convenience</td> </tr> <tr> <td>Work continuing, behind schedule</td> <td>Terminated for default</td> </tr> <tr> <td><u>Work completed, no further action pending or underway</u></td> <td>Other (explain)</td> </tr> <tr> <td>Work completed, routine administrative action pending or underway</td> <td></td> </tr> <tr> <td>Work completed, claims negotiations pending or underway</td> <td></td> </tr> <tr> <td>Work completed, litigation pending or underway</td> <td></td> </tr> </table>		Work continuing, on schedule	Terminated for convenience	Work continuing, behind schedule	Terminated for default	<u>Work completed, no further action pending or underway</u>	Other (explain)	Work completed, routine administrative action pending or underway		Work completed, claims negotiations pending or underway		Work completed, litigation pending or underway	
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Work completed, claims negotiations pending or underway													
Work completed, litigation pending or underway													



PAST PERFORMANCE REFERENCE INFORMATION FORM

1. Complete name of Government agency, commercial firm, or other organization BLM Arizona													
2. Complete address One N Central Ave, Suite 800 Phoenix, AZ 85004													
3. Contract number or other reference L17PS00731	4. Date of contract February 14 th , 2017												
5. Date work was begun August 01, 2017	6. Date work completed February 15, 2018												
7. Estimated contract price \$48,045.00	8. Final amount invoiced or amount invoiced to date \$76,527.00												
9a. Technical point of contact (name, title, address, telephone no. and email address) Danny Pando 928-505-1220 dpando@blm.gov	9b. Contracting or purchasing point of contact (name, title, address, telephone no. and email address) David Hetterly 602-417-9430 dhetterly@blm.gov												
10. Location of work (country, state or province, county, city) Lake Havasu, AZ													
11. Description of contract work Repaired 8 dock piles with underwater earth anchors. 2 Piles were straightened and batter piles were installed. The concrete boat dock was extended by 10ft with precast concrete slabs.													
12. Current status of contract (choose one): <table border="0"> <tr> <td>Work continuing, on schedule</td> <td>Terminated for convenience</td> </tr> <tr> <td>Work continuing, behind schedule</td> <td>Terminated for default</td> </tr> <tr> <td><u>Work completed, no further action pending or underway</u></td> <td>Other (explain)</td> </tr> <tr> <td>Work completed, routine administrative action pending or underway</td> <td></td> </tr> <tr> <td>Work completed, claims negotiations pending or underway</td> <td></td> </tr> <tr> <td>Work completed, litigation pending or underway</td> <td></td> </tr> </table>		Work continuing, on schedule	Terminated for convenience	Work continuing, behind schedule	Terminated for default	<u>Work completed, no further action pending or underway</u>	Other (explain)	Work completed, routine administrative action pending or underway		Work completed, claims negotiations pending or underway		Work completed, litigation pending or underway	
Work continuing, on schedule	Terminated for convenience												
Work continuing, behind schedule	Terminated for default												
<u>Work completed, no further action pending or underway</u>	Other (explain)												
Work completed, routine administrative action pending or underway													
Work completed, claims negotiations pending or underway													
Work completed, litigation pending or underway													

Appendix B – Streambank Stabilization and Recreational Feature Design
Detailed Proposal



October 30, 2018

Charles Soules, P.E.
City of Lawrence – City Hall
6 East 6th Street
P.O. Box 708
Lawrence, KS 66044

Dear Mr. Soules,

Please find enclosed the requested proposal for design services to address Scour Holes in Kansas River Dam City Project No. CIP UT1885 City RFP R1815 as well as recreational opportunities on the downstream side of the dam. REP looks forward to the opportunity to work with the City of Lawrence and local stakeholders on this project.

Instream projects bring together multiple stakeholders, federal, state and local permitting requirements and a dynamic natural environment into projects that are not always simply a matter of straightforward execution of design plans. Working in rivers requires equal measure of engineering skills and artistry; these skills can only be developed over years of learning and executing projects in rivers.

We have over 35 years of planning, designing, permitting and building river projects all over North America. Having designed and built numerous dam modification projects that incorporate repair, rehabilitation, bank stability as well as recreation and access across the US, we have demonstrated the ability to guide communities of all sizes, all over the US, through the process of planning, designing, permitting and ultimately constructing successful projects.

We have included example projects, resumes as well as references from clients that we have provided similar services for. We would welcome to opportunity to discuss this proposal with you in detail. Please explore the attached proposal and visit our company websites (below). We look forward to hearing from you.

A handwritten signature in black ink that reads "Gary M. Lacy".

Gary Lacy, President
Recreation Engineering and Planning
485 Arapahoe Ave.
Boulder, CO 80302
(303) 808-4522
www.repwhitewaterparks.com



Repairs of Scour Holes in Kansas River Dam

City Project No. CIP UT1885

City RFP R1815

Submitted By:

Recreation Engineering and Planning



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Project Understanding

The City of Lawrence Kansas is a city with deep ties to the river. With the historic Kansas River dam encouraging entrepreneurs and businesses in Lawrence, the river has propelled Lawrence to a manufacturing, then agriculture, and much later a University, arts and cultural center. The City is also fortunate to have abundant natural resources, central to these natural resources is the Kansas River. The Kansas River is unique in that it has dependable flow rate and gradient, historically and currently utilized for its mechanical power generating potential, is also fitting for river recreational



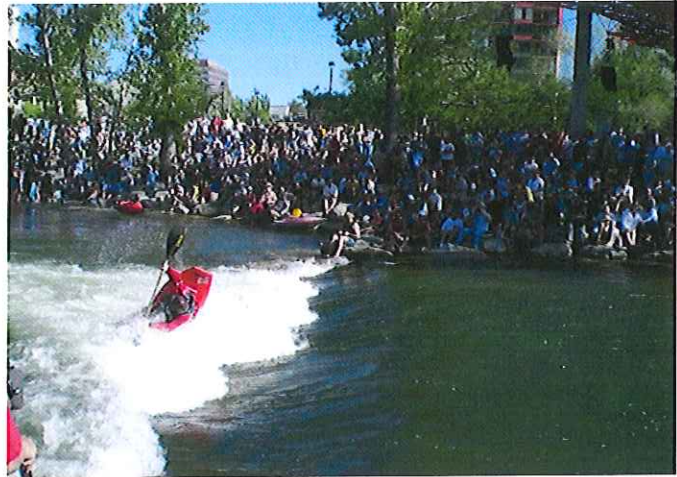
Dayton, OH

improvements. With the dam and the Bowersock Mill Facility adjacent to downtown Lawrence as the anchor river improvements would be a magnet for citizens and visitors alike. With the River accessible for recreation, the energy from that river corridor would radiate out into downtown Lawrence. With the improvements in place, in addition to activities in the water, bank improvements would provide a venue for families and visitors to enjoy the area along the river's edge. Visitors not only observe activities in the water, they will linger and walk along the river, dine downtown and stroll through local shops; the river would serve as a powerful anchor to stimulate the local economy and highlight what is unique about the area.

At Recreation Engineering and Planning, Lawrence's story is familiar. Communities all over North America have turned to our expertise in river planning, landscape architecture and river design to create and modify instream structures that have had a powerful and lasting impact on their community. Like Reno, Nevada's Wingfield Park which transformed a neglected corner of downtown into a hub of year-round activity and created an estimated \$18 million impact to the local economy in the first 5 years. Or Dayton, Ohio where the downtown whitewater park (opened in May 2017) replaced a dangerous low head dam and is part of that community's effort at standing out to new economy employers and employees. In Manchester and Charles City, Iowa where the river parks have become regional attractions, bringing people to the downtown business districts in these agricultural communities.

Having designed and built 80% of the river parks in existence in the US, the Team understand the process that the City of Lawrence is undertaking and have the expertise to help make the vision a reality.

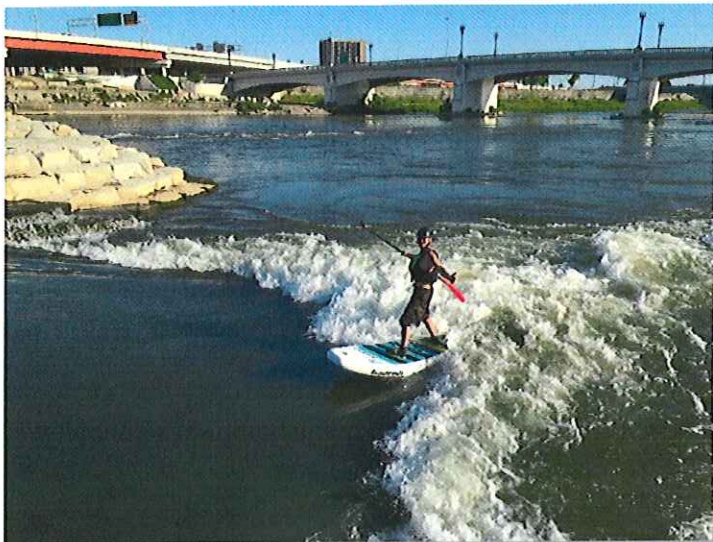
The most successful river parks create a blend of bank access, river features that support the widest possible cross section of users and restoration that helps turn urban river corridors into vibrant people-places. Should we be fortunate enough to be selected, the Team's job would be to help guide this vision of your river corridor from concept, to reality.



Reno, NV

Guiding a project to construction, is where our team's experience shines. No one has built more whitewater park projects. The reason for this success is that our team is solution focused in a process that can be fraught with potential pitfalls. Whitewater Parks are unique, bringing together multiple stakeholders, federal, state and local permitting requirements and a dynamic natural environment. These projects are not simply a matter of straightforward execution of design plans. Working in rivers requires equal measure of skill and artistry; these skills can only be developed over years of learning and executing projects in rivers.

Our philosophy for design stems from what we have seen be successful in past projects, while understanding that fundamentally every project is unique.



Dayton, OH

Critically important to the project is making creative bank connections to the Kansas River and the adjacent parks and the existing and proposed regional trails, studies have shown that 80% of the users of river are using the banks, not in-stream features. However well, designed, multi-use trails and river features are what brings life to a river corridor and these features need to be designed to function well at the flows that are available on most days, not simply at high flows.

The Team has the expertise and creativity required to design and implement a successful whitewater park

in City of Lawrence. While we bring over 30 years of experience to every project, what we don't bring is cookie cutter designs. Every river is as unique as the community through which it runs, and a whitewater park should reflect that unique character.

Access to the Dam Repair Site



We have visited the site numerous times and inspected the dam and adjacent bank in detail. REP has also met with representatives from Parks and Wildlife, City of Lawrence, adjacent land owners and Bowersock Mill Company to discuss objectives and constraints. REP created the conceptual rendering of proposed opportunities at this site based on conversations with the representatives above.

This project will stabilize and rehabilitate the dam and stabilize the adjacent failing retaining wall but also serve as a

foundation to build additional elements and features in a phased approach. These elements include portage trails with put-ins and landings regional trail connections and river access improvements for the public and the adjacent businesses.

Accessing the dam repair site will require the construction of a temporary access road. Because access to the face of the dam is a considerable aspect of this repair project, we recommend constructing this access road in a manner such that it can be used again for future dam maintenance operations instead of building a temporary access road for this maintenance activity only.

We propose accessing the repair site from the South bank of the river, constructing an access road along the center cobble/bedrock island (see REP's concept sketch) with the upstream portion of this access road constructed as permanent access road for future use. This upstream portion, especially where it connects to the dam, will be designed to withstand considerable hydraulic forces.

Complete Dam Repair and Stabilization Structures

After access to the face of the dam is gained the work area will be dewatered and the scour holes will be filled and the foundation will be stabilized. Then the construction of grade control and bank stabilization structures will begin.



Structures are recommended for adjacent bank stabilization and instream grade control. Instream grade control structures are recommended to reduce scour damage at this dam location in the future. Bank stabilization is recommended to replace the existing failing retaining wall adjacent to the dam's South abutment as well as adjacent to grade control structures and permanent access road.

Through discussions with the Bowersock Mill Company and adjacent land owner, stabilization structures will be designed to discourage public from entering potentially dangerous areas at the base of the dam and outlet of turbines. Bank stabilization will address damaged retaining wall and bank erosion as well as allow for future portage trail from above the dam through this area and allow for landing put in to continue downstream in this specific location and at an access ramp downstream of the hotel. Grade control structures will be designed to create tailwater control at a critically set elevation. In addition, these grade control structures will function as attractive instream river features.



Summary of Experience

Founded by president Gary Lacy in 1983, Recreation Engineering and Planning, Inc. (REP) is a firm based in Boulder, Colorado and has become the country's leader in dam modification, whitewater parks, riverside design and multi-use trail systems. In our 35 years in the business, we have been responsible for the vast majority of in-stream recreational whitewater river enhancements in the United States.

REP provides unique solutions for unique communities. We believe that the river should integrate itself with the community that surrounds it and that every park should be designed to meet the needs of the entire community. We design whitewater parks that combine public safety, recreation, and environmental improvement using natural-appearing solutions. Our projects are fashioned primarily with local materials and mesh with the local environment. Our designs include river access points and river walks that allow the community to interact with the river.



Our experience in whitewater park development and river rehabilitation throughout the U.S. is extensive. We pride ourselves in creating collaborative relationships with permitting agencies. The willingness to engage in this work environment has created an effective work atmosphere. We would

like to bring the same qualities and collaborative approach to Lawrence. Our team also brings extensive technical knowhow in hydraulic analysis and floodplain modeling. We recently completed final design and construction documents that included hydraulic modeling and floodplain as well as obtaining all State and Federal permits for a similar dam modification project on the Kansas River in Topeka Kansas.

One of our similar projects, the Charles City Dam Removal/Modification project was recently awarded the 2014 US Environmental Protection Agencies Smart Growth Achievement Award. According to Iowa Department of Natural Resources (IDNR) River Programs Team, the Charles City project is a “game changer”. In addition to the work in Charles City, REP was the project manager and lead engineer on the dam removal/modification project in Manchester, Iowa. Both projects assisted the communities winning the **River Town of the Year** award from the Iowa Rivers Revival organization and have proven to be large recreational attractions and economic boosting agents for both areas.

