LARAMIE COUNTY PUBLIC WORKS/PLANNING DEPARTMENT
PROFESSIONAL SERVICES CONTRACTOR AGREEMENT
LARAMIE COUNTY, WYOMING / TRIHYDRO CORPORATION

THIS AGREEMENT is made and entered into by and between Laramie County, Wyoming, P.O. Box 608, Cheyenne, Wyoming 82003-0608, (COUNTY) and Trihydro Corporation, 1252 Commerce Drive, Laramie, WY 82070 (CONTRACTOR). The parties agree as follows:

I. PURPOSE

The purpose of this Agreement is to set forth the terms and conditions by which CONTRACTOR will provide the services to COUNTY as described in Attachment 'A' (Request for Proposals, attached hereto and incorporated herein) and Attachment 'B' (Proposal submitted by CONTRACTOR, attached hereto and incorporated herein).

II. TERM

This Agreement shall commence on the date last executed by the duly authorized representatives of the parties to this Agreement, and shall remain in full force and effect until June, 30, 2026.

This Agreement may be extended once for an additional two years at the COUNTY's option. There is no guarantee for any extension and any extension of this Agreement shall be at COUNTY's sole discretion. Any extension will be based upon written agreement and executed contract extension by both parties. Fees and scope of work may be updated at time of extension through the written agreement. COUNTY will provide written notice to CONTRACTOR of the intent to renew on or before April 1, 2026.

III. RESPONSIBILITIES OF COUNTY

COUNTY shall pay CONTRACTOR on an as needed basis per the fee schedule within Attachment 'B'. Payment will be made upon receipt of the CONTRACTOR'S invoice to the COUNTY. No payment shall be made before the last signature is affixed to this Agreement. Payments shall be in accordance with Wyo. Stat. ' 16-6-602 (as amended).

IV. RESPONSIBILITIES OF CONTRACTOR

A. CONTRACTOR shall be a resource for services described in Attachment A and Attachment B and these services shall be utilized by COUNTY during the period of the operation of this Agreement. By signature below, CONTRACTOR agrees that nothing in this Agreement operates to provide an exclusive right to CONTRACTOR to provide such services to COUNTY. CONTRACTOR agrees that this Agreement does not bind COUNTY in any manner to offer or provide work to CONTRACTOR. Further, nothing in this clause or agreement limits COUNTY in the choice of entities to which it may offer these services.

B. CONTRACTOR agrees to retain all required records for three (3) years after the County makes final payment and all other matters relating to the Agreement are concluded. CONTRACTOR agrees to permit access by the COUNTY or any of its duly authorized representatives to any books, documents, papers and records of the CONTRACTOR which are directly pertinent to this specific Agreement for purposes including but not limited to audit,

examination, excerpts, and transcriptions. It is agreed that finished or unfinished documents, data or reports, prepared by CONTRACTOR under this contract shall be considered the property of the COUNTY and upon completion of the services to be performed, or upon termination of this Agreement for cause, or for the convenience of the COUNTY, will be turned over to the COUNTY.

V. GENERAL PROVISIONS

A. Independent Contractor: The services to be performed by CONTRACTOR are those of an independent contractor and not as an employee of COUNTY. CONTRACTOR is not eligible for Laramie County Employee benefits and will be treated as an independent contractor for federal tax filing purposes. CONTRACTOR assumes responsibility for its personnel who provide services pursuant to this contract and will make all deductions required of employers by state, federal and local laws and shall maintain liability insurance for each of them. CONTRACTOR is free to perform the same or similar services for others.

B. Preference-Wyoming Labor Should the subject of this agreement constitute the construction, reconstruction, improvement, enlargement, alteration, or repair, of any Public Works project or improvement, by signature below CONTRACTOR acknowledges the requirement for the use of Wyoming labor pursuant to W.S.§16-6-203 as amended, except in circumstances as provided by law including, but not limited to W.S.§16-6-201 et seq.

C. Acceptance Not Waiver: COUNTY approval of the reports, and work or materials furnished hereunder shall not in any way relieve CONTRACTOR of responsibility for the technical accuracy of the work. COUNTY approval or acceptance of, or payment for, any of the services shall not be construed to operate as a waiver of any rights under this Agreement or of any cause of action arising out of the performance of this Agreement.

D. Termination: This Agreement may be terminated (a) by either party at any time for failure of the other party to comply with the terms and conditions of this agreement; (b) by either party, with thirty (30) days' prior written notice to the other party; or (c) upon mutual written agreement by both parties.

E. Entire Agreement: This Agreement (6 pages), Attachment >A= (9 pages), Attachment >B= (75 pages), and Attachment >C= (Insurance information – 3 pages) represent the entire and integrated agreement and understanding between the parties and supersedes all prior negotiations, statements, representations and agreements, whether written or oral.

F. Assignment: Neither this Agreement, nor any rights or obligations hereunder shall be assigned or delegated by a party without the prior written consent of the other party.

G. Modification: This Agreement shall be modified only by a written agreement, duly executed by all parties hereto.

H. Invalidity: If any provision of this Agreement is held invalid or unenforceable by any court of competent jurisdiction, or if the COUNTY is advised of any such actual or potential invalidity or unenforceability, such holding or advice shall not invalidate or render unenforceable any other provision hereof. It is the express intent of the parties that the provisions of this Agreement are fully severable.

I. Applicable Law and Venue: The parties mutually understand and agree this Agreement shall be governed by and interpreted pursuant to the laws of the State of Wyoming. If any dispute arises between the parties from or concerning this Agreement or the subject matter hereof, any suit or proceeding at law or in equity shall be brought in the District Court of the State of Wyoming, First Judicial District, sitting at Cheyenne, Wyoming. The foregoing provisions of this paragraph are agreed by the parties to be a material inducement to CONTRACTOR and to COUNTY in executing this Agreement. This provision is not intended nor shall it be construed to waive COUNTY's governmental immunity as provided in this Agreement.

J. Contingencies: CONTRACTOR certifies and warrants no gratuities, kick-backs or contingency fees were paid in connection with this Agreement, nor were any fees, commissions, gifts or other considerations made contingent upon the award of this Agreement.

K. Discrimination: All parties agree they will not discriminate against any person who performs work under the terms and conditions of this Agreement because of race, color, gender, creed, handicapping condition, or national origin.

L. ADA Compliance: All parties agree they will not discriminate against a qualified individual with disability, pursuant to a law as set forth in the Americans With Disabilities Act, P.L. 101-336, 42 U.S.C. ' 12101, *et seq.*, and/or any properly promulgated rules and regulations relating thereto.

M. Governmental/Sovereign Immunity: COUNTY does not waive its Governmental/Sovereign Immunity, as provided by any applicable law including W.S. § 1-39-101 et seq., by entering into this Agreement. Further, COUNTY fully retains all immunities and defenses provided by law with regard to any action, whether in tort, contract or any other theory of law, based on this Agreement.

N. Indemnification: To the fullest extent permitted by law, CONTRACTOR agrees to indemnify and hold harmless COUNTY, its elected and appointed officials, employees and volunteers from any and all liability for injuries, damages, claims, penalties, actions, demands or expenses to the extent caused by the negligence of CONTRACTOR. CONTRACTOR shall carry liability insurance sufficient to cover its obligations under this provision and provide COUNTY with proof of such insurance.

O. Third Parties: The parties do not intend to create in any other individual or entity the status of third party beneficiary, and this Agreement shall not be construed so as to create such status. The rights, duties and obligations contained in this Agreement shall operate only between the parties to the Agreement, and shall inure solely to the benefit of the parties to this Agreement.

P. Conflict of Interest: COUNTY and CONTRACTOR affirm, to their knowledge, no CONTRACTOR employee has any personal beneficial interest whatsoever in the agreement described herein. No staff member of CONTRACTOR, compensated either partially or wholly with funds from this Agreement, shall engage in any conduct or activity which would constitute a

conflict of interest relative to this Agreement.

Q. Force Majeure: Neither party shall be liable to perform under this Agreement if such failure arises out of causes beyond control, and without the fault or the negligence of said party. Such causes may include, but are not restricted to, Act of God or the public enemy, fires, floods, epidemics, quarantine restrictions, freight embargoes, and unusually severe weather. In every case, however, a failure to perform must be beyond the control and without the fault or the negligence of said party.