Our interactions with the client are individual and led by the people that are noted in the proposal. Larger firms commonly use their senior team members to acquire projects, but the work tasks are passed down to the entry level staff. The team working on your project is noted below and we pass our expertise directly to you.

Highlighted Projects

We have included more information about a few select projects below. These projects provide a variety of different challenges and goals that we have dealt with over the past 30 years. The RiverScapes River Run project is in downtown Dayton, Ohio and located on a large river, similar to the Kansas River because it includes adjacent development, high flooding potential, and an instream dam.

The Montrose Water Sports Park was built on a smaller river in the mountains of Colorado and included fish passage through an existing dam. The environmental and fish passage issues on the project required specific fish passage technology through the dam which our team now uses across the country to assist moving aquatic species through different types of impediments.

The Salida Whitewater Park is all about whitewater recreation and is known as one of the premier whitewater destinations in the country. Our goal is to create similar whitewater features near Abe & Jakes Landing.

The Charles City Whitewater Park is located on the Cedar River which drains a major portion of northeast Iowa and regularly floods. Similar the Kansas River, it is a larger river with some gradient for whitewater features, a dam within the project area, fish passage needs, and an adjacent community hungry for river recreation.

The Manchester Whitewater Park is known as dam removal project, transforming a dangerous 10-foot high dam into six whitewater features. The project was completed by a small community of 5,000 people and the fundraising efforts were noteworthy. Our design team supported the community fundraising efforts by leading public presentations, answering the “tough” questions about flooding, impacting the floodplain, dam safety issues, liability, and fishing impacts.

The following projects are offered to highlight our work and successful projects we have completed all over the Country.

RiverScape River Run, Great Miami River, Dayton, Ohio



Year Completed: 2017

Engineer of Record: Gary Lacy

Lead Designer/Project Manager: Mike Harvey

Hydraulic Analysis: Shane Sigle

Reference: Joe Zimmerman, Five Rivers MetroParks, (937) 277-4825,

Joesph.Zimmerman@metroparks.org

Preliminary Design Costs: \$116,000

Permitting Costs (sub-contractor): \$84,000

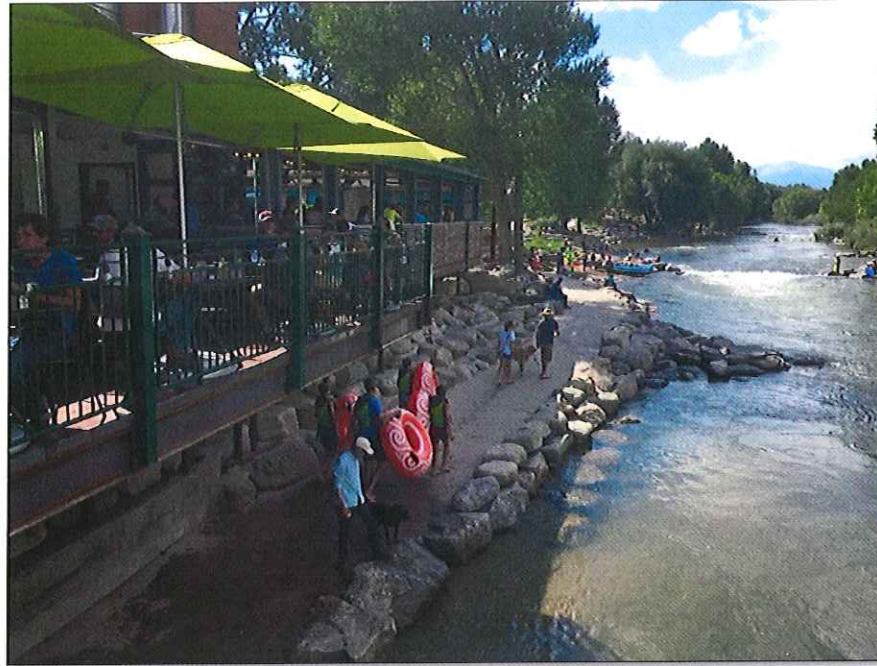
Final Design Costs: \$60,000

Construction Costs: \$3million

The Great Miami River flows through downtown Dayton, Ohio. The flow was obstructed by a river-wide low head dam located downstream of Dayton's Riverscape Park. This site was very dangerous for in-stream users due to the recirculating hydraulic that is formed at the base of the dam. The purpose of this project was to remove the current dam while restoring the channel to a more natural function and facilitate recreation in downtown Dayton. The dam was replaced with 2 whitewater features creating an attractive environmental and recreational amenity. The net effect of this project has been to transform a dangerous hazard into a popular attraction that attracts locals and visitors alike to the downtown Dayton business district.

The project experienced significant flooding during construction of one of the structures and minor bank erosion occurred. The cost of this repair was absorbed within in the contractor's construction budget. The project has not experienced any maintenance needs since opening.

Salida Whitewater Park, Arkansas River, Salida, CO



Year Completed (last phase): 2014

Engineer of Record: Gary Lacy

Lead Designer/Project Manager: Mike Harvey

Reference: Mayor PT Wood, City of Salida, (719) 239-0222, ptwoodmayor@gmail.com

Preliminary Design Costs: \$8,000

Permitting Costs: \$5,000

Final Design Costs: \$11,000

Construction Costs: \$500,000

One of REP's signature parks. With the State's largest historic district and the Arkansas River flowing right through downtown, Salida, Colorado is both a proud example of REP's engineering and a labor of love. Long neglected and abused by both the historic rail corridor on one side and the town on the other, the Arkansas River in Salida was literally cut-off from the community when the local non-profit Arkansas River Trust initiated this project in the spring of 2000. Through four phases of development a private/public partnership between the City of Salida and the Arkansas River Trust raised private money and grant funding for this national attraction. With four world class play waves that have hosted national championships, and the longest running whitewater festival in North America (FIBArk) the Salida Whitewater Park has a slalom course, trails, creative bank terracing, a renovated community theater/conference center, outdoor amphitheater and rock climbing wall. Fifteen years after kicking this multi-phase projects off the impacts on Salida are easy for anyone to see. Downtown Salida is thriving with the energy created on the river radiating out into downtown. Restaurants line the banks of the Arkansas River and in the warm summer months the whitewater park is the community gathering place. This project serves as an example of a community transformed by a whitewater park.

The City has completed structure additions and improvements due to increased use and the popularity of the park. The project has required only negligible maintenance since opening in over 18 years ago.

Charles City Whitewater Park/Dam Modification, Cedar River, Charles City, Iowa



Engineer of Record: Gary Lacy

Lead Designer/Project Manager: Shane Sigle

Reference: See Letter in Appendix

Preliminary Design Costs: \$6,000

Permitting Costs: \$4,000

Final Design Costs: \$18,000

Construction Costs: \$700,000

Charles City was selected for the U.S. Environmental Protection Agency's 2014 National Award for Smart Growth Achievement and the Iowa River Town of the Year Award 2012. This award sheds light on the groundbreaking and forward-thinking vision of the community when deciding how to mitigate the former "beauty dam". Not only had the dam killed multiple people over the years, it created an ecological barrier that further decimated the already fragile ecosystem in the area. The design incorporated elements of ecological connectivity, fish passage and habitat enhancement, instream navigation and recreation, and bankside amenities. The project created something for everyone. The three whitewater features, used to account for the original hydraulic drop at the dam, have industry leading fish passage channels that have proven to be effective while increasing navigational safety.

The Charles City Whitewater Park experienced significant flooding and minor erosion around 2012. The cost of post-flood maintenance and stabilization was approximately \$30,000 or approximately 3% of the original project budget.

Manchester Whitewater Park, Maquoketa River, Manchester, Iowa



Engineer of Record: Gary Lacy

Lead Designer/Project Manager: Shane Sigle

Reference: See Letter in Appendix

Preliminary Design Costs: \$7,000

Permitting Costs: \$4,500

Final Design Costs: \$30,000

Construction Costs: \$1.8million

This whitewater park brought Manchester it's 2015 Iowa River Town of the Year award. The park consists of 6 whitewater features and spans over 800ft in length. Reconstruction of the river began with the demolition of a dilapidated and dangerous 10-foot-high dam. The project includes shoreline restoration and beautification with improved access points and terracing. The primary drop structures create waves and holes catering to recreational kayakers, freestyle kayakers, stand up paddleboarders and tubers. The project team worked closely with Iowa DNR fisheries to open the area for fish and mussel propagation. Within two months of opening eight new species of fish were tagged moving upstream of the park.

The Manchester Whitewater Park experienced significant flooding and subsequent bank erosion just downstream of one structure in approximately 2015. The City applied for FEMA flood relief funding and used the money to apply bank stabilization material. There were no out-of-pocket costs to the City.

Team Member Background

We have assembled a strong team of technical experts and specialists in river engineering, hydrology, hydraulic design, permitting, hydraulic modeling, and fish passage and habitat to assist with all phases of this project. In addition to the firm's primary officers described above resumes for additional key staff assigned to the proposed project are provided in the Appendix.

Scope of Work

1. Project Startup and Basemapping

REP will review hydrology statistics, topography, prior reports and studies, soil borings and other available information. REP will create a basemap with topography, public utilities, property lines, streets and geo-rectified, high-resolution aerial photo background in an AutoCAD file format. REP will also review digital floodplain hydraulic models, work map and review and summarize relevant literature and data. A site and bathymetric survey may be required.

2. Preliminary Design

Preliminary Design - 60% design drawings. Includes plan profile, cross sections, details civil design of all proposed structures, structural design of all proposed structures, water control, cost and quantity estimate, and project timeline for permitting and construction.

3. Permit Preparation and Submittals to Regulatory Agencies

REP will prepare permit applications for submittal and review by regulatory agencies (USACE, KDHE and Division of Water Resources). This assumes a Nationwide Section 404 permit will be authorized for this project.

4. Meetings

Attend meetings as requested by City staff with local organizations, city review boards or local agencies. Anticipate four on-site meetings with USACE, City, KDHE, and others, plus numerous phone and conference call meetings for progress updates and review.

5. One-Dimensional Hydraulic Modeling

Acquire existing HEC-RAS model of record, create and insert proposed conditions into the model, analyze at various discharges, compile and report on findings.

6. Final design and construction documents.

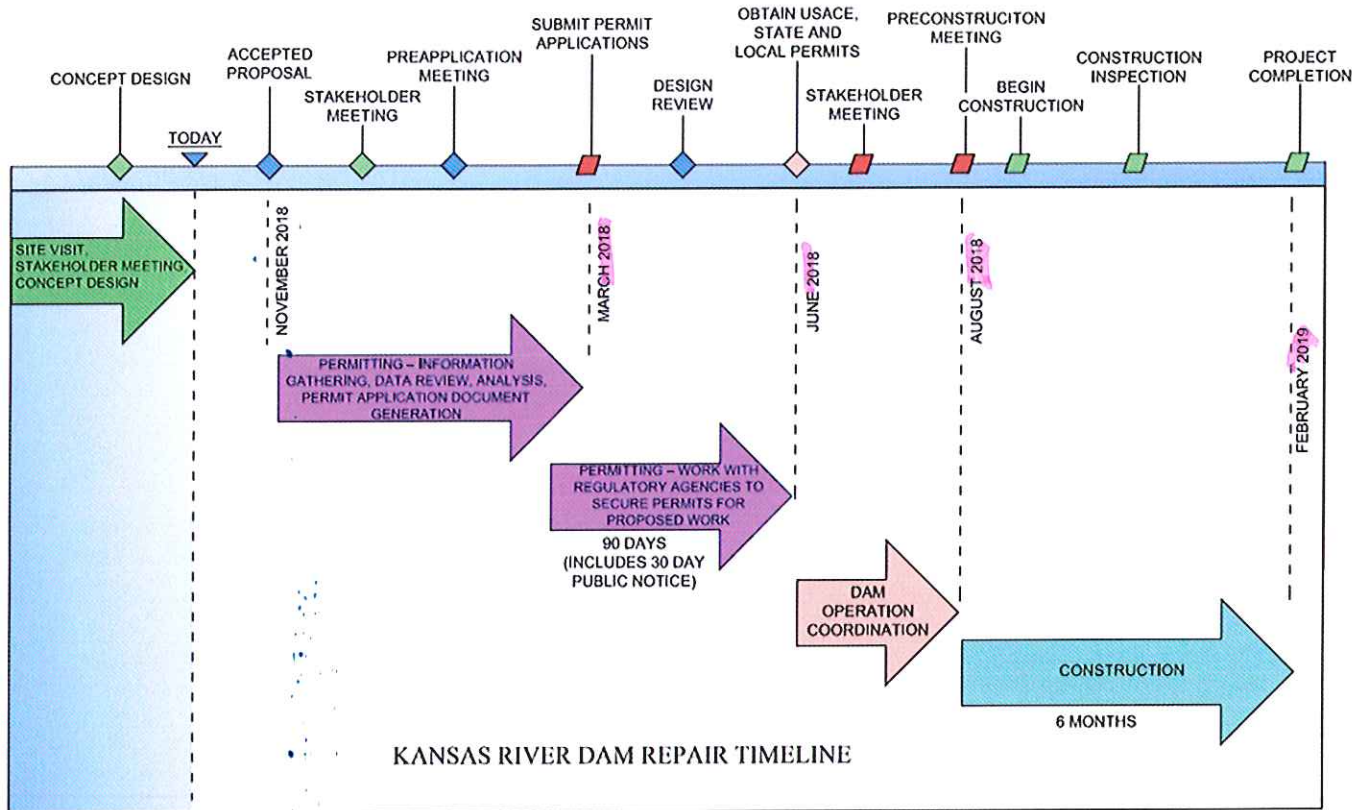
Includes final design of all project elements included within the 60% design. Includes refined quantity estimate and project specifications.

7. Construction Phase Services

Attend preconstruction meeting. Answering contractor questions. Inspecting work quality and conformance with design intent and specifications. Aid with measurement and payment. Review shop drawings and submittals.

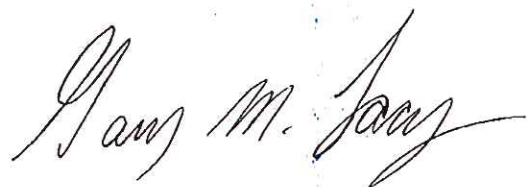
Project Schedule

The project team offers the following proposed schedule for completion of deliverables as required by the Scope of Services, however, we can accommodate any schedule requested by the City.



If selected the project team will provide performance and statutory bonds as well as appropriate insurance.

Authorized Principal:

A handwritten signature in black ink, reading "Gary M. Lacy". The signature is written in a cursive style with a long horizontal flourish at the end.

Gary Lacy
Recreation Engineering & Planning Inc.

Contact Information



REP

485 Arapahoe Ave.

Boulder, CO 80302

(303) 545-5883

Gary Lacy

(303) 808-4522

gary@boaterparks.com

Appendix: Letters of Recommendation, Resumes, and Additional Project Information

DRAFT CONCEPT SKETCH



BOWERSOCK DAM PLAN VIEW CONCEPT



LEGEND

- STONE TERRACING AND STRUCTURE
- NEW CONCRETE TRAIL
- ELEVATED TRAIL OPTION
- BOAT RAMP
- EXISTING TRAIL

REVISIONS:	
NO.	DATE

KANSAS RIVER
 LAWRENCE, KS
 PRELIMINARY - NOT FOR CONSTRUCTION
 SHT 1

PROJECT OWNER:
 LAWRENCE, KS
 BOWERSOCK DAM
 KANSAS RIVER
 DAM REPAIR

DRAFT

RECREATION ENGINEERING
 AND PLANNING
 455 ARAPAHOE AVE
 BOULDER, CO 80502
 WWW.BOATPARKS.COM

DRAWING NO. 1
 SHEET 1 OF XX

Gary lacy, PE



President, Recreation Engineering & Planning
485 Arapahoe Avenue
Boulder, Colorado 80302

Phone/Fax: (303) 545-5883
Cell 303-808-4522
Website: www.boaterparks.com
E-mail: gary@boaterparks.com

Background

For over 30 years, through his company, Recreation Engineering and Planning Inc., Gary's work has included helping communities with the planning, design, management and coordination of Whitewater Parks, protection and restoration of river corridors, fish navigation channels and the creation of unique and safe river recreational projects. His company has designed most of the Whitewater Parks, river enhancements and river trail systems in the United States and continues to be at the creative cutting edge of the evolving design.

Education

M.S., Public Administration with minor in Urban and Regional Planning, University of Wisconsin in Madison, May 1982. Course work included water and land use law and regional water system planning.
B.S., Civil Engineering with hydraulic emphasis, minor in environmental science, Colorado School of Mines, Golden Colorado, May 1978. Course work included extensive field surveying courses and extensive ecological studies.

Interesting Accomplishments

Registered Professional Engineer in the states of Colorado, Idaho, New Mexico, North Carolina, Oregon, Washington, Iowa, Wyoming, Montana, Texas, Michigan, Utah, Maine and Ohio.

Experience

1983 – Present Recreation Engineering and Planning Inc. (REP)

President, Engineer

Boulder, Colorado.

Manage company dedicated to planning, design, and coordination of major public projects and programs. Expert to a number of City Councils, Boards, and citizen groups on management of diverse professionals, intricate budgets, and sensitive political situations. Responsible for guiding projects through a wide array of public processes and approvals. REP is the premier in-stream design engineering firm in the Country, having pioneered many innovations in whitewater parks, dam modifications and integration of urban river corridors.

1991-1998 Boulder Greenways Coordinator

City of Boulder

Boulder, Colorado.

Responsible for planning, coordination, management, and implementation of a comprehensive, state-of-the-art greenway system designed to link virtually every major area of Boulder. The award winning project includes over forty miles of greenways, bridges and underpasses, pocket parks, environmental presentation and restoration areas, and flood capacity improvements. The project budget is over \$1 million each year.

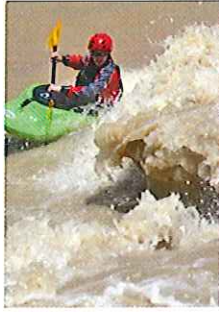
1987-1989 Special Projects Manager

City of Boulder

Boulder, Colorado.

Responsible for planning, coordinating and managing a number of City projects along with providing guidance and input for the preparation of city-wide master plans, annual operating and capital budgets, and determination of recommended city policies. Worked closely with the City Manager's office, City Attorney's office and the Parks, Planning, Open Space, and Public Works Departments in a cooperative way to complete each project. Received the 1988 Boulder Employee Performance Bonus Award.

Riley Gelatt, EIT



Design Engineer, Recreation Engineering & Planning Inc.
485 Arapahoe Avenue
Boulder, Colorado 80302

Phone: (970) 778-8390
Website: www.boaterparks.com
E-mail: riley@boaterparks.com

Background

Starting in a large firm, Riley Gelatt, EIT, has an extensive history with mapping and the subsequent documentation of project progress. Riley, a kayaker at heart, holds a degree from the University of Colorado in Civil Engineering with a specialization in water resources. During his studies he gained surveying experience, an outstanding civil engineering student award and his Engineer in Training certificate. Riley worked for MWH as an associate civil engineer before advancing to civil engineering professional, working with hydraulic modeling of water and waste-water systems. With REP, Riley's experience with stream restoration, structure design and analysis, permitting, design coordination, structural and scour calculations, cost estimating, project scheduling, bidding support, production and review of construction drawings and technical specifications, floodplain impact analysis, bathymetric surveying, fish passage design, and navigational safety modifications. Riley has taken on a lead on-site role, reviewing and approving on-site design changes, verifying survey data, performing inspections and performance tests while supporting a variety of design, permitting and modeling efforts.

Education & Professional Credentials

B.A.Sc., Civil Engineering, University of Colorado at Boulder, 2012

Engineer in Training Certificate (E.I.T), Colorado, 2012

Experience

Design Engineer February 2014 - Current
Recreation Engineering and Planning (REP), Boulder, Colorado
Whitewater feature conceptual design, feasibility, permitting, final design, bidding and construction phase services.
FEMA flood recovery design and monitoring services.
HEC-RAS floodplain modeling assistance.
AutoCAD 2014 design.
On site construction services.

Civil Engineering Professional May 2012 – January 2014
MWH Global, Innovyze, Broomfield, Colorado
Implementation of unidirectional flushing sequences and hydraulic model for large water utilities.
Constructed hydraulic models for drinking water distribution systems for both consultants and utilities.
Implemented real time hydraulic models using supervisory control and data acquisition (SCADA) data for the rapid assessment of drinking water distribution systems under emergency conditions
Provided technical support for both clients and sales staff on multiple new software packages
Conducted asset data reviews for large water utilities
Development of help documents for multiple new software packages

BLM Survey Technician 2011 May-August, 2010 May-August
Department of the Interior, Bureau of Land Management, Lakewood, Colorado
Operated differential-GPS equipment and total stations in all types of weather conditions
Researched property deeds and titles for USFS fuels mitigation projects
Monumented and recorded corner positions for official cadastral surveys
Managed survey equipment and vehicles to ensure operational status throughout projects

Mason Lacy, PE, MS, CFM



Design Engineer, Recreation Engineering & Planning, Bend
2863 NW Crossing Drive, Suite 100
Bend, Oregon 97701

Phone: (303) 502-4258
Website: www.boaterparks.com
E-mail: mason@boaterparks.com

Background

Mason is a Professional Engineer with experience in process based river restoration design and whitewater park design. He holds a Master's degree in Water Resources Engineering focused on hydraulic modeling and fluvial processes. Mason has worked on whitewater projects from feasibility to construction, including leading the design for the modification of a dangerous weir on the Kansas River to provide fish passage, whitewater recreation, and enhanced safety. He has led multiple two-dimensional modeling studies, for projects involving anastomosing channel restoration, low head dam removal, fish passage, and whitewater structures. Mason is currently employed at Recreation Engineering & Planning (REP) and Environmental Science Associates (ESA).

Education & Professional Credentials

M.S., Water Resources Engineering, Arizona State University (3.9GPA), 2016
B.A.Sc., Civil Engineering, University of Colorado at Boulder (3.9GPA), 2012
Professional Engineer (PE), Washington State, License #56279
Certified Floodplain Manager (CFM) Association of State Floodplain Managers, Inc.
Certified Erosion and Sediment Control Lead (CESCL), WA Department of Ecology

Professional Experience

Design Engineer	May 2015—Present
Recreation Engineering & Planning	Boulder, CO
Whitewater park design, feasibility, hydraulic modeling, permitting, fish passage, construction field reviews, project management, PS&E development	
Water Resources Engineer	August 2016—Present
Environmental Science Associates	Bend, OR
Stream restoration design, fish passage design & analysis, hydraulic & sediment transport modeling, construction field reviews, PS&E development	
Staff Engineer	July 2014—November 2014
Ninyo & Moore	Phoenix, AZ
Geotechnical investigations, construction materials testing proposals, field reviews of soil nail installation, groundwater cutoff and scour wall installation.	
Junior Geotechnical Engineer	April 2013—April 2014
GeoPacific Consultants	Vancouver, BC
Construction project management including field reviews, design changes, and communication with client / contractor for several large excavations in the Vancouver metro area. Geotechnical investigations, investigation reports, and design recommendations for excavations & shoring, earth pressures, bearing capacities, etc.	

Highlighted Project Experience

2015-Present, Kansas River Weir Improvements, Topeka, KS. Project Manager for this low head dam modification project on the Kansas River in Topeka, Kansas. This project includes retrofitting a hazardous, low head dam with energy dissipation structures and a channel with natural stone structures that create whitewater recreation and fish passage. This project is located in an urban environment and required coordination with multiple agencies.

2017, Chehalis Basin Sediment Transport and Hydro-Dynamic Model, Chehalis, WA. Assessment of Stream Simulation Culvert Design for fish passage for the Washington Department of Fish and Wildlife. Lead modeler for two-dimensional hydraulic, sediment transport, and bed evolution modeling to evaluate the performance of several design alternatives for current and future flows.

2017-Present, Powell Butte Floodplain Restoration, Portland, OR. Led development of restoration alternatives and two-dimensional hydraulic modeling for a reach of Johnson Creek for City of Portland BES. Restoration alternatives were developed to reduce flooding as well as provide habitat / water quality benefits, then assessed for quantitative flood reduction using HEC-RAS 2D.

Mike Harvey, CFM, PMP



Planner and Project Manager, Recreation Engineering & Planning, Salida
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Background

In a decade of service at REP, Professional Project Manager (PMP) Mike Harvey has worked with many communities to successfully guide whitewater park, dam modification and river corridor improvement projects through planning, permitting, public-process, funding, design and construction phases. Mike has worked closely with both municipal governments and citizens groups in order to understand and meet community needs and goals. Mike has served REP as a project manager on projects of varying size and scope and in diverse communities around the country. Mike's background in education and his communication skills complement his abilities in design, modeling and construction. While Mike designs and oversees projects from start to finish, he has the unique ability to communicate goals and objectives to his client as well as the diverse groups in communities in which he works. Mike's personal interests include, a background in competitive whitewater kayaking where he qualified for the US National Kayak Team in 2009 and serving the community of Salida, Colorado as the President of the Arkansas River Trust and Co-Chair of the City of Salida Recreation Board. Mike is co-owner of Badfish, Inc. a company designing and manufacturing Stand Up Paddle Boards for whitewater rivers.

Education & Professional Credentials

B.A. Outdoor Environmental Education, Prescott College 1998

Certified Floodplain Manager (CFM) Association of State Floodplain Managers, Inc., 2007

Project Management Institute (PMI), Project Management Professional (PMP), 2009

Professional Experience

Arkansas River Trust, founder, Executive Director & Board President 1999-present. Founded a non-profit organization based in Salida that has planned and raised funds for all three phases of the Whitewater Park project. In addition oversaw a whitewater kayaking program for local young people on the Arkansas River.

Recreation, Engineering and Planning, Project Manager 2000-present. Manage projects from early stage planning through construction. Experience with numerical/physical hydraulic modeling, regulatory permitting, drafting/design and construction management.

Highlighted Project Experience

2003-Present, Buck Creek Improvements, Springfield, Ohio. Project Manager for all phases of this dam modification project. Construction is complete on modifications to the first 2 of 4 low-head dams along five miles of river. The improvements create a navigable reach of river, improve in-stream habitat, create pocket parks and improve safety.

2003-Present, Buena Vista River Park, Buena Vista, Colorado. Chief planner, designer, and construction manager of a whitewater park project completed in 2007. This project was funded through a private/public partnership between the Town of Buena Vista and the Town Company, LLC. The project has consisted of completion of a concept plan, regulatory permitting, final design, and construction which was completed in April 2010. This project combines access improvements, whitewater structures and trails with a New Urbanism -inspired residential and commercial development along the Arkansas River.

1999-Present, Salida Whitewater Park, Salida, Colorado. Chief planner, designer, grant writer and construction manager for this whitewater park. Natural-appearing whitewater improvements restored the river, and provided economic and recreational benefits to the downtown area. Includes whitewater course improvements at the site of the longest-running whitewater kayak race in North America, FIBArk. Mike founded, and continues to run, the Arkansas River Trust, a non-profit organization that spearheaded the effort to plan, fund and build the Salida Whitewater Park. For his efforts Mike was awarded the Heart of the Rockies Chamber of Commerce, Service Award in 2003 for outstanding service to the Salida area.

Shane Sigle, PE MSCE



Lead Engineer, Recreation Engineering & Planning
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Boulder, Colorado 80302

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Website: www.wwparks.com
E-mail: shane@boaterparks.com

Background

Shane combines 30 years of river recreation and canoe slalom experience across the globe with 15 years of river engineering. Shane is a Professional Engineer and holds a Master's Degree in Water Resource Engineering from the University of Maryland specializing in whitewater structures, fish passage, hydraulic and hydrologic modeling, and water quality. Shane has worked on whitewater projects across the US and been involved from feasibility through construction. Shane currently works as a project manager and lead engineer for REP projects.

Education

Master's degree in Water Resources Engineering, 2003 (3.7GPA) from the University of Maryland.
Bachelors degree in Environmental Economics and Physical Geography, 1998 from the University of Colorado

Interesting Accomplishments

Athlete—Shane is a two-time member of the USA Canoe and Kayak "B" Team and two-time member of the USA Rafting Team. Shane has competed professionally for Team Montrail and Team BUFF Multi-Sport International Adventure Racing Teams.