R. Limitation on Payment: COUNTY's payment obligation is conditioned upon the availability of funds which are appropriated or allocated for the payment of this obligation. If funds are not allocated and available for the continuance of the services and equipment provided by CONTRACTOR, the Agreement may be terminated by COUNTY at the end of the period for which funds are available. COUNTY shall notify CONTRACTOR at the earliest possible time of the services which will or may be affected by a shortage of funds. At the earliest possible time means at least thirty (30) days before the shortage will affect payment of claims, if COUNTY knows of the shortage at least thirty (30) days in advance. No penalty shall accrue to COUNTY in the event this provision is exercised, and COUNTY shall not be obligated or liable for any future payments due or for any damages as a result of termination under this provision. This provision shall not be interpreted or construed to permit COUNTY to terminate this Agreement in order to acquire similar services from another party.

S. Notices: All notices required and permitted under this Agreement shall be deemed to have been given, if and when deposited in the U.S. Mail, properly stamped and addressed to the party for whom intended at such parties' address listed herein, or when personally delivered personally to such party. A party may change its address for notice hereunder by giving written notice to the other party.

T. Compliance with Laws: CONTRACTOR shall comply with all applicable laws, regulations and ordinances, whether Federal, State or Local.

U. Agreement Controls: As indicated herein, this Agreement contemplates the potential for future services from CONTRACTOR. CONTRACTOR agrees and understands that the only binding and effective signatory to an agreement with COUNTY is the Board of Laramie County Commissioners. It is the intent and agreement of the parties that the terms and conditions of this Agreement control in any future agreement for services between the parties. With the contemplated exception of additional costs, descriptions of services and/or any materials for future services, the terms or conditions herein may not be abrogated or modified nor may additional terms be added. Additional terms and conditions or changes to same to this Agreement, outside the aforementioned costs, description of services and/or materials, must be approved by the governing body of Laramie County and CONTRACTOR in order to be binding. In the event that additional terms, conditions or inclusions appear in a subsequent writing, they are a nullity and this provision controls. In addition, in the event of any conflict with subsequent writings or agreements, the terms and conditions of this Agreement control.

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LARAMIE COUNTY PUBLIC WORKS/PLANNING DEPARTMENT
PROFESSIONAL SERVICES CONTRACTOR AGREEMENT
LARAMIE COUNTY, WYOMING / TRIHYDRO CORPORATION

Signature Page

LARAMIE COUNTY, WYOMING

By:_____ Date _____
Chairman, Laramie County Commissioners

ATTEST:

By:_____ Date _____
Laramie County Clerk

TRIHYDRO CORPORATION:

By: Kurt Tuggle Date 6/18/2024
Kurt Tuggle, President/CEO

This Agreement is effective the date of the last signature affixed to this page.

REVIEWED AND APPROVED AS TO FORM ONLY:

By:_____ Date 6-25-24
Laramie County Attorney's Office

Attachment A

REQUEST FOR PROPOSALS

FOR

ENGINEERING AND SURVEYING SERVICES

Submittals Due
May 9, 2024

LARAMIE COUNTY BOARD OF COMMISSIONERS

REQUEST FOR PROPOSALS

FOR

ENGINEERING AND SURVEYING SERVICES

Advertisement:

Laramie County seeks to contract with no more than 10 (ten) qualified firms for consulting services in the areas of land development review, drainage engineering, traffic engineering, floodplain management, construction inspection, development planning, comprehensive land use planning, and land surveying.

Consultants will be required on an as-needed basis to provide the aforementioned services to Laramie County.

Please submit your firm's qualification statement and cost proposal outlining the services requested by the County. More information on the proposal requirements and qualifications are listed later in this document. The County will make a selection based on the proposals received proving the ability of the agency to meet the schedule and needs of the County.

Proposals shall be received by May 9, 2024 by 2:00PM.

Scope of Services (including but not limited to):

Laramie County is seeking a consultant who can accomplish the following under the direction and supervision of the Laramie County Director of Public Works and the Planning and Development Program Manager:

Development Review

1) Review of site plans and similar development applications.
2) Preparation of engineering-specific Conditions of Approval related to site plans and subdivision permit applications.
3) Review of subdivision plat applications for conformance with the State and County regulations.
4) Review of subdivision, site and development improvement plans for both onsite improvements and public right-of-way improvements for compliance with grading, drainage, WYPDES, transportation and County design standards.
5) Review of hydrology maps and hydraulic calculations for private and public storm drain systems for compliance with State and County requirements.
6) Review of engineer's estimates for public and private improvements that may be subject to bonding requirements, verification of quantities and preparation of fee calculations.

7) Proactively communicating with private developers and associated design professionals by telephone, e-mail, written correspondence, and face-to-face meetings at the County or consultant offices, whichever is requested by the applicant, to discuss plan check review comments.
8) Review of NEPA documents, geotechnical investigations, traffic studies, and similar engineering reports to understand issues that may impact the design of private subdivision or development improvements, and/or public streets or utility infrastructure.
9) Preparation of reports to the Board regarding engineering issues.
10) Other assignments not specifically listed above but required during the engineering review of development applications.
11) Assignments shall be completed to meet specified deadlines. Firms and individuals shall demonstrate sufficient depth of resources to assure timely service delivery and redundant capability.

Floodplain Management

1) Review all development permit applications to determine the permit requirements of the regulations have been satisfied.
2) Review all development permit applications to determine all necessary permits have been obtained from Federal, State, or local governmental agencies from which prior approval is required.
3) Review all development permit applications to determine if the proposed development is located in the floodway. If located in the floodway, assure the encroachment provisions are met.
4) When base flood elevation data have not been provided in accordance with the regulations, obtain, review, and reasonably utilize any base flood elevation and floodway data available as criteria for requiring that new construction, substantial improvements, or other development in Zone A are administered in accordance with the regulation's Specific Standards.
5) Identify maintenance specifications for altered or relocated portions of watercourses so that flood-carrying capacity is not diminished.
6) Provide interpretation as to the location of F.I.R.M. boundaries of the Areas of Special Flood Hazard.
7) Assist the County with the Community Rating System (CRS) program. This could include compiling information, reports for compliance purposes and any other needs related to the County CRS program. Note: The Community Rating System (CRS) is a voluntary program for National Flood Insurance Program (NFIP)-participating communities.

Projects and miscellaneous needs for Public Works:

The Consultant's role will be to support County staff by performing engineering and technical design work for the construction of Civil Engineering projects. These projects could include but are not limited to: retaining walls, slope stabilizations, pavement rehabilitation, culvert rehabilitation, bio-retention and drainage projects, structural design, and other roadway and drainage related design tasks; and to perform related duties as required.

All plans and drawings must be done using AutoCAD 2020, or an earlier version. All engineering design data shall be provided in a format that integrates with the latest version of ArcGIS. All design data using said programs shall be made available to Laramie County upon request and shall become the property of Laramie County for active and future projects. Plans, specifications, and project related documents must be completed according to current County and/or State and/or Federal standards.

All work shall be done under the direction of a Professional Engineer licensed in the State of Wyoming.

The work to be performed may include, but is not limited to, any or all of the following:

1. Initial project planning, including identifying key milestones, scope description and design, delivery schedule
2. Assisting County staff with project documentation for Division Manager, Department Head and Board of Supervisors approval
3. Preparation of technical specifications using the County's style and formatting
4. Preparation of plans, technical specifications, bid documents, project manual, etc. using the County's standards
5. Bid support and construction administration including Construction Inspection Services specific to county roads, development improvements and other appurtenances as designated by the Public Works Director
6. Land Surveying Services: General survey work including, but not limited to, records research, road location survey, encroachments, monumentation, plat preparation and construction-oriented work
7. Solicitation and management of subconsultants and vendors needed to support design (material testing, potholing, bores, geotechnical, etc.)
8. Pavement management plan support (to include design and review)
9. Design of footings, retaining walls or other structures
10. Drainage/erosion control design

11. Provide general current and comprehensive planning assistance as needed including, but not limited to:
    a. Review of development submittals for planning issues.
    b. Review of development submittals for conformance with comprehensive plan.
    c. Preparation of zoning and regulation changes as needed.
    d. Preparation of reports and presentations to the Planning Commission and Board as necessary.

Fee, Rates, and Estimated Costs:

The services of this RFP will be provided on an hourly basis. The County may seek to negotiate with the firm prior to award of the contract. Fee proposals shall include:

1) Hourly rate sheet.
2) Itemized list of fees for additional services.

All fee proposals shall include all insurance required by the County, printing, mailing, documentation, reporting, office overhead, profit, etc.

Should contract negotiations with the selected firm be unsuccessful, the County reserves the right to move to the next firm and begin negotiations.

Qualifications:

The County will retain the services of the 10 (ten) most qualified consulting firms specializing in engineering and land surveying that demonstrate expertise in the services listed herein.

Qualifications or expectations to be considered:

1) Professional experience and technical competence of the firm and individuals to be assigned with respect to the scope of services.
2) The capacity and capability of the firm to perform the work in question within the time limitations fixed for completion of each assigned project.
3) Past record of performance with respect to factors such as control of costs, quality of work and ability to meet schedules.
4) A successful track record, as measured by complexity of engagements and number of years in the field.
5) Demonstration of knowledge of Wyoming practices.
6) Ability to respond to requests on short notice.
7) Licensed to perform engineering and surveying services in the State of Wyoming.

Proposal Requirements:

The proposal should include the following information:

1) A letter of introduction.
2) A narrative describing the company size, organization, locations, experiences or expertise, names and qualifications/credentials of individuals who will provide services.
3) List or examples of similar work or projects completed along with list of references (include names and phone numbers). Include as many as possible specific to other municipalities.
4) A narrative describing abilities to respond and perform at a level above the competition.
5) Proposed fee structure for this type of engagement.
6) Indicate any and all areas of specialty your firm may practice.
7) Please limit the proposal to no more than 30 pages (not including resumes).

Proposals shall be received by email (subject line: Engineering RFP Proposal for "Firm Name") to molly.bennett@laramiecountywy.gov by May 9, 2024 by 2:00PM.

In addition and if desired, two paper copies of the proposal could be delivered by 2:00 p.m., May 9, 2024 to:

Molly Bennett, Director of Public Works
13797 Prairie Center Circle, Cheyenne, Wyoming 82009
molly.bennett@laramiecountywy.gov

Questions may be directed to Molly Bennett at (307) 633-4302.

The submission of proposals become public records and may be viewed upon request.

It is the responsibility of the respondent to ensure that their responses are received on or before the submission date and time. Allow sufficient delivery time to ensure receipt by the date and time specified.

CLARIFICATIONS OR SUPPLEMENTS TO REQUEST FOR PROPOSAL: If it becomes necessary to revise any part of this RFP, a notice of any clarifications will be emailed to each respondent who received the original RFP at the required website. It is the responsibility of respondents, prior to submission date, to inquire as to addenda issued and to ensure their response reflects all changes. The County will maintain a register of holders of this RFP via the required website. Laramie County will accept questions until April 16, 2024 at 4:30pm and will respond to all questions to all firms who have requested proposal by end of day April 23, 2024 by 4:30pm.

INCURRING COSTS: The County is not liable for any cost incurred by respondents prior to issuance of a legally executed contract. No property interest, of any nature, shall accrue until a contract is awarded and signed by all concerned parties.

RFP CANCELLATION: The County reserves the right to cancel this Request for Proposal at any time, without penalty.

NON-DISCRIMINATION: The respondent shall comply with all applicable state and federal laws, rules and regulations involving non-discrimination on the basis of race, color, religion, national origin, age, sex, or sexual orientation.

AVAILABILITY OF FUNDS: Financial obligations of the County payable after the current fiscal year are contingent upon funds for that purpose being appropriated, budgeted, and otherwise made available. In the event funds are not appropriated, any resulting contract will become null and void, without penalty to the County.

Evaluation and Award:

1) The RFP is designed to be a competitive negotiation platform, where price is not the sole determinative factor.
2) The evaluation team will be composed of the Director of Public Works and the County Planning and Development Program Manager.
3) The proposals will be reviewed within the context of specific experience in the disciplines required.
4) The County may require additional information, documentation, or additional data to clarify or elaborate on materials submitted.

Additional Conditions:

1) The successful respondent will be expected to enter into a contract, including insurance requirements for one (1) year, with Laramie County upon terms acceptable to the County. The contents of this RFP, the respondent responses to same and all provisions of the successful qualifier deemed pertinent by the County may be incorporated into a contract and become legally binding. Upon expiration of the initial contract, the County may offer respondent a contract extension for an additional one (1) year.
2) The County reserves the right to award the contract to the respondent(s) that the County deems to offer the best overall proposal(s). The County is therefore not bound to accept a proposal based on lowest price. The County reserves the right to reject any or all proposals submitted and/or to waive or ignore any irregularities and/or omissions in any submission and to accept any proposal, portion of proposal, combination of proposal and/or to reject or accept any proposal for any reason in its discretion.

3) The County at its sole discretion, reserves the right to cancel this RFP, to modify the services sought, to reject any and all proposals, to waive any and all informalities and/or irregularities, or to re-advertise with either the identical or revised specifications, if it is deemed to be in the best interest of the County to do so. The County also reserves the right to make multiple awards, based on experience and qualifications if it is deemed to be in the County's best interest.
4) Laramie County does not waive its Governmental/Sovereign Immunity, as provided by any applicable law including W.S. § 1-39-101 et seq., by issuing this Request and/or entering into any agreement with any successful respondent. Further, Laramie County fully retains all immunities and defenses provided by law with regard to any action, whether in tort, contract or any other theory of law, based on this RFP and any subsequent agreement(s).
5) Any errors or omissions discovered in this request for proposal, or any additional information needed to clarify any issues in the request, will be communicated to all firms who have expressed an interest in the engagement. The communication will amend the requests accordingly.
6) If a respondent discovers any ambiguity, conflict, discrepancy, exclusionary specifications, omission, or other error in this document, the respondent shall immediately notify the County's representative. If the respondent fails to notify the County of any error, ambiguity, conflict, discrepancy, exclusionary specifications, or omission in this RFP, the respondent shall submit a response at its own risk and under such conditions. If the respondent is awarded a contract, then such respondent will not be entitled to additional compensation, relief, or time by reason of the error or its later correction.
7) It is incumbent upon each respondent to carefully examine all specifications, terms, and conditions contained herein and in all referenced data and documents. Any inquiries, suggestions, or requests concerning interpretation, clarification or additional information shall be made in writing, through the County contact named above. The County will not be responsible for any oral representation(s) given by any employee, representative or others. The issuance of a written addendum is the only official method by which interpretation, clarification or additional information can be given.
8) Respondents are advised that Laramie County is a governmental entity in the State of Wyoming. Public Works projects, such as those referenced herein, carried out by governmental entities are subject to certain legal and regulatory requirements which may or may not be applicable to private entities. Any contract with a successful respondent will contain a requirement to monitor and secure compliance on the project with all applicable laws and regulations including, but not limited to, those contained in Wyoming statute W.S. § 16-6-101 et seq.

9) If it becomes necessary for the County to revise or amend any part of this RFP, notice may be obtained by accessing the County website. Respondents in their proposal must acknowledge receipts of amendments. Each respondent should ensure that they have received all addenda and amendments to this RFP before submitting their proposal. Please check the Laramie County web site at https://www.laramiecountywy.gov/Request-for-Proposals for a copy of the RFP and addenda.
10) All proposals submitted in response to this request become property of the County and public records, so they may be subject to public review. The laws of Wyoming require that the contents of all proposals shall be placed in the public domain and be open to inspection by interested parties. Trade secrets or proprietary information that are recognized as such and are protected by law may be withheld if clearly identified as such in the proposal. The respondent must mark in bold red letters the term "CONFIDENTIAL" on that part of the response, which the respondent believes to be confidential. The respondent may be required to submit in writing specific detailed reasons, including any relevant legal authority, stating why the respondent believes the material to be confidential. Vague and general claims as to confidentiality will not be accepted. Laramie County will be the sole judge as to whether a claim is general and/or vague in nature. The entire proposal cannot be designated as proprietary or a trade secret. If a request is received to examine portions designated as proprietary or a trade secret, Laramie County will notify the respondent to permit the respondent to defend the proprietary nature of the information.
11) The County reserves the right to request additional information, or request clarification, or reject in its sole discretion any and all proposals. Firms may submit a joint proposal.
12) Invalidity: If any provision of this RFP is held invalid or unenforceable by any court of competent jurisdiction, or if the County is advised of any such actual or potential invalidity or inability to enforce, such holding or advice shall not invalidate or render unenforceable any other provision hereof. It is the express intent of that the provisions of this RFP are fully severable.
13) By submitting in response to this RFP, respondent agrees and understands that this RFP as well as any subsequent agreements shall be governed by and interpreted pursuant to the laws of the State of Wyoming. If any dispute arises between the parties from or concerning this RFP or the subject matter hereof, any suit or proceeding at law or in equity shall be brought in the District Court of the State of Wyoming, First Judicial District, sitting at Cheyenne, Wyoming. The foregoing provisions of this paragraph are agreed by the parties to be a material inducement to Responders and to County. This provision is not intended nor shall it be construed to waive County's governmental immunity as provided in this Agreement.