Public Service—Shane is an annual instructor for Liquid Camp which is located on the South Fork of the American River in California. The week long camp brings together disadvantaged HIV-positive kids from around the U.S. to learn how to kayak and live in the outdoors.

Professional Engineer—Shane has worked for firms in Colorado, Washington D.C., and Christchurch, New Zealand. He is currently licensed in three states.

Work/Project Experience

Work Experience

2007-present Recreation Engineering and Planning: Worked as a project manager and design engineer to market, plan, design, permit, and implement in-stream whitewater parks, river trails, riparian habitats, and fish passage channels. Responsibilities include management, budgeting, numerical modeling, flood and scour analysis, sediment transport analysis, design, master planning, marketing, research, analysis and construction management.

2005-2007 Aqualinc Research Limited, Christchurch, New Zealand. Worked as a project engineer completing water resource master planning and hydrology for the Canterbury Region of the South Island. Responsibilities included computer modeling, hydrology and hydraulic analysis, layout, mapping, GIS, and research and analysis.

1998-2000, 2003-2005 Wright Water Engineers. Project engineer for a leading water resource engineering company in Durango, Colorado. Performed budgeting, scheduling, engineering, technical support, and consultation for water resource and water rights projects throughout the state.

Project Experience

Manchester Whitewater Park, Manchester, Iowa. Engineer of record and project manager for this 1.8 million dollar project that won this community of approximately 5,000 people "Iowa's River Town of the Year" award in 2015. Work included all stages of design from concept to construction.

Bow Weir Project, Calgary, Alberta. Project engineer involved with whitewater performance, product testing, safety, signage, access and product optimization. This project includes both a whitewater and slalom/navigational channel and is the largest whitewater project in North America.

Charles City, Iowa. Design engineer and project manager overseeing all stages of the project from feasibility through construction management and testing. This project included removal/modification of a 6-foot high low head dam, construction of four drop structures, design and permit approval of cutting-edge fish passage design, removal of concrete flood control walls, bank terracing, and access points. This is the first project of it's kind in Iowa. It was the site of the 2012 Iowa Games.

Kelly's Whitewater Park, Cascade, ID. Project engineer and construction manager during preliminary design, permitting, final design, construction, and modifications. The project includes five structures, associated trails, two pedestrian bridges, a constructed island, and a million dollar visitor center. The project has proven to be a huge success with over 800 visitors during one day the first season of operation. This park hosted the 2012 US Freestyle National Championships.

Spencer Lacy, EIT



Spencer Lacy, EIT
Design Engineer, Recreation Engineering & Planning Inc.
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Background

Spencer is a design engineer and project manager. His Bachelor of Science from the University of Colorado focused on water resources engineering studies as well as construction management. His academic success earned him various awards and recognitions. Spencer has been involved in many in-stream and riverside projects, giving him experience in concept and final project design, engineering drawing, project permitting, 1D and 2D in-stream modeling, and on-site construction inspection and management. Spencer is also a very passionate and accomplished whitewater paddler who spends much of his free time product testing REP's work.

Education & Professional Credentials

B.A.Sc., Civil Engineering, University of Colorado at Boulder, 2014, Focus in Water Resources, GPA: 3.87
Engineer in Training (E.I.T.) Certificate, 2014

Experience

Design Engineer	May 2015-Present
Recreation Engineering & Planning	Boulder, CO
Whitewater park and riverside design, feasibility, surveying, drafting, hydraulic modeling, permitting, fish passage, construction field reviews, project management, PS&E development.	
Undergraduate Researcher	August 2013-May 2014
University of Colorado	Boulder, CO
Conducted sponsored construction safety research. Worked on a team to improve construction hazard recognition and construction safety education.	
Engineering Intern	February 2014-May 2014
City of Boulder	Boulder, CO
Worked to restore local in-stream structures that were destroyed in the Boulder Flood in September 2013.	
Hydrologic Research	July 2012
Wright Water Engineers	Denver, CO
Explored and mapped high mountain ancient Inca canals and plotted GPS points in Ollantaytambo, Peru.	

Highlighted Project Experience

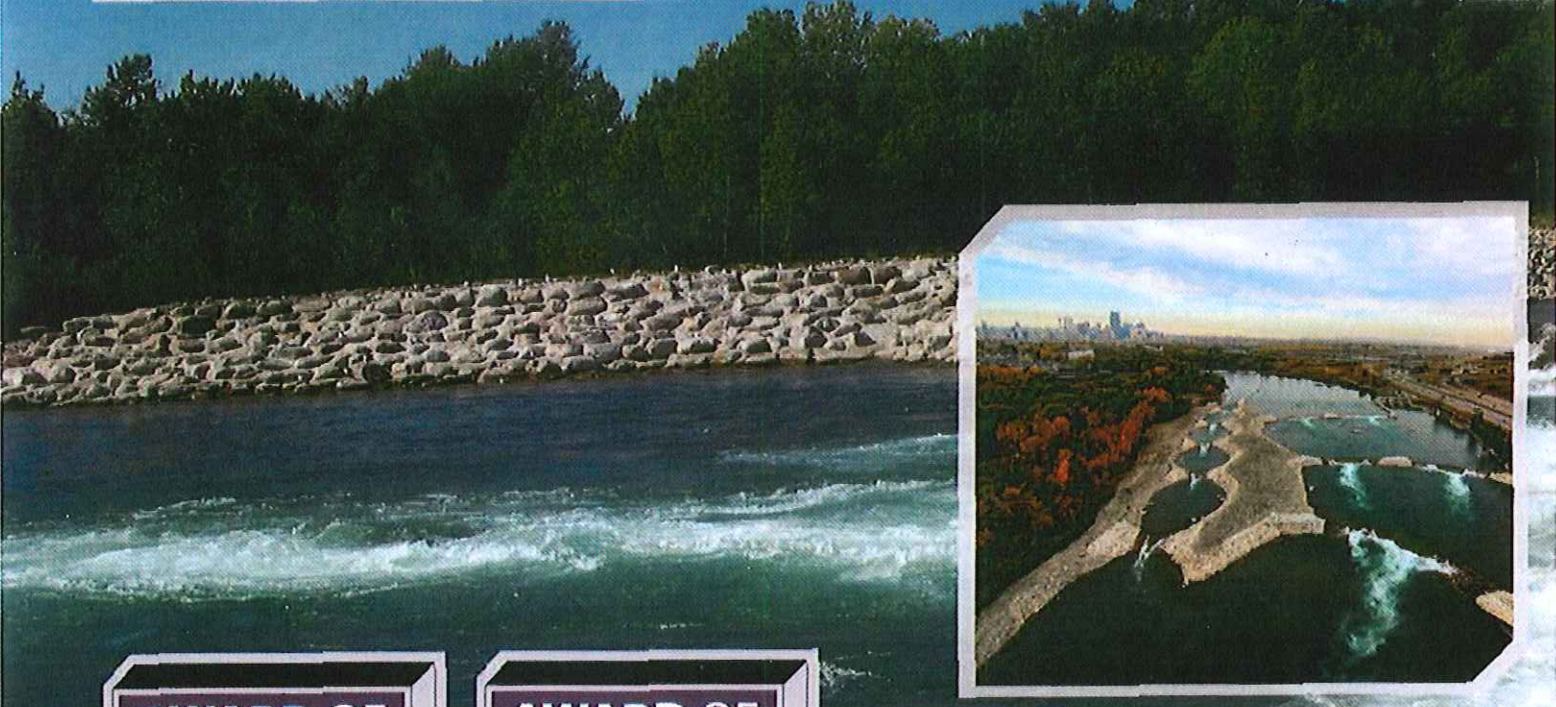
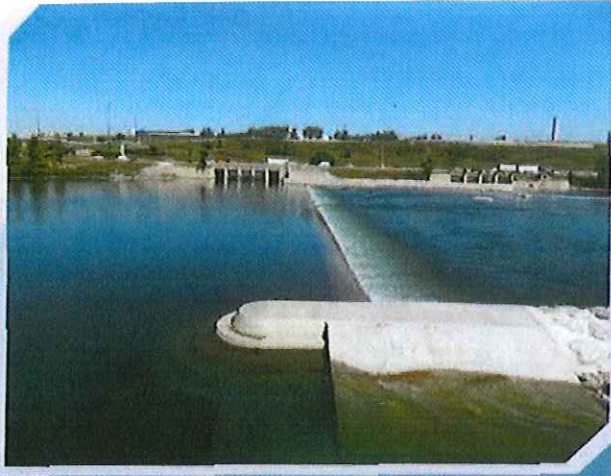
2015-Present, Crosstown Trail, San Marcos, TX. Design engineer and lead drafter for this multi-use path project extending over a mile along the San Marcos River.

2017-Present, Stoughton Whitewater Park, Stoughton, WI. Project manager, design engineer, and lead drafter for this dam modification project. This multi-million dollar project creates safe passage around a dangerous dam in downtown Stoughton while creating a recreational amenity. Work involves concept design, permitting, final design, drafting, floodplain modeling, and construction inspection and management.

2015-2016, Lester-Attebery Ditch Dam Modification, Florence, CO. Design engineer and lead drafter for this instream project involving a dam modification and ditch diversion.

Awards and Achievements

President of the National Civil Engineering Chi Epsilon Honor Society CU Chapter, 2014
University of Colorado national champion D1 ski team student-athlete, 2010-2011
CU Engineering Active Learning Award



Harvie Passage - Calgary Bow River Weir Project

FIRM: Klohn Crippen Berger Ltd.
CLIENT/OWNER: Alberta Transportation/Alberta Environment
SUB-CONSULTANTS: Northwest Hydraulic Consultants; Recreational Engineering and Planning
CONTRACTOR: deGraaf Excavating Ltd.
OTHER KEY PLAYERS: Parks Foundation Calgary; The Calgary Foundation; City of Calgary

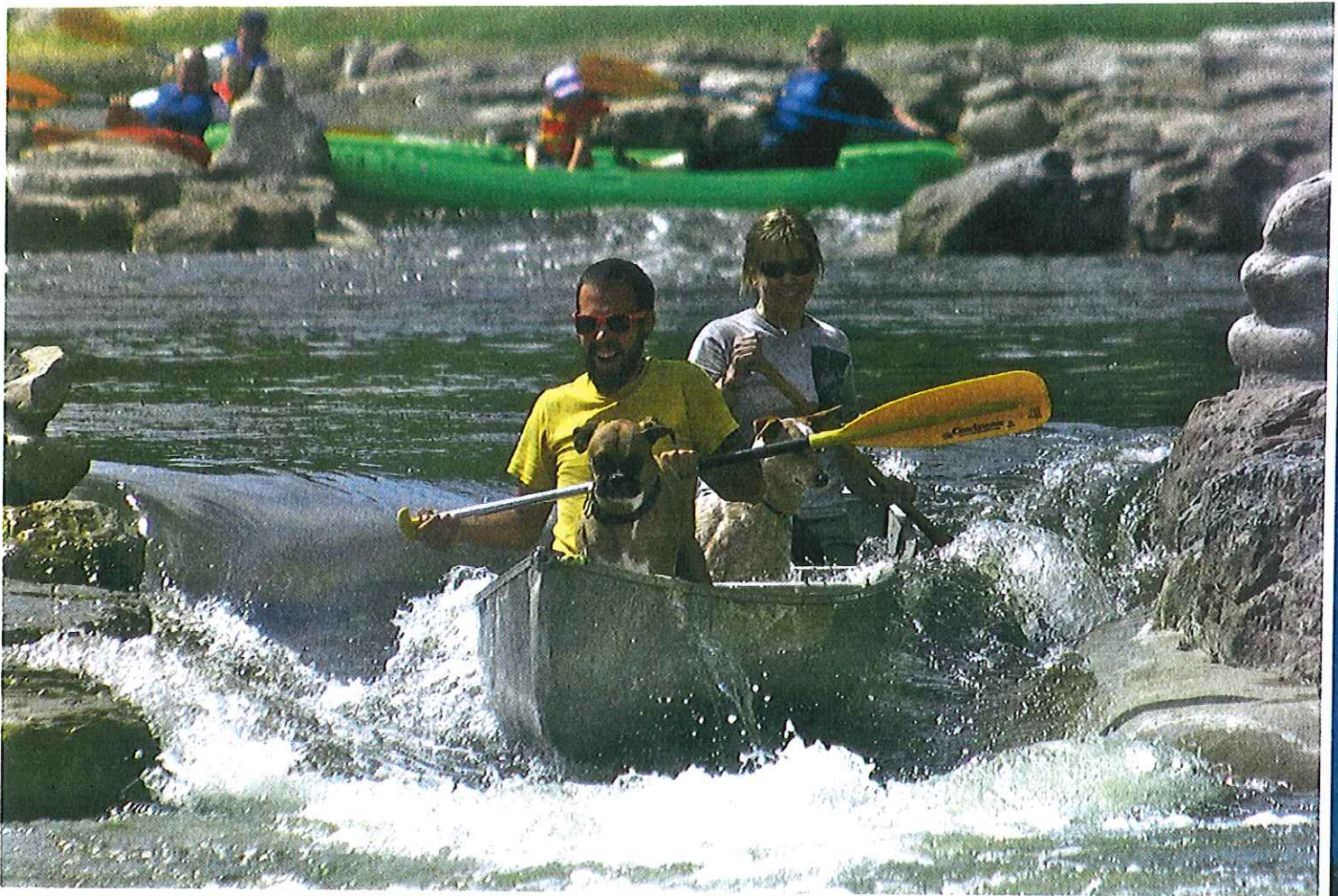
Klohn Crippen Berger Ltd., in association with Northwest Hydraulic Consultants and Recreation Engineering and Planning, planned, designed and administered construction of the Calgary Bow River Weir Project. The project's primary purpose was to eliminate the extreme drowning hazard and enable river passage for non-motorized boats and fish while maintaining water diversions from the Bow River. To improve safety and facilitate boat and fish passage, pools and rapids were constructed downstream of the weir to increase water levels to drown out the weir creating whitewater play areas. The project creates an amenity for canoeists, kayakers, bird watchers, educators and floaters.