Attachment B

May 9, 2024

Ms. Molly Bennett, Director of Public Works
Laramie County
13797 Prairie Center Circle
Cheyenne, WY 82009

RE: Laramie County Board of Commissioners Request for Proposals: Engineering and Surveying Services

Dear Ms. Bennett:

This letter presents Trihydro Corporation's (Trihydro) proposal to provide Laramie County (County)on-call engineering and surveying services. This proposal was prepared in accordance with the Laramie County Board of Commissioners Request for Proposals (RFP) for Engineering and Surveying Services and Engineering RFP Questions and Responses dated April 19, 2024.

To support rapid growth and development within Laramie County, we understand the County is seeking on-call engineering and surveying services to facilitate development reviews, floodplain management, and miscellaneous public works projects. We have assembled a robust team of Professional Engineers, Certified Floodplain Managers, Licensed Surveyors, and supporting staff who specialize in the RFP's services and can quickly respond to the County's needs. For the RFP's more specialized services, we can seamlessly contract with our extensive subconsultant network so the County only needs to work with one point of contact. Our team's primary role will be to serve as an extension of County staff to complete awarded projects within the specified deadlines, taking work off your plate, and hopefully providing more time for you to focus on other important items.

Trihydro has effectively provided land development, drainage engineering, traffic engineering, floodplain management, infrastructure design, construction inspection, development and comprehensive land use planning, and surveying services for over 39 years. Because we have deep roots in this type of project work, we understand the requirements to get the job done right. Our knowledge and background allow us to develop streamlined project goals and deliverables to support the County in making informed decisions.

Successful projects begin with strong project management, resource coordination, and communication. Upon contract award, our Project Manager will meet with the County's point of contact to establish communication expectations, work scopes, budgets, and required schedules. Our Project Manager will then assign internal resources and outline expectations to verify our team understands project objectives. Our final work products will strictly adhere to Trihydro's Quality Assurance/Quality Control program so the County can rely on comprehensive and consistent deliverables.

Our proposal is structured to highlight Trihydro's professional services including:

- A narrative of our company along with our expertise and names and qualifications of our proposed team members
- A comprehensive list of projects requiring similar services to this RFP
- An in-depth narrative of our involvement in development reviews, floodplain management, and miscellaneous public works projects
- Our proposed fee structure
- Areas in which Trihydro specializes

We look forward to partnering with the County to promote responsible and sustainable planning and development. Should you have any questions or would like to discuss our proposal further, please reach out to our Project Manager, Loren Eldridge-Looker, at (307) 745-7474 or leldridge-looker@trihydro.com. Thank you for our consideration, and we look forward to hearing from you.

Sincerely,
Trihydro Corporation

Loren Eldridge-Looker, P.E.
Project Manager

Michelle Sell, P.E.
Project Director

PROPOSAL

May 9, 2024

Professional Engineering and Surveying Services

Ms. Molly Bennett, Director of Public Works
13797 Prairie Center Circle, Cheyenne, Wyoming 82009
molly.bennett@laramiecountywy.gov

Trihydro

1252 Commerce Drive | Laramie, WY | 307/745.7474 | trihydro.com

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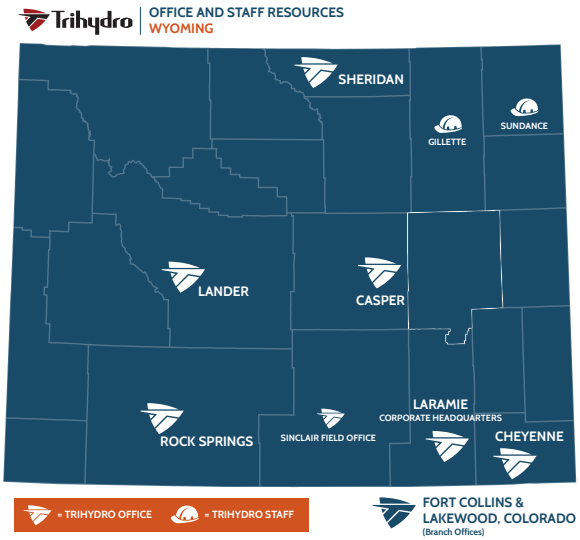
1.0 INTRODUCTION

Laramie County (County), Wyoming's most populous county and home of the State Capitol, is growing rapidly. To facilitate growth and projected development, the County is seeking to contract with an engineering and surveying consulting firm to assist in land development reviews, development and comprehensive land use planning, drainage and traffic engineering, floodplain management, construction inspection, and land surveying. Trihydro Corporation (Trihydro) understands these services will be completed in close coordination with the Laramie County Director of Public Works, Planning and Development Program Manager, and additional County Staff.

Trihydro opened its doors in Laramie, Wyoming with three employees in 1984. Since then, we have grown to a well-established, national engineering and environmental consulting firm providing engineering, surveying, and environmental consulting services. With over 550 employees, Trihydro was ranked No. 112 on the 2023 Top 200 Environmental Firms List by Engineering News-Record. We have 28 branch and field offices across the country, including nearly 200 employees and five branch offices based in Wyoming. The combination of our home-grown ethical values and bench strength provides a unique blend of responsive, customer-driven service along with nationally recognized technical horsepower in the engineering and environmental consulting industry.

As a centrally organized company with a single profit and loss center, Trihydro approaches our work in a unified manner, able to seamlessly shift the best-fit resources to each specific project. This organization benefits the County by providing the optimum combination of expertise available within our company. Our size puts us in a sweet spot where we are large enough to provide the technical and regulatory expertise necessary to implement simple or complex projects across a broad geography, yet small enough to be responsive to the County's evolving needs. This helps Trihydro understand trends and economics affecting our communities and allows us to be responsive to act on that knowledge. We recognize the necessity of completing projects as cost-efficiently as possible, while still meeting regulatory requirements.

Although Trihydro delivers engineering and environmental services across the United States through our nationwide network of offices and professional resources, we have maintained our corporate headquarters in Laramie, Wyoming. We operate Wyoming offices in Cheyenne, Casper, Rock Springs, Lander, and Sheridan, as well as an office in Fort Collins, Colorado.



Approximately 200 Trihydro personnel are based in Wyoming; it is where our employees and their families live, work, and play. Additionally, over 100 active Trihydro employees are University of Wyoming (UW) graduates. We have broad expertise and bench strength combined with Wyoming-specific insights. This balance allows us to be highly responsive to your needs and provide reviews for local, state, and federal requirements while also understanding local nuances. As a company founded and incorporated in Wyoming 39 years ago, Trihydro takes pride in performing projects that benefit our local communities.

In support of our mission, Trihydro brings a strong code of professional ethics to every project and can be counted on to "do the right thing." Trihydro exemplifies this commitment in our day-to-day interactions with clients, stakeholders, regulatory personnel, and the public. Nearly 20 years ago, we came across a book titled 'Cowboy Ethics, What Wall Street Can Learn from the Code of the West'. As a company born in Wyoming, we believed the core message of this book closely matched the way we operate our business and reflects our corporate culture. Therefore, the Code of the West was memorialized as part of our corporate code of conduct in 2005. We are proud to bring these values to each project we work on and look forward to doing so for the County.

Point of Contact

Loren Eldridge-Looker, P.E.
Project Manager
(307) 745-7474
leldridgelooker@trihydro.com

2.0 FIRM OVERVIEW AND QUALIFICATIONS OF KEY PERSONNEL

2.1 TRIHYDRO OVERVIEW

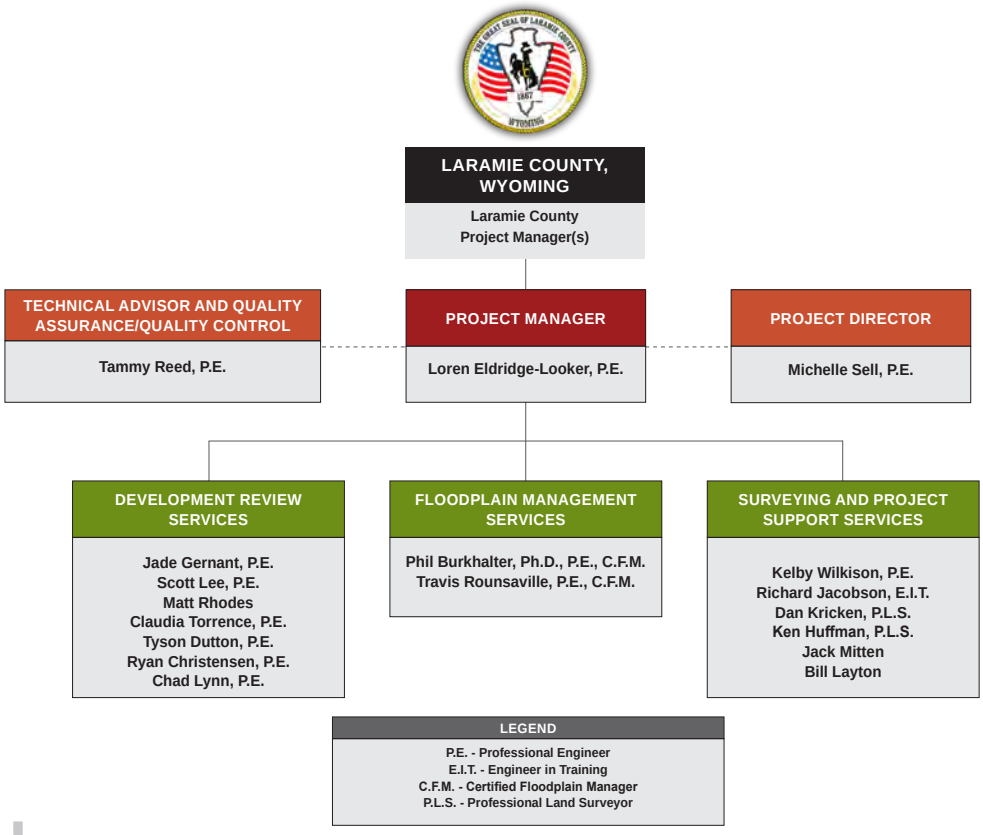
Trihydro has the personnel to provide the County with its requested services outlined in its Request for Proposals (RFP). As stated previously, Trihydro is headquartered in Laramie, Wyoming, with Wyoming offices in Cheyenne, Casper, Sheridan, Lander, and Rock Springs, as well as a Fort Collins, Colorado office. With over 550 employees, 200 of whom are based in Wyoming and over 100 active employees who are UW graduates, we have broad expertise and bench strength combined with Wyoming-specific insights. This balance allows us to be highly responsive to your needs and provide reviews for local, state, and federal requirements, while also understanding local nuances.

Our Proposed Organizational Chart (Figure 2-1) provides an overview of our Trihydro team structure and project hierarchy. Our team members were chosen specifically to provide the capabilities needed to successfully complete requested engineering and surveying services. Trihydro's project team is technically qualified and firmly committed to each requested project's successful execution. Our team of engineers and surveyors have significant experience in development review, floodplain management, and civil engineering projects as shown in the Personnel Qualifications Matrix (Figure 2-2). To be succinct, we have grouped various services in the Personnel Qualifications Matrix into singular headers:

- **Site Planning, Development, and Subdivision Review** includes services outlined in the RFP's Development Review Section, Item Nos. 1 through 4, 6, 7, 9, and 10
- **Drainage, Hydrology, and Hydraulics** includes Development Review Item Nos. 4 and 5
- **National Environmental Policy Act (NEPA)** includes Development Review Item No. 8
- **Floodplain Applications and Management** includes Floodplain Management Item Nos. 1 through 7
- **Infrastructure and Civil Site Design** includes Miscellaneous Public Works Projects Item Nos. 1 through 5, 7, 8, and 10
- **Surveying Services** includes Miscellaneous Public Works Projects Item No. 6
- **Comprehensive Planning** includes Miscellaneous Public Works Projects Item No. 11

Our team is committed to working together to provide the County reviews and deliverables meeting individual project objectives. Brief personnel descriptions for our key personnel are provided below.

Figure 2-1: Proposed Organizational Chart



2.2 QUALIFICATIONS OF KEY PERSONNEL

Loren Eldridge-Looker, P.E., Project Manager. Loren Eldridge-Looker, P.E., serves as a Lead Project Manager/ Engineer, Group Manager for Trihydro's Infrastructure and Water/Wastewater Rocky Mountain Team, and the Team Leader for Trihydro's Surveying Services Team. Mr. Eldridge-Looker has 15 years of experience in civil engineering, water resources, and environmental monitoring. His experience includes project management; design, reporting, permitting, and construction management for water supply, storage, and distribution infrastructure; wastewater infrastructure and treatment; transportation infrastructure; hydraulic and hydrologic design; and dam permitting and rehabilitation. His technical background includes design and modeling of civil infrastructure and hydraulic structures. He has been responsible for stakeholder coordination and public outreach; project management/ coordination; contractor management; bid document preparation, technical specifications and construction drawings; as well as developing budgets, cost estimates, and project schedules.

Trihydro team members will report to Mr. Eldridge-Looker, who will serve as the County's primary point of contact. As a project develops, other team members may work directly with staff in other departments, and Mr. Eldridge-Looker will be copied on project correspondence and meeting minutes.

Michelle Sell, P.E., Project Director, has 25 years of experience in civil infrastructure and water resources engineering. She is knowledgeable in the evaluation and design of civil site projects, as well as the design of gravity sanitary sewer lines, water lines, and stormwater lines. Her background includes a variety of experience on civil site and building projects, including performing condition assessments, evaluating stormwater conveyance, evaluating traffic patterns, preparing permitting documents, and preparing phasing options. Ms. Sell has been managing projects for over 15 years and is recognized by her peers for her organization and collaboration skills. She is experienced with managing scope, schedule, and budget for a variety of civil engineering projects. As Trihydro's Rocky Mountain Infrastructure and Water/Wastewater Team Leader, she manages resources and provides resource allocation to best serve our clients and projects.

Tammy Reed, P.E., Technical Advisor and Quality Assurance Quality Control (QA/QC), has over 30 years of professional transportation and civil engineering experience. She has led project teams and provided engineering for urban and rural roadway transportation, infrastructure, civil site development, and municipal utility projects. Her experience includes alternatives analysis and feasibility studies, planning, engineering design, public involvement, permitting, developing construction plans and specifications, cost estimating, QA/QC reviews, bidding assistance, and construction administration and monitoring.

Jade Gernant, P.E., Lead Project Engineer, will be responsible for reviewing and directing design tasks and preparing construction drawings and technical specifications. Mr. Gernant has more than 27 years of experience in transportation and civil engineering projects, including road design, pipeline design and construction for water and sewage systems. His experience includes preparation of preliminary engineering reports for project funding, construction cost estimating, feasibility studies, design reports for project permitting, pipe material selection matrices, easement exhibits, and preparation of construction plans and specifications. Mr. Gernant's transportation engineering experience includes design and management of projects that include urban and rural roadway design and construction, right-of-way (ROW) engineering, management and scheduling of surveying, participation in public meetings, geotechnical, structural and roadway drainage design services, as well as coordination with Wyoming Department of Transportation (WYDOT) staff on state projects throughout design.