JUDGES' COMMENTS: This project demonstrates a highly technical project that enhances the community and environment. It provides both new and enhanced recreation opportunities for the public, while at the same time enhancing the river ecosystems and fish habitats.

This project, in addition to eliminating a serious drowning hazard, has added to the recreational opportunities of area resident and tourists. Creative, the project overcame challenging design and construction issues.

The Calgary Bow River Weir project is an excellent example of how engineering ingenuity can revitalize a critically important natural resource to create safe and sustainable opportunities that enhance and enrich the whole community.

Outstanding example of the application of collaborative engineering approach to solve a highly complex problem involving public safety, security of irrigation water supply, fish passage, creation added value and seasonal construction challenges within a multiple regulatory and stakeholder environment.



New Argo Cascades getting rave reviews

Q: The new Argo Cascades are amazing. Who gets credit for the great idea, and how much did they cost?

There's a definite buzz around town about the mini-whitewater rapids and adjacent paved trail that were completed this spring next to the Argo Park dam and city-owned canoe livery.

The new attraction is drawing raves from both Huron River paddlers and people looking for a scenic place to walk or ride a bike.

The Cascades replace and improve upon the previous bypass of the Argo dam used by canoeists and kayakers. The old bypass channel

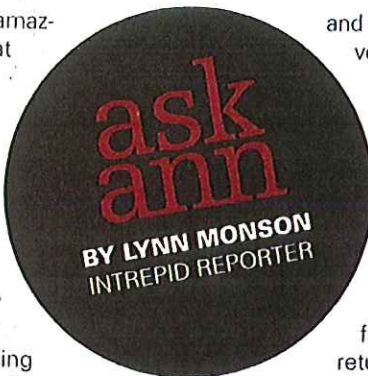
and forced the paddlers to lug their vessels down a steep set of concrete steps in order to return to the river below the dam.

The area now has an open, airy feel as paddlers make their way through a series of nine pools, each lower than the last and separated by a small waterfall. The last of the drops returns the canoeist or kayaker to the river below the dam – no need to portage now.

Even people not interested in paddling the river are drawn to the amphitheater-like ambience of the new trail overlooking the rapids. Boulders next to each waterfall make a great

Zeke Askew has a more animated response to running the Argo Cascades than his boxer, Cheese. Kate Wilson and her dog, Maddie, are in the back. Photo by Lynn Monson

Editor's note: Want to know more about confusing, perturbing, delightful, interesting things around town? Send an email to theannmag@gmail.com and we'll do our best to get



watch the animated expressions of people about to take the plunge over the whitewater drops.

The idea for the Cascades came out of discussions after the state told the city in 2006 that it needed to perform significant repairs to the earthen embankment between the river and the dam bypass. That set off several years of discussions and planning that included the controversial possibility of removing the dam.

The state ultimately agreed that the city could leave the dam in place, repair the bypass embankment and go one step further by creating the Cascades, which, by flowing completely around the dam with no portage, reduce pressure on the embankment. Cheryl Saam, manager of the Argo and Gallup canoe liveries, worked with Matt Naud, the city's environmental coordinator, to promote the Cascades idea during extended discussions with various city departments and committees. The City Council gave final approval.

It was the proverbial "win-win" situation, says Saam. The project met the state's requirements for repairing the embankment, it eliminated the portage for the thousands of people who canoe the Huron every year and it created a fun, new element for the river trips at a reasonable expense beyond what the repairs alone would have cost.

About \$180,000 of the \$1.2 million cost of the state-approved project was for the Cascades portion. Funding for the overall project included \$300,000 from the city's water fund; \$112,500 from Washtenaw County for paving the new trail, which is part of the county's Border-to-Border trail system; and the balance from the city's Park Rehabilitation and Development Millage.

The only rub with the new water facility so far is a fairly significant one: The drops, as designed, are better-suited for kayaks and inflatable floats than they are for canoes. Expert canoeists seem to have no trouble with the drops, even though their canoes take on a fair amount of water when they dip into the whitewater. But novice canoeists – often parents hoping for a leisurely float with their small children – may bump and grind on rocks around the drops and have a greater chance of overturning. Single- or multi-person kayaks, on the other hand, stay higher in the water and float easily over the drops.

As a result, if you rent a kayak, raft or tube at the Argo Livery, you put in above the Cascades, float over the nine waterfalls and go on your merry way down the river. But if you rent a canoe, you must walk past the Cascades and step into one of the canoes the livery has waiting in the

bottom pool of the Cascades. You get to go over only the last drop at the Cascades as you slip into the river below the dam. (If you bring your own canoe you can go down the Cascades.)

Can the Cascades be modified to make them more suitable for canoes and novice canoeists? Maybe. Saam said the plan all along was to open the facility, then tweak it depending on weak points or problems that emerged. The amount of water, and thus the speed of the water, has been adjusted to keep it at a relatively modest 58 cubic feet per second, but even that may be a bit fast for beginners. But if you reduce the flow too much, there's less water over the waterfalls, thus less clearance, and less fun for people who want the whitewater experience.

"We had intended it for the novice canoer ... and it's not at the novice canoer level now," Saam said. "I don't know if it ever will be. Or even if we really want it to be, because people are having a blast where it is. I've had lots of comments of 'don't make it any easier, this is really fun.'"

But with 40,000 to 50,000 people paddling out of the city's canoe liveries every summer, the city wants the Cascades to be accessible for everyone to use and enjoy.

"So we're looking at the drops and seeing if there is anything that can be done to make them a little bit easier, a little bit smoother, a little bit softer, more cushioning possibly. Like, could you put wood or rubber or something on the edge where the rock is?" Saam said.

She said the city will continue to monitor the facility and decide whether modifications should be made either mid-summer or at the end of canoe season.

Meanwhile, kayakers and people using rafts or inner tubes are having a blast.

Sue Finley lives a few blocks from the Cascades and has watched the construction progress. She said the craggy rocks and the sound of the rushing water remind her of Colorado, where she lived for 11 years. The last week of May she took her first trip down the Cascades, on a small inflatable raft, and she was thrilled with the series of drops. But she says even walking along the adjacent pathway is a treat.

"It makes me happy just to walk there," she said. "And sometimes I go there twice a day just to sit on a rock and watch the people and the boats and the flotillas pass by. The geese and ducks and their babies even seem happy and peaceful there. I find myself smiling every time I walk that path."



Recreation Engineering & Planning

BUCK CREEK IMPROVEMENTS & DAM REMOVAL SPRINGFIELD, OH

REP has worked with the Springfield Conservancy District, since 2003 to help create a new vision for the Buck Creek Corridor. REP developed a plan to modify a series of 4 low-head dams along Buck Creek. The dams are still in service, thus a solution that preserved their functionality while improving safety, navigation, and the in-stream environment was required. The first two sites, adjacent to the Springfield Museum of Art and in Historic Snyder Park were completed in May of 2010. Construction is planned for the third and fourth sites in the 2011. Formerly a site of heavy industry, the Buck Creek Corridor is being re-envisioned as a recreational amenity for the community, an attraction for visitors and a model for mid-western states making the transition from an economy based solely on industrial production.



CHIEF ENGINEER:

GARY LACY P.E.

CONSTRUCTION SERVICES:

MIKE HARVEY

JOHN LOFTIS

DATE COMPLETED:

MAY 2010

PROJECT COST:

\$600,000

BEFORE



AFTER



*Fish passage, whitewater,
navigability, safety and a
community park along a
historic industrial corridor.*

REFERENCE:

**MR. PETER K NOONAN
THE SPRINGFIELD
CONSERVANCY DISTRICT
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(937) 390-8800**

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GREAT MIAMI RIVERSCAPE PARK DAYTON, OHIO

The Great Miami River flows through downtown Dayton, Ohio. The flow was obstructed by a river-wide low head dam located downstream of Dayton's Riverscape Park. This site was currently very dangerous for in-stream users due to the recirculating hydraulic that is formed at the base of the dam. The purpose of this project was to remove the current dam while restoring the channel to a more natural appearance. The dam has now been converted to create an attractive environmental and recreational amenity. The resulting project not only provides for increased safety in the river, but serve as an attraction to both residents and out of town visitors who seek an attractive recreational amenity. The net effect of this project has been to transform a dangerous hazard into a popular attraction that stimulates the local economy.



Contact:
Five River Metroparks

Before:



After:



The net effect of this project has been to transform a dangerous hazard into a popular attraction that stimulates the local economy.

Date Completed:

Fall 2016

Project Cost

\$3,200,000

Recreation Engineering and Planning
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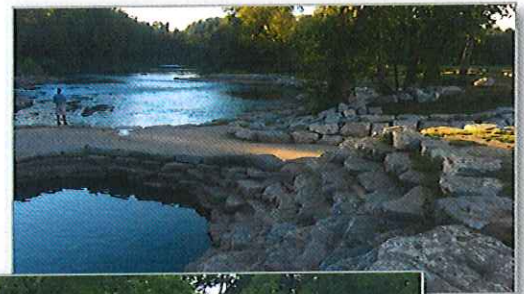


Recreation Engineering & Planning

SIALOAM SPRINGS WHITEWATER PARK

SILOAM SPRINGS, ARKANSAS

The park is the first whitewater park in Arkansas and boasts two white-water features, a swimming pool and cascading waterfall area, picnicking facilities, ample parking, a climbing wall, and changing area for visitors. The project team completed conceptual, preliminary and final designs, cost estimates and construction services for both in-stream and extensive bank and access improvements that made this whitewater park on the Illinois River possible. The park has proven to be a valuable amenity to the community of Siloam Springs, an attraction for visitors and a model for other communities in Arkansas. After opening in early 2014, this park has been a huge success and discussion is underway for future similar river improvements in the area.



CHIEF ENGINEER:

SHANE SIGLE PE

GARY LADY PE

STEWART NOLAND PE

CONSTRUCTION SERVICES:

SHANE SIGLE PE

GARY LADY PE

STEWART NOLAND PE

DATE COMPLETED:

2014

PROJECT COST:

\$1.8 MILLION

The first whitewater park in Arkansas

REFERENCE:

ROB BROTHERS

WALTON FAMILY FOUNDATION

RBROTHERS@WFFMAIL.COM

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Recreation Engineering & Planning

SALIDA WHITEWATER PARK

SALIDA, CO

One of REP's signature parks. With the State's largest historic district and the Arkansas River flowing right through downtown, Salida, Colorado is both a proud example of REP's engineering and a labor of love. Long neglected and abused by both the historic rail corridor on one side and the town on the other, the Arkansas River in Salida was literally cut-off from the community when the Arkansas River Trust initiated this project in the spring of 2000. Through four phases of development a private/public partnership between the City of Salida and the Arkansas River Trust raised \$300,000 in grant funding for this national attraction. With four world class play waves that have hosted national championships in 2006 & 2008, a slalom course, trails, creative bank terracing, a renovated community theater/conference center, outdoor amphitheater, rock climbing wall and restaurants lining the banks of the Arkansas River, this project serves as an example of a community transformed by a whitewater park. REP served as the lead for engineering, planning and Chaffee County's water rights filing .



Whitewater Play park and access improvements in the largest historic business district in the State of Colorado.



CHEIF ENGINEER:

GARY LADY

CONSTRUCTION SERVICES:

GARY LADY

MIKE HARVEY

DATE COMPLETED:

PHASE 4 - MAY 2010

PROJECT COST:

\$600,000

REFERENCE:

MAYOR CHUCK ROSE

CITY OF SALIDA

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719-221-9511

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BEFORE



AFTER:



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Recreation Engineering & Planning

TRUCKEE/RENO WHITEWATER PARK & DAM REMOVAL

RENO, NV

The Reno Whitewater Park has perhaps been the most successful whitewater park, in terms of reviews and usage, ever built. Though located on the banks of the Truckee, Reno has historically turned its back on the river in lieu of its indoor attractions. This changed recently with the completion of the 4.5 million dollar Reno Whitewater Park. Mayor Robert Cashell has called the Reno Whitewater Park the best capital investment project he has made in ten years of being mayor. What was once a deteriorating section of the City has been revitalized to become Reno's greatest natural attraction, and has aided downtown renewal efforts. "A bumper crop of restaurants, shops, galleries, and a 12-screen movie theater now thrive along the river's banks" (The New York Times). In addition, the park represents over \$1 million in free advertising for the city in the first six months alone. Enhancements include natural rock terracing, whitewater features, shaded river-bank seating and beach access. Other features include an outdoor amphitheater, trail system, and large grassy festival area. The Reno Whitewater Park has played host to a national pro kayaking event, and to countless local tubers every day.

CHIEF ENGINEER:

GARY LACY

**CONSTRUCTION
SERVICES:**

MIKE HARVEY

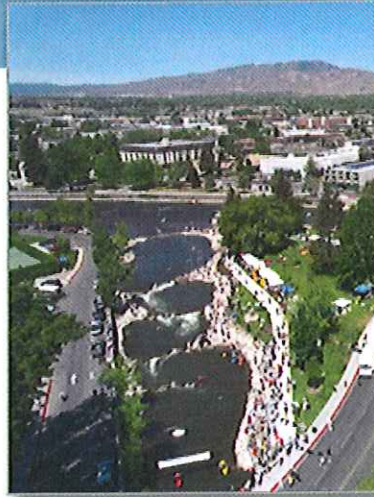
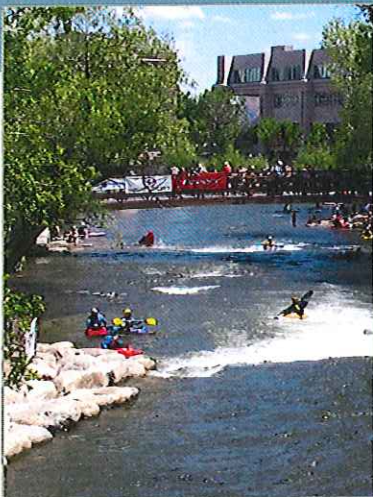
DATE COMPLETED:

FALL 2003

PROJECT COST:

\$1.3 MILLION

The benchmark project for whitewater parks as urban revitalization projects.