Scott Lee, P.E., Lead Project Engineer, is a civil engineer with over 21 years of broad experience in the water resources and transportation industries. Throughout his career, Scott has been directly involved with the management, development, design, and construction of many successful projects. Mr. Lee has worked directly with Wyoming local government entities, municipalities, private companies, landowners, ranchers, and farmers on various civil projects. Scott's water resources experience includes storm drainage design, storm sewer pipelines, hydraulic structures, irrigation systems and structures, water distribution, subsurface drainage, hydrology, hydraulic analysis and modeling, and dams/reservoirs. Mr. Lee's transportation experience includes highway and roadway

design, site design, roundabout intersection design, highway/roadway drainage, signing and striping, and highway safety systems. Scott is also experienced with project bidding, construction administration and management, and construction oversight. Additionally, Mr. Lee is knowledgeable in public outreach presentations and educational workshops to gain public support. This experience was acquired on large controversial transportation projects converting traditional intersections into roundabouts.

Matt Rhodes, Ecologist, has 12 years of experience in the environmental field. His expertise includes the design, implementation, and analysis of ecological projects, especially those concerning vegetation. He is experienced in permitting and compliance under NEPA and Environmental Site Assessment (ESA) requirements, among other regulations. Mr. Rhodes has provided field and technical support to numerous ecological projects throughout the western United States (U.S.). He is well-versed in the flora of the southwestern U.S. and Great Plains, and has led or supported ecological projects in Arizona, California, Colorado, Nevada, New Mexico, Texas, Utah, and Wyoming. Mr. Rhodes is also adept at data analysis and has used a variety of statistical approaches to analyze spatial, genetic, and ecological datasets.

Tyson Dutton, P.E, Project Engineer, has more than 12 years of civil engineering experience, most of it with the Montana Department of Transportation (MDT), where he gained road design and project management experience. He has worked on numerous urban and rural roadway design projects. His experience includes preparing construction plans and specifications, cost estimating, generating engineering reports, and project management including budgeting and scheduling.

Claudia Torrence, P.E., Senior Engineer, has over 31 years of professional consulting engineering experience in transportation and civil engineering. Her transportation project management experience includes preparing design plans and specifications, QA/QC reviews, managing project budgets, and scheduling. Ms. Torrence has worked on numerous WYDOT and municipal projects that include design of urban and rural roadways, roadway drainage, ROW engineering, wetland mitigation sites, water distribution systems, and sanitary sewer systems.

Ryan Christensen, P.E. Lead Project Engineer, has over 22 years of experience on a large variety of engineering projects. His involvement has been from initial studies through construction completion, where the projects have included design, bidding, and construction administration services for underground utilities, street and roadway corridors, residential developments, schools, and commercial/private site infrastructure. This experience has been invaluable in terms of the development of his technical/design background, communication/leadership skills, and project management abilities. Mr. Christensen served as Project Manager for several projects with WCSD #7 in Upton including the Upton Elementary/Middle School Parking Lot Reconstruction and the Upton High School Drainage and Track Improvements projects. During both these projects, Ryan collaborated with the Town's Superintendent at various stages.

Chad Lynn, P.E., Lead Project Engineer, has over 20 years of civil engineering experience. Over the course of his career, Mr. Lynn's work ethic, attention to detail, and collaborative abilities have proven invaluable while assisting clients to fully utilize available funding and complete their project goals. Mr. Lynn has experience with a wide variety of civil engineering projects, including municipal infrastructure, and has played an integral part in project management, design, and construction administration, including the City of Sheridan's annual pavement maintenance projects since 2013. This involvement has allowed Mr. Lynn to develop into a well-rounded engineer with a strong technical background and a good sense of what it takes to make a project successful. Mr. Lynn has assisted the City of Sheridan and Northwest Rural Water District with various projects using DWSRF, CWSRF, and other funding sources. He is experienced with the various requirements and coordination efforts needed during design, bidding, award, and construction to keep clients and funding program contacts fully apprised and comfortable as projects progress. Mr. Lynn has also been directly involved with WYDOT projects.

Phil Burkhalter, Ph.D., P.E., C.F.M., Senior Water Resources Engineer, will be responsible for leading floodplain management tasks. Dr. Burkhalter is the project manager and technical lead for Trihydro's floodplain modeling and mapping work with the Federal Emergency Management Agency (FEMA). He is a Certified Floodplain Manager (CFM) and has over 27 years of experience working in water resources and environmental consulting and research. With an emphasis on Water Resources Planning and Management, his work has included decision support system development and implementation, flood forecasting model development, groundwater flow and quality modeling, water allocation studies, water rights, and application of several hydrologic and hydraulic models. Additionally, he has served for many years as a Program and Project Manager for several clients including the U.S. Army Corps of Engineers and the National Weather Service.

Travis Rounsaville, P.E., C.F.M., Civil Engineer, is a licensed professional engineer with 17 years of experience and holds a Masters of Science in hydraulic engineering, emphasis on open channel flow. Mr. Rounsaville is also a CFM and was appointed to the Larimer County Flood Review Board in 2023, after finishing a three-year term as water resources subject matter expert for the Larimer County Environmental and Science Advisory Board. He has experience as a project engineer for hydrologic and hydraulic studies, hydraulic design, field data collection, surveying, and floodplain permitting. His project management experience includes bridge and culvert replacement projects throughout the country, along with extensive and successful floodplain permitting experience in Wyoming and Northern Colorado.

Kelby Wilkison, P.E., Civil Engineer, has 11 years of professional experience in hydrology and civil engineering. His experience includes site investigation, natural landform land design, geomorphic land design, mine waste encapsulation design, hydrology analyses, hydraulic design, wetland mitigation, surface water runoff control, impoundment sizing, permitting, construction quantities estimation, construction oversight, and many other aspects of reclamation projects.

Richard Jacobson, E.I.T., Staff Engineer, will be responsible for stormwater evaluations and may assist with roadway design. Mr. Jacobson is an Engineer in Training (E.I.T) with over 8 years of civil engineering, civil design, and drafting experience. He is the Trihydro Geographic Information System (GIS) and Computer-Aided Drafting & Design (CADD) Services Team Leader, a team of 11 GIS and CADD experts. Mr. Jacobson is an AutoCAD certified professional, and his engineering software expertise includes Autodesk Civil 3D and Bentley's WaterGEMS, FlowMaster, MicroStation, and OpenRoads Designer programs. He also serves as a Trihydro project manager and project lead, successfully managing projects from proposal to final completion and has experience in construction observation and documentation. Additionally, he provides company-wide AutoCAD and Civil 3D training and assists Trihydro IT staff with Autodesk software installations and configurations. During his career Mr. Jacobson has worked on projects throughout the country, and beyond, utilizing and adapting to many different design guidelines and CADD standards.

Dan Kricken, P.L.S. Project Surveyor and Unmanned Aerial System (UAS) Specialist, has has over 23 years of professional land surveying experience that includes control and boundary, ROW, topographic, planimetric, and hydrologic surveys, and construction staking. His areas of expertise include land surveying, drafting, and construction staking. Mr. Kricken's experience includes road rights-of-way projects throughout Wyoming. He has worked on numerous projects for municipalities including retracing urban road rights-of-way, establishing control for aerial mapping, and topographic and planimetric surveys of multiple municipal building sites and road construction. Mr. Kricken is proficient with Trimble GPS equipment and software, Total Stations, Levels, and AutoCAD Civil 3D. He is also a Federal Aviation Administration (FAA) Certified Part 107 Remote Pilot.

Ken Huffman, P.L.S., Project Surveyor, has oover 35 years of experience surveying, which includes establishing control networks and boundary, ROW, topographic and hydrologic surveys, Department of Transportation infrastructure projects across three states, as well as construction staking of many subdivision, highway, pipeline, and water resources projects. Mr. Huffman has experience with Trimble Global Navigation Satellite System equipment, Trimble Total Stations and scanners, Trimble Business Center software, and AutoCAD. Additionally, Mr. Huffman is a FAA Part 107 Remote Pilot and has participated in numerous UAS projects providing survey services and flight operations. Prior to Trihydro, Mr. Huffman was enlisted for 22 years in the Navy Seabees surveying construction projects in Iraq, Bosnia, Guam, Honduras, Spain, Cuba, and the U.S.

Jack Mitten, Project Surveyor, has over three years of experience surveying. He is well versed in drafting programs such as Asbuilt and Civil 3D. Since joining Trihydro, Mr. Mitten has assisted in multiple projects including the city-wide survey control network for the City of Laramie, UAS surveys, and topographic surveys.

Bill Layton, Construction Administrator, has 24 years of experience as a construction administrator for various engineering projects. He is responsible for overseeing and coordinating construction activities and verifying compliance with contract specifications, codes, and regulations. He also maintains communication with clients, contractors, subcontractors, inspectors, and engineers throughout the project lifecycle. Mr. Layton has a strong background in construction management, estimating, scheduling, quality control, and safety. He is well-versed in all aspects of construction administration, implementation process management, process strategy development, short- and long-term project planning, budget management, and cost-effectiveness. Mr. Layton is recognized and respected for facilitating, executing, planning, and delivering projects on time, within scope, and under/within budget. He is an effective communicator with strong interpersonal skills and works cohesively with key stakeholders to define project scope and objectives.

Resumes for Key Personnel are provided in Appendix A.

Personnel	Site Planning, Development, and Subdivision Review	Drainage, Hydrology, and Hydraulics	NEPA	Floodplain Applications and Management	Infrastructure and Civil Site Design	Surveying Services	Comprehensive Planning
Loren Eldridge-Looker, P.E.	X	X			X	X	X
Michelle Sell, P.E.	X	X			X		X
Tammy Reed, P.E.	X	X		X	X		X
Jade Gernant, P.E.	X	X			X		X
Scott Lee, P.E.	X	X	X		X		X
Matt Rhodes			X				
Claudia Torrence, P.E.	X	X			X		X
Tyson Dutton, P.E.	X	X			X		X
Ryan Christensen, P.E.	X	X			X		X
Chad Lynn, PE	X	X			X		X
Phil Burkhalter, Ph.D., P.E., C.F.M.		X		X	X		
Travis Rounsaville, P.E., C.F.M.		X		X	X		
Kelby Wilkison, P.E.		X			X		
Richard Jacobson, E.I.T.		X			X		
Dan Kricken, P.L.S.						X	
Ken Huffman, P.L.S.						X	
Jack Mitten						X	
Bill Layton					X		

3.0 PAST RELEVANT EXPERIENCE

Trihydro has over 39 years of experience providing municipalities and local agencies with comprehensive land development, floodplain management, and public works support within Wyoming, along the front range and Interstate 25 (I-25) corridor, and throughout the country. From our Laramie, Cheyenne, and Fort Collins offices, our engineers (including CFMs), surveyors, and project managers support a variety of projects for the State of Wyoming and its municipalities. Trihydro currently works with multiple local authorities to perform services very similar to the County's scope.

Below is a list of selected past experiences from similar projects. Correlations for each presented project to specific Scope of Services provided in the RFP are noted using the following designations: DR - Development Review; FM – Floodplain Management; P&M – Project and Miscellaneous Needs.

City of Sundance Water System Improvements (Sundance, Wyoming)	
Project Owner	City of Sundance, Wyoming
Year Completed (Actual or Estimated)	Ongoing
Relation to Scope of Services	DR, FM, P&M

Trihydro has been serving as the City Engineer for the City of Sundance for over 13 years. During this time, we have played an instrumental role in improving the City's water system, starting with the completion of a WWDC Master Plan Level I Study in 2012 which provided a framework for water system improvements that would occur over the next 10 years. The Level I Study developed infrastructure improvement strategies for the City to address water supply, storage, transmission, and distribution issues stemming from an aging water system. The Level I Study allowed the City to identify improvements, establish project priorities, and consider financial planning required to implement the proposed projects. Trihydro also completed a WWDC Level II Study for the City (2014) to advance the highest priority project recommendations included in the Level I Study, getting one step closer to implementation. The Level II Master Plan final report was completed in June 2015. Following the plan that was developed in the Level I and Level II Studies, Trihydro provided design, permitting, bidding, and construction administration services for the following projects.

21st Street Waterline Loop, Phases 1 and 2: As recommended in the Level I Study, the 21st Street Waterline Loop project was completed to increase available fire flow and eliminate existing dead-end waterlines, completing a large water system loop from 21st Street to Industrial Road. The improvements were completed in two phases as funding became available and provided system redundancy while extending a public watermain through new areas of town to promote future development. Trihydro assisted the City with preliminary project construction cost estimates to secure countywide consensus funding.

Cole Water Storage Tank: The 250,000-gallon Cole Water Storage Tank was located on a failing slope caused by catastrophic flooding. Trihydro assisted the City in securing WWDC Level III construction funding to safely relocate the tank. The project required selecting a new site that met the hydraulic characteristics of the existing tank while being located near the City's well field and transmission line. Project components included a new access road, waterline construction, tank foundation, and tank relocation.

Well No. 6 Chlorination Facility: Prior to construction of a chlorination facility at Well No. 6, the City only used the well on a part-time basis to supplement its primary water supply during peak summer demands since water from the well was untreated. With a new chlorination facility in place, the City now uses this water source on a full-time basis, adding additional supply and redundancy to the water system.

Cole Transmission Main and PRV Replacement Project: The Cole Transmission Main and PRV Replacement projects provided a dedicated water supply from the Cole Well Field to the Mt. Moriah water storage tank. Previously, water flowed through aging 4- and 6-inch cast iron and ductile iron pipes to reach water system storage tanks, creating significant pressure losses across the system. The new transmission main was installed via Horizontal Directional Drilling (HDD) and allows the system to respond quickly to high water demands. The PRV Replacement project was implemented concurrently with the Cole Main Transmission project to optimize the system and increase available fire flow throughout. Trihydro assisted the City in securing WWDC Level III construction funding for the project.

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City of Sundance Water System Improvements (Sundance, Wyoming) (*continued*)	
Project Owner	City of Sundance, Wyoming
Year Completed (Actual or Estimated)	Ongoing
Relation to Scope of Services	DR, FM, P&M

(continued from previous page.)

SCADA Design: Trihydro assisted the City in developing a SCADA Implementation Plan to provide a cost-effective, phased approach to integrating SCADA improvements throughout the City's water system. SCADA implementation has greatly eased the operational burden on City staff, saving the City valuable time and allowing for better water system operations. New SCADA improvements continue to be implemented with each new water system improvement project based on recommendations included in the Implementation Plan.

Sundance West Water Storage Tank: The Sundance West Water Storage Tank project constructed one new water storage tank to replace two existing tanks in the Sundance West Subdivision that were prone to leaking and required routine maintenance by City staff. This project also increased the water storage volume in Sundance West, addressing water shortages first noted in the Level I Study. Pump station upgrades and SCADA improvements were also included. Trihydro assisted the City in securing WWDC Level III construction funding prior to design.

Sundance Kid Tank: The Sundance Kid Tank project includes construction of a new water storage tank and upsizing of existing water transmission lines that run underneath Interstate 90 (I-90). This project addressed significant deficiencies identified by the United States Environmental Protection Agency , increased available fire flow throughout the City, addressed potential water system contamination pathways, and continued to fulfill water system improvements recommended in the Level I Study. Trihydro introduced the City to Public Facilities Funding available through the Wyoming Abandoned Mine Land (AML) program and assisted with the funding application to make this project possible.

WYDOT Cheyenne Streets Project (Cheyenne, Wyoming)	
Project Owner	Wyoming Department of Transportation (WYDOT)
Year Completed (Actual or Estimated)	Ongoing
Relation to Scope of Services	DR, P&M

Trihydro is currently serving as the prime consultant for WYDOT's Cheyenne Streets – US Highway 30 (US 30), Dell Range, Foxglove Drive, Whitney Road, and US 30 Frontage Roads Project (Cheyenne Streets project) located on the eastern edge of Cheyenne in Laramie County. The proposed roadway improvements will serve the area as growth and development continue occurring. Trihydro is responsible for overall project management, road design, and final plan preparation. Extensive project coordination is required with various project stakeholders including Laramie County, the Cheyenne Metropolitan Planning Organization (MPO), City of Cheyenne, Cheyenne Board of Public Utilities, franchise utility companies, adjacent landowners, and proposed new development. Trihydro is also coordinating with various WYDOT Programs to incorporate information and recommendations in the project design. This project is currently in the preliminary design phase, with a 2026 letting scheduled. This project includes the following:

- Constructing a new intersection at Whitney Road (Rd) and Dell Range Blvd.
- Reconstructing Whitney Rd. from the new intersection south to US Highway 30.
- Reconstructing Dell Range Blvd. from Whitney Road east to a new intersection with US 30.
- Reconnecting the remaining portion of Dell Range Blvd. to the newly realigned section to form the beginning of a new frontage road.
- Extending the existing frontage road south of US 30 to Christensen Rd.