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REFERENCE:
JAMES B. LITCHFIELD, HYDROLOGIST
FLUID CONCEPTS
1510 LAND STREET
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775-544-9963
JIM@FLUIDCONCEPTS.BI

WEST PLAINS DIVERSION

PUEBLO, CO

The West Plains Diversion supplies water from the Arkansas River to the Aquila Power Plant. The 14foot high dam was a documented threat to public safety and was a fish blockade. REP worked with the City of Pueblo and the US Army Corps of Engineers on a section 206 project to transform this denuded and channelized section of the Arkansas River into a park accessible to residents and visitors interested in a variety of outdoor recreational activities, from fishing, walking and jogging to tubing, wading, and kayaking.

The finished park included eight drop structures that distributed the drop of the original dam throughout a 1400foot reach. Each drop creates a unique whitewater feature suitable for recreational kayaking, and allows fish to migrate upstream. The seven large pools created in the project serve both as fish habitat and recovery areas for boaters. The original diversion capabilities at the dam were not negatively impacted.

CHIEF ENGINEER:

GARY LACY P.E.

**CONSTRUCTION
SERVICES:**

MIKE HARVEY

JOHN LOFTIS

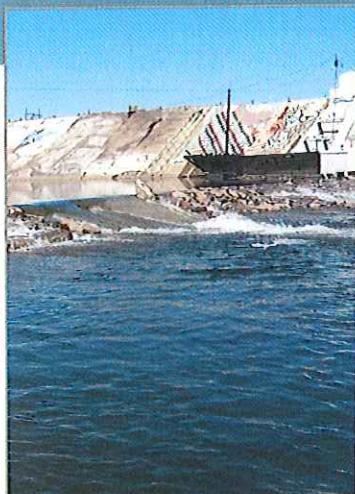
DATE COMPLETED:

SPRING 2005

PROJECT COST:

\$1.2 MILLION

BEFORE



AFTER



Fish passage and whitewater features designed to eliminate a dangerous hazard and improve aquatic habitat in an impacted, urban stream.





Recreation Engineering & Planning

MANCHESTER WHITE WATER PARK

MANCHESTER, IOWA

The park that brought Manchester its 2015 Iowa River Town of the Year award. The park consists of 6 drops and spans over 800ft in length. Reconstruction of the river began with the demolition of a dilapidated and dangerous 10 foot high dam. The project includes shoreline restoration and beautification with improved access points and terracing. The primary "U structures" create waves and holes catering to recreational and freestyle kayakers and stand up paddleboarders. The project team worked closely with Iowa DNR fisheries to open the area for fish and mussel propagation. Within two months of opening eight new species of fish were tagged moving upstream of the park. The primary users will be bank users and people watchers, but whitewater enthusiasts including kayakers, canoeists, rafters, tubers, swimmers and boogie board/surfers frequent the park.

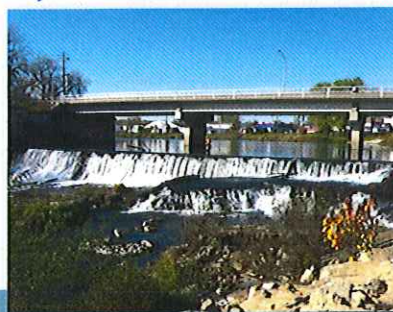


"The stunning new whitewater park is a huge milestone for Iowa and the Maquoketa River," said Jerry Peckumn, Board Chair of Iowa Rivers Revival (IRR).



Before

After



PROJECT ENGINEER:

SHANE SIGLE, P.E.

**CONSTRUCTION
OBSERVATION:**

TY GRAHAM &
SHANE SIGLE, P.E.

DATE COMPLETED:

MAY 2015

PROJECT COST:

\$1.8 MILLION

Mayor Milt Kramer said he considers the white-water course one of the top development efforts accomplished during his nearly 41 years in office."

"It's been very well received," said Mayor Milt Kramer, who has "been down there nearly every day" collecting feedback from river visitors.

RECREATION ENGINEERING AND PLANNING
485 ARAPAHOE AVE.
BOULDER, CO, 80302
PHONE: 303.545.5883
WEB: WWW.BOATERPARKS.COM
E-MAIL: INFO@BOATERPARKS.COM

REFERENCE:

MILT KRAMER
MAYOR OF MANCHESTER
563-927-3636

Charles City Dam Modification/Removal Project

Charles City, Iowa

Charles City was selected for the U.S. Environmental Protection Agency's 2014 National Award for Smart Growth Achievement and the Iowa River Town of the Year Award 2012. This award sheds light on the groundbreaking and forward-thinking vision of the community when deciding how to mitigate the former "beauty dam". Not only had the dam killed multiple people over the years, it created an ecological barrier that further decimated the already fragile ecosystem in the area. The consulting team guided the community vision and incorporated the community desires to create this successful dam mitigation project.

Shane Sigle PE managed the project beginning at the feasibility stages of the project and quickly understood the desires of the community. The design incorporated elements of ecological connectivity, fish passage and habitat enhancement, instream navigation and recreation, and bankside amenities. The project created something for everyone.

Shane worked closely with the Iowa Department of Natural Resources during the design of the fish passages and habitat enhancement features, and have continued to work with them on designs across the state. The three grade control structures, used to account for the original hydraulic drop at the dam, have industry leading fish passage channels that have proven to be effective while increasing navigational safety.



Reference:

Tom Brownlow (Retired)
City Administrator
105 Milwaukee Mall
Charles City, IA 50616

Note: Project lead consultant was
Recreation Engineering and Planning

"Capitalizing on the river's natural features to help prevent future flooding, Charles City turned the river from an obstacle into an ecological and social benefit. Members of the community were involved in the park's design and construction. Riverfront Park is a model of how to strategically use flooded properties to create a sustainable & economically valuable amenity." -Press Release

Riverwise Engineering

PO Box 706
Durango, CO 81301
Phone: 303 808 7734
Web: www.riverwise.org
E-mail: info@riverwise.org



Recreation Engineering & Planning

CALGARY WEIR MODIFICATIONS

CALGARY, ALBERTA

The Bow River Weir in Calgary, Canada, presented an extremely dangerous obstacle. Located near the downtown area, the weir has been the site of numerous fatal accidents. REP was tasked from early conceptual phases, through detailed design and modeling, and ultimately construction. With modifying the dam for public safety, whitewater and fish passage, in order to transform a liability into a recreational amenity. The project which is being built by the Provincial Government of Alberta has required multiple layers of regulatory permitting. It features 12 white-water features, and includes an independent novice/canoe channel. The project maintains the functionality of the active diversion while eliminating the dangerous conditions that were created at the weir. REP completed physical modeling and detailed hydraulic design with Northwest Hydraulics Consultants (NHC).



ENGINEERING:

REP

KLOHN CRIPPEN BERGER LTD.

CONSTRUCTION SERVICES:

REP

KLOHN CRIPPEN BERGER LTD.

DATE COMPLETED:

UNDERWAY - COMPLETED BY

SUMMER 2011

PHYSICAL HYDRAULIC

MODELING:

REP

NHC

PROJECT COST:

\$16 MILLION

*This project is the largest
recreational, safety
improvement at a dam
in North America.*

REFERENCE:

AL NILSON

ALBERTA INFRASTRUCTURE & TRANS-
PORTATION

2ND FLOOR TWIN ATRIA BUILDING

4999 98 AVENUE

EDMONTON, ALBERTA T6B2X3

780-422-7630

780-422-7630

RECREATION ENGINEERING AND PLANNING

485 ARAPAHOE AVE.

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Appendix C – Streambank Stabilization and Recreational Feature
Construction Detailed Proposal

Streambank stabilization and whitewater feature construction will begin following completion of engineering design. To start field work we propose to conduct an on-site kick-off/pre-construction meeting with the Owner at Owner's offices and/or at the Site. During this meeting we will identify key project personnel, contact information for our key personnel, review scope, schedule and budget for the effort and work proactively with Owner's representative and project stakeholders, such as the Army Corps of Engineers (ACOE), State of Kansas and others to ensure the work is performed to the satisfaction of the Owner.

Preliminary Requirements

Construction of the whitewater features will require engineering design and permitting before a final scope, budget and schedule can be developed. Our proposal identifies costs which we believe are accurate based on the conceptual design included in the Request for Proposals. Final detailed costs will be prepared and submitted after the final design is published by Recreation Engineering and Planning (REP).

In addition to acceptance of a final design consistent with the conceptual design provided in the RFP, we have identified these critical assumptions which serve as the basis for the following construction plan:

1. The City of Lawrence will allow use of the parking lot west of the Riverplace DPS offices as a lay-down area and for construction offices.
2. The City of Lawrence or the owner of the undeveloped property west of the DPS Offices will grant access and an easement for access to the river.
3. The City of Lawrence or the owner of the undeveloped property west of the DPS Offices will allow clearing and grading the property for river access.
4. Access to the project site will be from a new (temporary) road at river right.
5. The US Army Corps of Engineers will permit placement of 450 tons of aggregate for the access road.
6. The City of Lawrence will exempt the access road from 5% grade for handicap access and allow a 10% grade for river access.
7. The work will only be performed during low water conditions.
8. The quantity of limestone armor procured and placed will not exceed 2,500 tons.
9. The quantity of limestone rip-rap procured and placed will not exceed 500 tons.

Work Site Access

TSP's approach to the project is to gain access to the work area via river right; the south bank of the Kansas River. This will require access authority from the City of Lawrence (and/or Owner of the properties to be accessed) immediately east of the city parking lot adjacent to and along Riverfront Plaza. Since TSP will be "adding" material to the river, an ACOE permit will be required prior to construction; this service will be provided by REP during the design phase of the work. We anticipate needing to access the site by constructing an access road using approximately one and one-half acre of undeveloped property east of the existing parking lot. Upon obtaining authorization for use of the property, TSP's Civil Engineering subcontractor will perform a topographic survey of the access property and the proposed access road. Engineering plans and details will then be expedited to allow TSP to start construction immediately after clearing the access area.

The access area will be cleared and grubbed, with all chipping debris hauled off-site and properly disposed by our clearing subcontractor. Once the area is cleared, TSP will immediately begin construction of the access road to the work area. This will involve excavating approximately 5,000 cubic yards in place (CIP) to create the new grade from street level to water level at the time of the work, an approximate 30-foot difference in grade. At present we plan to cut a 20-foot wide path to the river. This will leave an approximately 12-foot wide access road with aggregate "shoulders" to accommodate stormwater runoff. Since the soil from this area is not believed to be contaminated with any deleterious materials, we have included a budget for hauling and dumping at our subcontractors' dump site. (If the City of Lawrence requires disposal in a Type II land disposal facility, additional charges will apply). After completing the required "cut" to the new road site, we will stabilize the grade using geotextile fabric and aggregate. We anticipate using non-woven geotextile over the entirety of the cut, down to the river elevation. Coarse aggregate, ranging in size from one to three inch ("1x3") will be used as the road base and then smaller one-inch aggregate will be used to "choke" the larger aggregate and finish the travel surface for trucks. The shoulders will be "armored" with larger rip rap, as required to dissipate the energy of stormwater runoff. With exception of materials, construction of the access road, along the south bank of the Kansas River, will continue in the same manner as construction of the access road. TSP proposes to use 8-inch rip rap as the base and 4-inch and down limestone for the temporary road travel surface. This will allow access by off-road as well as on-road trucks for materials delivery. The access road will be approximately 10- to 12-feet wide and is expected to be up to 750 feet long the river right bank.

Construction of In-river Structures

Once the access road is completed, TSP will begin with construction of the south bank of the recreational amenity. We anticipate using 18-inch to 24-inch limestone rip rap as the base of the feature. Base stones will be placed and "set home" using a hydraulic excavator with hydraulic thumb. In so doing we can place the rock in locations required to minimize separation (voids) between the base stones and set them securely into the river bottom at their permanent location. It is our experience that minimizing voids between the base stones minimizes eddy currents, which can scour or undermine base stones. TSP plans to work from east to west across the site, setting base stones and then terracing above the water elevation to the approved design elevation using the excavator. Limestone rip rap will be delivered to the work area from the temporary road via off- and on-road trucks as required. We propose to "lock in" the base stones and subsequent layers using on-site mined aggregate deposited at or near the work area in the Kansas River. We also propose to terrace up the south bank along the recreational amenity as construction proceeds from east to west across the Site. In so doing we will concurrently accomplish two tasks – saving the Owner time and money.

Construction of the drop features is expected to proceed immediately after the south bank work is completed. Mr. Ronald E. Swan, PE or Mr. Jerry Heinrich, EIT will supervise construction of the drop features to the exacting dimension provided by the approved REP design. TSP is very experienced at setting large rip rap keystones required to prevent undermining of drop structure chute. TSP staff are also expert at setting rip rap to the slope and width dimensions then grouting the rip rap to achieve the required dimension for creating whitewater downstream of the chute. Each drop structure will be constructed by TSP management and staff that has successfully completed similar projects. TSP anticipates working from south to north across the drop structures to reach the work area of the north flood resistant cofferdam and future maintenance access structure. Work will proceed from drop

structures to each northern terminus, as required to complete the structure. TSP proposes to utilize the same means and methods as used to construct the south structure and will add the design-required tie-in of the cofferdam structure to the Bowersock Dam, per the approved design.

TSP staff will work progressively with REP engineering staff to assure the approved design is constructed per plans and details. In the event unforeseen or previously unknown conditions are discovered, TSP staff will immediately bring it to the attention of REP staff and will work hand-in-hand with REP to develop a cost-effective and timely solution.

Out-of-River Construction

Upon completion of the in-river work, TSP anticipates removing equipment from the work area and turning over the structures to REP staff for dynamic testing. In the event the drop features do not perform as expected, such as Class I instead of Class II Whitewater, TSP staff will work directly with REP to achieve the desired result. During dynamic testing, TSP proposes to construct the concrete portage trail. The trail is anticipated to be placed, to the extent possible, over the temporary road rip rap and limestone travel surface. In so doing, the materials used for the temporary road will serve as the base of the new 10-foot wide approximately 500-foot long portage trail.

TSP Anticipates successful completion of the project and as such, the Site will become a focal point of local and regional paddlers, boaters and whitewater enthusiasts. It has been our experience that such a recreational amenity can result in 300 to 500% increase in traffic to a site. In anticipation of an increase in recreational usage, TSP recommends including budget items for the following:

- A boat/canoe/kayak launch site at the Kansas River.
- Restoration or improvements to the parking lot between the river access and Riverfront Plaza.
- Landscaping the river access area with native seed mix, shrubs, and trees.

Conclusion

TSP believes it has assembled an expert team to perform the Bowersock Dam repairs, Recreational Engineering and Construction that is expected to turn a routine civil repair project into a regional recreational amenity. TSP appreciates the opportunity to propose on the work and will be happy to answer any questions the Owner may have in consideration of our proposal and our project team.

Appendix D – Proposed Schedule

ID	Task Name	Duration	Qtr 1, 2019			Qtr 2, 2019			Qtr 3, 2019			Qtr 4, 2019			Qtr 1, 2020				
			Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
1	Contract Award	0 days																	
2	Pre-Construction Submittals	3 mons																	
3	Dam Repairs	6 mons																	
4	Preliminary Design	3 mons																	
5	Permitting	3 mons																	
6	Final Design	3 mons																	
7	In-River Construction	5 mons																	
8	Out-of-River Construction	1 mon																	
9	Testing	1 wk																	
10	Punchlist	3 wks																	
11	Project Completion	0 days																	



Project: Proposed Schedule Outline
Date: Mon 11/5/18

Legend:

- Task: Blue hatched bar
- Split: Dotted line
- Progress: Solid black bar
- Milestone: Diamond
- Summary: Thick black bar
- Project Summary: Arrow
- External Tasks: Grey bar
- External Milestone: Diamond
- Deadline: Arrow

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Appendix E - Resumes of Key Personnel

RONALD E. SWAN, JR.

President & Principal Engineer



EDUCATION

Master of Science & Engineering
Hazardous Waste Management
Wayne State University, 1994
Bachelor of Science & Engineering
Chemical Engineering
University of Michigan, 1981

LICENSES AND CERTIFICATIONS

Registered Professional Engineer, MI
(#6201039714), WI (#32839), FL
(#74280)
API-653 Storage Tank Inspector (#32328)
API-570 Piping Inspector
Steel Tank Institute SP-001 (#14808)
Certified UST Professional – State of
Michigan (#000567)
Asbestos Building Inspector
Asbestos Contractor/Supervisor
Asbestos Management Planner
Asbestos Project Designer
Certified Stormwater Operator [B3-b]
Certified Waste Water Treatment
Operator [A-1i]
Environmental Management System
Auditor [EMS-A], ANSI-RAB
(E051954)
Lead Supervisor
OSHA Hazardous Waste Operations and
Emergency Response Training:
40-Hour Site Operations; 8-Hour
Site Supervisor; 40-Hour Train-
the-Trainer
City of Detroit Licensed Wrecker, Class B
Residential Builder
American Red Cross CPR / First-Aid
Certified

AREAS OF SPECIALIZATION

Aboveground Storage Tanks
Brownfield Redevelopment
Environmental Assessment & Testing
Hazardous Waste Remediation
River / Whitewater Construction
Streambank Stabilization
Underground Storage Tanks

PROFESSIONAL BACKGROUND

Mr. Swan has over 30 years of diverse environmental engineering experience ranging from consulting engineering to directing technical staff and business operations. Mr. Swan's direct experience includes: due diligence / site investigations and data collection, interpretation, methodology implementation, and documentation; report preparation for on-site work; construction and demolition design and specifications; contracting and contractor observation and oversight; hazardous materials and waste management; remediation and site closure; above-ground and under-ground storage tank system design, removal, replacement and site restoration; brownfield remediation and redevelopment; and hazardous waste site investigation, characterization, and remediation.

As Principal Engineer, Mr. Swan is responsible for all visual inspection (VT) of above-ground and under-ground storage tanks as part of integrity inspection process. His responsibilities include the technical methodology, oversight and direction of staff during non-destruction testing procedures (ultrasonic thickness testing [UT], magnetic particle testing [MT], vacuum box testing [VB], dye penetrant testing [DP] and magnetic flux leakage scanning [MFL] of tanks). Performed inspection on ASTs ranging from 1,000 to 3,500,000 gallons including fixed and floating roof tanks.

MAJOR PROJECT EXPERIENCE

MICHIGAN INDUSTRIAL FINISHES DEMOLITION & SITE RESTORATION

State of Michigan, Hamtramck, MI | 2016-2017

Role: Project Manager

Demolition and remediation of a former industrial paint manufacturer. The MIF site had a significant history of environmental non-compliance which led to the State of Michigan taking over their abandoned facility in 2005. Mr. Swan led the remediation effort which included demolition of the 15,000 square foot building, excavation of 20,000 tons of contaminated soil, and disposal of 70,000 gallons of contaminated groundwater. Mr. Swan also managed the construction of an in-ground stormwater detention system and numerous catch basins to mitigate the effects of runoff. The site was restored with 20,000 tons of Class III sand and a surfacing layer of 21AA crushed concrete.

SCOTIA PARK DRAINAGE IMPROVEMENTS

City of Huntington Woods, Michigan | 2017

Role: Project Manager

Implementation of a landscape design to promote improved drainage of the 37,000 square foot park. This green infrastructure project consisted of relocating trees, constructing two "rain gardens" to collect rain water from the park and divert it from the municipal sewer system, site grading, and the construction of an ADA-compliant walking path using permeable paving materials. Mr. Swan managed the excavation and grading of 10,000 square feet of park space, coordinated subcontractors for paving 1,500 feet of walking path, planting 17 species of plants, and moving a rare species of tree.

SULFURIC ACID TANK INSPECTION AND REPAIR

PVS Nolwood Chemical, Detroit, Michigan | 2017

Role: Project Manager, API-653 Inspector

Inspection of a 30,000-gallon sulfuric acid tank following a documented leak at PVS's facility in Detroit. Site work consisted of a full internal inspection conducted by Mr. Swan with support from nondestructive testing technicians who collected data about the tank under Mr. Swan's direction. By analyzing data collected and reviewing research on best practices for storing sulfuric acid, Mr. Swan developed a repair plan for the tank. PVS asked Mr. Swan to assign his repair team to the tank to ensure the appropriate protocols were followed. After repair, Mr. Swan conducted a final inspection and certified the tank.

FORT RANDALL DAM SURGE TANK FLOOR EXAMINATION

US Army Corps of Engineers, Fort Randall Dam, South Dakota | 2016

Role: Project Manager, API-653 Inspector

Tank floor examination of a 2,000,000-gallon, 59-foot diameter AST using the procedures established in API-653 Appendix G. Mr. Swan, a certified tank floor examiner, mobilized to the site with a confined space entry crew to inspect the tank. Mr. Swan visually inspected the tank floor for corrosion, distortion, and obstacles. MFL scanning with UT prove-up followed. Work concluded with a report of findings authored by Mr. Swan showing the location of each MFL indication, the UT measurements, and photographs of the floor condition.

TEXTILEATHER SITE REMEDIATION

City of Toledo, Ohio | 2015-2016

Role: Project Manager

Remediation of a 40-acre former industrial site in preparation for future development. Work crews led by Mr. Swan excavated and sent for disposal nearly 500 tons of VOC and NAPL contaminated soils, over 2,000 tons of PCB-impacted soils, and nearly 1,000 tons of hazardous PCB-impacted demolition debris. Using procedures developed by Mr. Swan, an additional 1,000 tons of PCB-impacted concrete was decontaminated for non-hazardous disposal and 80,000 gallons of PCB-impacted water were treated on site and discharged into the sanitary sewer under a special discharge permit.

SILOAM SPRINGS KAYAK PARK

City of Siloam Springs, Arkansas | 2014-2015

Role: Project Manager

Construction of whitewater and habitat improvements in the Illinois River at Fisher Ford under contract with the City of Siloam Springs, Arkansas. The \$2M project involved 600' of engineered river which was expanded to create two distinct rapids for whitewater recreation. Scope included roadways, paving, and gates; 40,000 SF of concrete flatwork; placement of climbing and perimeter boulders; construction of 600 SF changing building; installation of picnic tables; placement of 2,000 tons of rip rap, swales, and river accesses; 4,000 tons riverside whitewater and habitat improvements; plants and shrubs re-vegetation; and stormwater controls.

SUPERFLITE OIL TANK REPAIRS

SuperFlite Oil, Swartz Creek, MI | 2014-2015

Role: Project Manager, API-653 Inspector

Inspection and repair of seven horizontal ASTs at a facility in Swartz Creek, Michigan, which had been recently purchased by SuperFlite Oil as a new site for fuel storage and distribution. Mr. Swan performed API-653 inspections of all seven tanks which identified interior pitting, exterior corrosion, coating failures, and damaged saddles. Mr. Swan provided SuperFlite with repair recommendations which were accepted by the Owner.

Mr. Swan then provided oversight of the repair activities. Repairs included installing 36 patch plates on the interior of the tanks, repairing pitting by placing dozens of puddle welds, media blasting the tank exteriors to bare metal, installing new exterior coatings, and repairing the concrete saddles. Mr. Swan also oversaw the work of a subcontractor who installed a new impermeable liner in the secondary containment area. Work concluded when Mr. Swan provided a certification that the tanks were fit for service.

TROY AQUATIC HABITAT RESTORATION

City of Troy, Michigan | 2013-2014

Role: Project Manager

Streambank and aquatic habitat renovation and restoration project under contract with City of Troy with project funding by the National Oceanic and Atmospheric Administration (NOAA) Project eliminated the low head dam and conduits and re-designed culverts and streambanks to remove impediments to migrating fish and aquatic species. Scope involved installation of bypass piping to maintain flow while repairs were made; new foundations and cast-in-place reinforced concrete wing; new pre-cast box culverts; new bypass/overflow RCP between headwalls; new concrete sidewalks; and streambank restoration.

WATER STREET REDEVELOPMENT AREA

City of Ypsilanti, Michigan | 2009-2010 & 2017

Role: Project Manager

Abatement and remediation efforts required in conjunction with demolition to clear the 40-acre site for future redevelopment. Scope involved abatement of hazardous materials, demolition of (16) structures, soil remediation, and backfilling. Nearly 10,000 tons of debris was removed for off-site recycling, and concrete, brick, and block were recycled on-site for re-use in roadways and walking paths. A follow-up project at the same site required

JERRY HEINRICH

Project Manager



EDUCATION

Bachelor of Science & Engineering
Electrical Engineering
University of Michigan, 1989

LICENSES AND CERTIFICATIONS

Confined Space Entry
Engineer in Training
First Aid / CPR / AED
OSHA Hazardous Waste Operations and
Emergency Response Training:
40-Hour Site Operations
OSHA 30-hour Construction Safety
Residential Builder

AREAS OF SPECIALIZATION

Lift Station Upgrades
Specialty Coatings
Foundations

PROFESSIONAL BACKGROUND

Gerald Heinrich has more than 40 years of diverse construction and engineering experience including the design and installation of electrical and mechanical systems. His direct experience includes design and fabrication of back-up generator systems, supervision of electrical and plumbing contracts, concrete and soil testing, system startups and troubleshooting, and construction project management.

Mr. Heinrich utilizes his electrical engineering expertise in systems integration efforts and the design of control systems including pumping stations, carbon filtration systems, automation, alarm systems, and SCADA systems. His mechanical engineering skills and experience aid in the design of hybrid pumping systems including electrical controls and piping.

He also contributes expertise in foundation work including structural footings and poured walls; installation of piping; electrical hook-ups; variable frequency drives; system programming; and subcontractor management. As a Project Manager, he is responsible for securing all project resources including manpower and equipment, project scheduling, budgeting, quality control, safety, and client satisfaction.

MAJOR PROJECT EXPERIENCE

KYTE MONROE PARK STORMWATER IMPROVEMENTS

City of St. Clair Shores, MI | 2016
Role: Project Manager

The City of St. Clair Shores hired TSP to replace the parking lot at Kyte Park with a new, more environmentally conscious design. Mr. Heinrich took responsibility for the work. Under his leadership, 15,000 square feet of porous pavers and 3,500 square feet of asphalt replaced the original earth and gravel parking area. Mr. Heinrich also constructed new bioswales around the parking lot capable of diverting 96,000 gallons of water away from the municipal sewer system. The project required a tight schedule, with the contract issued in April and completed before the 4th of July celebration at the park. In recognition of Mr. Heinrich's efforts, TSP was given the American Public Works Association 2017 Project of the Year Award.

WIXOM HABITAT PARK STREAM MITIGATION

Mannik & Smith Group, Wixom, MI | 2016-2017
Role: Project Manager

Mr. Heinrich led the project to restore 850 feet of a tributary stream. The work began with implementing temporary erosion control measures, stripping topsoil, and removing specified trees to prepare the site for excavation. Under Mr. Heinrich's direction, TSP staff opened the canopy to allow for the growth of understory vegetation and provided woody material for the restoration structures. Herbicide was applied to the riparian area, followed by installing in-stream structures including rootwads, toe wood/sod mat, fabric-encapsulated lifts, alluvial and constructed riffles. Off-channel ponds and floodplain benches were constructed and graded.

USCG DRYDOCK REPAIRS

US Coast Guard, Detroit, MI | 2014-Present

Role: Project Manager

Mr. Heinrich is the project manager for a series of projects to perform media-blasting and application of epoxy, polysiloxane, and zinc (organic and inorganic) marine coatings for the preservation of multiple U.S. Coast Guard vessels in the Great Lakes. Mr. Heinrich has performed innovative repairs involving media-blasting the thins of drives to recondition them for re-use. Work is completed on tight schedules with closely-monitored phasing to complete repairs as quickly as possible, minimizing the time during which each vessel is unavailable for service.

VAN BUREN TOWNSHIP LIFT STATIONS

Van Buren Township, MI | 2014-2015

Role: Project Manager

The project consisted of rehabilitating three existing pump stations including complete retrofitting and refurbishment of the existing sanitary sewer lift stations and installation of new 1-1/4" and 3" HDPE directional-bored force mains. Mr. Heinrich led the effort to install two prefabricated, dry-well stations and one wet-well station along with new floats, conduit, control panels, alarms, SCADA system integration, and aluminum generator enclosures. Mr. Heinrich successfully implemented a comprehensive plan to complete the project with less time spent bypassing the lift stations than originally designed by the Owner's Engineer. The project was completed on time with no disruption to the residents served by the lift stations.

TABANI RETAIL CENTER VAPOR BARRIER

Tabani Group, Woodhaven, MI | 2014-2015

Role: Project Manager

Mr. Heinrich was the project manager responsible for environmental compliance during the construction of a new retail store in Woodhaven. The project site was formerly a petroleum refinery which had caused significant contamination of the soils beneath the proposed retail store. Mr. Heinrich managed the remediation of the property and the installation of helical piles to provide a stable foundation for the new building. Once construction was underway, Mr. Heinrich installed a GeoSeal® vapor barrier to prevent migration of VOCs and SVOCs from subsurface contamination into the building environment.

TROY AQUATIC HABITAT RESTORATION

City of Troy, Michigan | 2013-2014

Role: Assistant Project Manager

Streambank and aquatic habitat renovation and restoration project under contract with City of Troy with project funding by the National Oceanic and Atmospheric Administration (NOAA). Mr. Heinrich was responsible for the concrete construction portions of the project. Mr. Heinrich led the installation of four new poured concrete wing walls using decorative forms to simulate a brick design. Mr. Heinrich was also responsible for reconstructing portions of the road and sidewalks which were removed to allow the project to proceed

DAVID PACHAN

Project Manager



EDUCATION

Master of Science
Geology
University of Texas 1991

Bachelor of Science
Geology
Wayne State University 1987

LICENSES AND CERTIFICATIONS

Certified Storm Water Management
Army Corps of Engineers Construction
Quality Control Systems Manager

Chance Certified Helical Pile Installer
Risk Based Corrective Action Training
(MDEQ)

Certified En-Cap Professional
MSHA New Miner Training
10 Hour OSHA Construction
8 Hour Hazardous Waste Operations &
Emergency Response Training
40 Hour HAZWOPER Training
Maintained 8 Hour HAZWOPER Refreshers

AREAS OF SPECIALIZATION

Alternative Remedial Technology Design
Budget Management, Estimation,
Projections, Implementation &
Tracking

Construction Management
Corrective Action Plan Implementation
Deep Foundation Specialist
Emergency Response – Health & Safety
Plan Preparation &
Implementation, Air Monitoring
Plan Preparation, & Contingency
Planning

Expert in Remedial Design, Application,
Implementation & Operation,
Maintenance & Management

Health & Safety Management
RCRA Waste Analysis Plan Preparation,
Implementation, Training &
Oversight

Surface Water Management
Spill Assessment and Remediation
Waste Stream Management, Hazardous &
Non-Hazardous

PROFESSIONAL BACKGROUND

Mr. Pachan has 26+ years of experience in the environmental/remediation industry. His strengths lie in the ability to be a team player, with excellent communication and management skills, both written and verbal, between internal and external customers, as well as with State and Federal Agencies, Union and Non-Union employees, contractors and subcontractors. He has experience in bedrock drilling programs, soil and groundwater investigations, groundwater extraction, groundwater disposal, air sparge/soil vapor extraction with experience in soil vapor treatment. He is trained and has participated in a variety of emergency response situations, and has managed emergency response activities and personnel from both the office and the field. He has written/prepared all phases of environmental reports, Phase I ESAs, Phase II ESAs, IARs, FARs, Regulatory closure reports for projects in Michigan, Indiana, and Ohio, work plans, feasibility studies, SPCC plans, SWPPP plans, NPDES permits.

SELECTED LIST OF EXPERIENCE

IN HOUSE PROJECT MANAGER

Major Petroleum Retailer - Midwest
Role: Project Manager

Environmental project management – reported directly to the Western Division Vice President, managed a 4,500,000 environmental budget. Hired environmental consultants and environmental subcontractors, reviewed qualifications of environmental laboratories, reviewed safety records for consultants, subcontractors, and vendors. Auditor of vendor bids, project oversight of site investigations, remedial design, remedial implementation, operation and maintenance oversight. Provided technical support during local, state, and federal compliance audits. Trained field and office personnel on equipment usage, health and safety, and project management.

ENVIRONMENTAL REPRESENTATIVE

Major Petroleum Retailer-Midwest
Role: Environmental Representative

Environmental representative – reported directly to Central Division Vice President, managed 2,500,000 budget. Prepared expenditure budgets for over 100 environmental projects, managing all other aspects of the environmental projects, monitoring and ranking consultants and contractor's performance, worked closely with the environmental management, maintenance management, retail sales management, real estate department, and legal department on all aspects of environmental property risk management.

PROJECT MANAGER

Marathon Petroleum
Role: Project Manager

Maintained and managed health and safety program/manual. Estimated all construction budgets and cost projections. Coordinated all construction activities through final closeout. Risk assessment through final construction and closeout with the highest regard for protection of the company and client's interests.

DAN PURO

Operations and Logistics Manager



EDUCATION

Diploma
Business and Industry Co-Op

LICENSES AND CERTIFICATIONS

Commercial Driver's License
First Aid CPR AED Card
DOT Supervisor Training Certificate
Osha 30 – Construction Certificate

Professional Background

Mr. Puro has thirty-one years of experience in the transport industry, with broad expertise and skill in managing the scheduling of deliveries and drivers. He possesses a sound knowledge of construction management and the ability to work in fast paced environments. He has explained and interpreted plans and contract terms to workers, administrative staff and clients, while representing the engineer or owner. Mr. Puro has a proven track record of communicating effectively to build and maintain relationships both internally and externally, and to negotiate agreements with vendors to improve efficiency and increase profit. He has a practical leadership approach to manage workplace change, with a focus on customer satisfaction. Mr. Puro also has experience obtaining the necessary permits to transport loads.

MAJOR PROJECT EXPERIENCE

MICHIGAN INDUSTRIAL FINISHES

State of Michigan, Hamtramck, MI | 2017
Role: Operation & Logistics Manager

Mr. Puro provided critical assistance to the Project Management staff in starting and performing demolition and remediation at the Michigan Industrials Finishes site. His first tasks included installing a new chain link fence, removal of abandoned railroad tracks, and clearing of dead vegetation. Demolition of the building required the expertise of Mr. Puro regarding segregation of recyclable materials from non-recyclable waste and preparation of materials for transportation off site. The soil remediation process required Mr. Puro to coordinate hauling more than 20,000 tons of contaminated soil and an import of an equal amount of clean fill. Mr. Puro provided daily updates to the Owner's Engineer of material quantities imported and removed. Mr. Puro was also responsible for the staffing levels and qualifications required at each stage throughout the project.

TROY AQUATIC RESTORATION PROJECT

City of Troy, Lane Drain-City of Troy | 2014
Role: Operation & Logistics Manager

Mr. Puro organized a systematic delivery schedule of 15 truckloads of topsoil, 300 pounds of seed, 100 rolls of straw matting and, several water pumps which he rented for the project. Responsible for the supply chain, he arranged deliveries of material to the job site by collaborating with key personnel, clients, and vendors with whom he established relationships. Mr. Puro adapted quickly to changing project conditions and negotiated pricing and delivery requirements with vendors and drivers, which resulted in necessary expedited delivery, which led to the successful completion of the project.

MARKET 103 REMEDIATION

State of Michigan, Attica, MI | 2015

Role: Operations & Logistics Manager

Mr. Puro began the project by mobilizing personnel and equipment to cut and remove the pavement from the excavation area. Excavation resulted in the removal of 1,520 tons of contaminated soil, along with cleaning, removal, and recycling of four 800-gallon underground storage tanks. Over 4,500 gallons of liquids were removed and transported for proper disposal. Restoration of the site required Mr. Puro to coordinate importing 1,855 tons of Class II sand, and 200 tons of 21AA gravel to conclude the remediation effort.

OAKMAN BOULEVARD REMEDIATION

State of Michigan, Detroit, MI | 2015

Role: Operations & Logistics Manager

The major elements of work that Mr. Puro was responsible for included site security, dewatering, the excavation, transportation, disposal of impacted soil, and site restoration consisting of backfill and compaction. His responsibility for transportation included removing 3,929 tons of contaminated soil and bringing 4,206 tons of clean product to the site including sand, topsoil, and crushed stone. The excavation areas and remaining areas where asphalt was removed was finished with clean crushed stone to complete the site restoration activities.

ROBERT SHERBY

Project Engineer



EDUCATION

Bachelor of Science in Engineering
Computer Science
University of Michigan (2005)
Master of Business Administration
Michigan State University (2008)

LICENSES AND CERTIFICATIONS

Asbestos Building Inspector
First Aid / CPR / AED
Notary Public
OSHA Hazardous Waste Operations and
Emergency Response Training:
40-Hour Site Operations
UltraAnalytix™ Fiberglass Tank Inspector

AREAS OF SPECIALIZATION

Aboveground Storage Tanks
Environmental Assessment & Testing
Finance & Accounting
Information Technology

PROFESSIONAL BACKGROUND

Mr. Sherby has nearly 10 years of combined environmental engineering experience related to aboveground storage tanks, hazardous and non-hazardous material remediation, streambank stabilization, and building demolition. Mr. Sherby has performed data analysis and reporting on hundreds of projects including aboveground storage tank inspection, asbestos inspection, mold assessment, Phase I and Phase II Environmental Site Assessments, and universal waste inventories.

MAJOR PROJECT EXPERIENCE

MAHLE INDUSTRIES HYDROCHLORIC TANK INSPECTION

MAHLE Engine Components USA, Atlantic, IA | 2017
Role: Tank Inspector

Inspection of an 8,000 gallon fiberglass reinforced plastic aboveground storage tank used in hydrochloric acid service. Mr. Sherby conducted the site visit to inspect the tank and collect all information necessary to determine the remaining service life of the tank and whether the tank could be lifted safely to allow repairs to its secondary containment area. Working from the ground and by ladder, Mr. Sherby collected over 300 ultrasonic readings from the tank and an additional set of readings from the strap securing the lifting lugs to the tank. Mr. Sherby also completed a visual inspection of the tank and its appurtenances. The data was sent for UltraAnalytix™ evaluation, which allowed Mr. Sherby to provide a report to the client regarding the condition of their tank.

CADILLAC OIL SPCC PLAN AND TANK INSPECTIONS

Cadillac Oil Company, Detroit, MI | 2017
Role: Project Engineer

Updating the Spill Prevention, Control, and Countermeasures (SPCC) Plan for the facility and inspecting 30 aboveground storage tanks for regulatory compliance. Mr. Sherby performed site reconnaissance in support of the SPCC updates including collecting measurements of the facility, cataloging over 100 containers, and determining the volume of storage and secondary containment available. Mr. Sherby also supervised the collection technical information about each AST including its geometry and shell thickness.

THOMPSON OIL SPCC PLAN

Spencer Oil Company, Pontiac, MI | 2016
Role: Project Engineer

Project required updating the Spill Prevention, Control, and Countermeasures (SPCC) Plan for a bulk fuel distributor. The property consisted of 19 tanks which were originally installed by Standard Oil in 1928. Mr. Sherby conducted a site survey to identify the available storage capacity of the site and the locations of storm water catch basins around the fueling station. Because the site regularly fills tanker trucks at its fueling station, Mr. Sherby was required to compute the containment volume of the paved area around the fueling station to ensure that the facility had adequate secondary containment in the event of a spill.

Appendix F – Certificate of Insurance



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

7/27/2018

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 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 VTC Insurance Group Troy Office 1175 W. Long Lake Ste. 200 Troy MI 48098-4960		CONTACT NAME: Debra Panzica PHONE (A/C, No, Ext): (248) 828-3377 E-MAIL ADDRESS: dpanzica@vtcins.com FAX (A/C, No): (248) 828-3741	
INSURED TSP Services Inc., DBA: TSP Environmental 25000 Capitol Redford, MI 48239		INSURER(S) AFFORDING COVERAGE INSURER A: Nautilus Insurance Company NAIC # 17370 INSURER B: Great Divide Insurance Company 25224 INSURER C: Travelers Prop. Cas.Co. Of Ame 25674 INSURER D: INSURER E: INSURER F:	

COVERAGES

CERTIFICATE NUMBER: 18/19 Master

REVISION NUMBER:

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

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC <input checked="" type="checkbox"/> OTHER: Stop Gap Liability			ECP2023311	7/30/2018	7/30/2019	EACH OCCURRENCE \$ 1,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000
							MED EXP (Any one person) \$ 5,000
							PERSONAL & ADV INJURY \$ 1,000,000
							GENERAL AGGREGATE \$ 2,000,000
							PRODUCTS - COMPOP AGG \$ 2,000,000
							Contractors Pollution Liability \$ 1,000,000
							Pollution incl NODS, Mold & Transportation Pollution
B	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO ALL OWNED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input type="checkbox"/> SCHEDULED AUTOS NON-OWNED AUTOS			BAP2023312	7/30/2018	7/30/2019	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000
							BODILY INJURY (Per person) \$
							BODILY INJURY (Per accident) \$
							PROPERTY DAMAGE (Per accident) \$
							Uninsured motorist BI-single \$ Included
A	<input type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$ NIL			FFX2023314	7/30/2018	7/30/2019	EACH OCCURRENCE \$ 4,000,000
							AGGREGATE \$ 4,000,000
							\$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below Y/N <input checked="" type="checkbox"/> N N/A			WCA2023313	7/30/2018	7/30/2019	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER
							E.L. EACH ACCIDENT \$ 1,000,000
							E.L. DISEASE - EA EMPLOYEE \$ 1,000,000
							E.L. DISEASE - POLICY LIMIT \$ 1,000,000
C	Leased & Rented Equipment Professional Liability			6604H360488	7/30/2018	7/30/2019	\$400,000 \$2,500 Deductible.
				ECP202331110	7/30/2018	7/30/2019	\$1,000,000 each claim

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

All operations of the named insured.

CERTIFICATE HOLDER**CANCELLATION**

For
Informational
Purposes
Only

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

Alan Chandler/DPANZI

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Additional Named Insureds

Other Named Insureds

Abby's Office LLC	Limited Liability Company, Additional Named Insured
Technical Service Professionals LLC	Limited liability company, Additional Named Insured
TSP Construction LLC	Limited Liability Company, Additional Named Insured
TSP Environmental	Doing Business As