County Road 142 80% Design Review (Laramie County, Wyoming)	
Project Owner	Laramie County
Year Completed (Actual or Estimated)	2023
Relation to Scope of Services	DR

Completed a third-party plan set and project manual review for a road reconstruction on behalf of Laramie County.

BOPU North City Improvements (Cheyenne, Wyoming)	
Project Owner	Cheyenne Board of Public Utilities
Year Completed (Actual or Estimated)	2024
Relation to Scope of Services	DR, P&M
This project involves design and construction of a 6-million-gallon water storage tank, transmission lines, and associated appurtenances. The water storage tank is currently under construction and transmission main construction is anticipated to begin in 2024.	

Cheyenne Water Rights Master Plan (Cheyenne, Wyoming)	
Project Owner	Cheyenne Board of Public Utilities
Year Completed (Actual or Estimated)	2022
Relation to Scope of Services	DR, P&M
This project includes identifying and recommending new water rights to support anticipated population growth for Cheyenne, Wyoming and to respond to a Colorado River Compact Curtailment.	

Cheyenne Municipal Storage Level II Study (Cheyenne, Wyoming)	
Project Owner	Cheyenne Board of Public Utilities
Year Completed (Actual or Estimated)	2021
Relation to Scope of Services	DR, P&M
Explored opportunities to enlarge the BOPU's water supply for future projected demands. Completed demand projections, hydrologic modeling, assessed environmental impacts, coordinated archaeological and paleontological inventories, developed conceptual designs, including existing water infrastructure improvements and outlet works rehab.	

North Weld County Water District Engineering Master Services Agreement (Weld County, Colorado)	
Project Owner	Weld County, CO
Year Completed (Actual or Estimated)	Ongoing
Relation to Scope of Services	DR, FM, P&M
Trihydro is currently contracted to NWCWD staff to address engineering, surveying, and regulatory compliance questions; document and prepare reviews; provide agency coordination; attend Board meetings; and provide construction administration, observation, and reporting services. Our current list of projects with NWCWD includes: regulatory compliance for NWCWD's entire water system; Eaton Pipeline Project Phase 2 Construction Administration and Observation; Weld County Road 72 Water Service Floodplain Development Permit; Eaton Pipeline Phase 3 Design and Construction Services; CR 84 Small Diameter Water Line: Timnath 36-Inch Water Line Adjustment; and Highway 85 Pipeline Replacement	

Dam Inspection and Surveying Project (Southeast, Wyoming)	
Project Owner	Cheyenne Board of Public Utilities
Year Completed (Actual or Estimated)	2022
Relation to Scope of Services	FM, P&M
Ongoing surveying, monitoring, and geotechnical reporting services for six dams in southeast Wyoming for the Cheyenne Board of Public Utilities (BOPU). The project's objective is to maintain the structural integrity of the dams and reservoirs, optimize their longevity, meet required reporting, and identify opportunities to optimize operations or maintenance.	

Alkali Creek Reservoir Final Design (Big Horn Basin, Wyoming)	
Project Owner	Wyoming Water Development Commission
Year Completed (Actual or Estimated)	2023
Relation to Scope of Services	DR, FM, P&M
Final Design for the proposed Alkali Creek reservoir. Alkali Creek Reservoir will include a 2,500-foot long, 100-foot high, zoned earthen embankment, and 3 saddle dikes. The reservoir will store 9,000 acre-feet. This project includes additional geotechnical investigations, survey (including UAS and legal surveys), and design of 4.5 miles of supply canal, downstream bed and bank stabilization, the earthen dam, seepage controls, inlet and outlet works, principal and auxiliary spillways, control building and instrumentation and controls, stilling basins, and public access area including access roads, parking areas, and boat ramps.	

Glade, Galeton, and Chimney Hollow Reservoirs - Surveying and Mapping (Larimer and Weld Counties, Colorado)	
Project Owner	Black & Veatch Corporation
Year Completed (Actual or Estimated)	Ongoing
Relation to Scope of Services	DR, FM, P&M
Aerial control, boundary surveys, and supplemental topographic surveying for large, proposed reservoir projects located in Larimer and Weld County, Colorado. These projects involve surveying of boundaries, ditch rights-of-way, diversion structures, seismic lines, bore holes and the preparation of easements and related legal descriptions.	

Fremont County Structure ELE Replacement Project (Riverton, Wyoming)	
Project Owner	Fremont County Transportation Department
Year Completed (Actual or Estimated)	2021
Relation to Scope of Services	DR, FM, P&M
Trihydro provided design, bidding, and construction services for a bridge replacement project on Paradise Valley Road at the Pilot Canal north of Riverton, Wyoming. The existing single-lane bridge (Structure ELE) was replaced with a new precast double 12-foot by 7-foot by 55-feet long reinforced concrete box culvert. The new structure provides for a two-lane roadway, the additional width needed for large agricultural equipment, and the additional capacity to pass the Pilot Canal's irrigation demand of 400 cubic foot per second (cfs). This project involved a geotechnical subsurface investigation and report, utility relocation coordination, structure design coordination, HEC-RAS hydraulic modeling, and roadway and drainage design to provide for a realignment, widening, and a grade raise. Trihydro also provided bidding services, construction management, and construction oversight. Construction was completed in December 2021.	

Alkali Creek Compensatory Mitigation Plans & Adaptive Management Plans (Big Horn Basin, Wyoming)	
Project Owner	SWCA Environmental Consultants
Year Completed (Actual or Estimated)	2023
Relation to Scope of Services	DR, P&M
Provide permitting support and address environmental impact statement (EIS) concerns relative to the proposed Alkali Creek reservoir project. Tasks include the development of stream and wetland compensatory mitigation plans and designs, water quality and stream flow adaptive management plans, baseline monitoring, and agency coordination.	

Nowood Storage/Level II Feasibility Study (Big Horn Basin, Wyoming)	
Project Owner	Wyoming Water Development Commission
Year Completed (Actual or Estimated)	2023
Relation to Scope of Services	DR, P&M
Review and evaluate watershed information to identify possible reservoir storage locations, complete hydrologic modeling, perform a geotechnical investigation, assess environmental impacts, perform wetland delineations, coordinate archaeological and paleontological inventories, perform topographic surveying, and develop dam and reservoir conceptual designs, including public access and supply canals.	

2D Desktop Hydraulic Analysis Program (Multiple Locations)	
Project Owner	Multiple Clients
Year Completed (Actual or Estimated)	Ongoing
Relation to Scope of Services	FM, P&M

Trihydro's desktop 2D hydraulic analysis program uses publicly available information to provide quick and affordable hydraulic modeling. A typical 2D desktop analysis takes two weeks or less and is best used early in a project lifecycle when results can be incorporated into scoping and project planning. If a project is selected for further hydraulic modeling or design, results from the desktop study can be used to inform field data collection, refine survey extents, and form the basis for subsequent detailed hydraulic modeling, resulting in overall cost savings to the project.

Desktop 2D hydraulic analysis is rapidly becoming an industry standard for value engineering, and when implemented early in a project or program lifecycle, has potential to result in significant return on investment (ROI) and overall cost savings. 2D hydraulic modeling was featured by the Federal Highway Administration (FHWA) in its Every Day Counts (EDC) innovation program for 2019 and 2020. In 2022, FHWA highlighted Colorado Department of Transportation's (CDOT)'s "2D Quick Check" program which saved the agency millions in design and construction costs; with $13.6 million saved in 2018 and $14.0 million saved in 2019 (CDOT, Savings and Safety with 2D Quick Checks, June 2021). Output from 2D desktop analyses include preliminary 2D floodplain mapping and flow pattern videos that are perfect for stakeholder engagement and decision making.

Trihydro recently completed a 2D desktop analysis case study for approximately 13 miles of the Big Thompson Canyon from Drake, Colorado upstream to Olympus Dam near Estes Park, Colorado. Trihydro's 2D Desktop analysis highlighted several areas in the Big Thompson Canyon where effective flood hazard information is highly inaccurate, and Trihydro and Larimer County staff are currently coordinating with the Colorado Water Conservation Board to further evaluate these areas. Trihydro and Larimer County staff presented this project this study at the 2023 Colorado Association of Stormwater and Floodplain Managers Annual Conference.

Strategic Alliance for Risk Reduction (STARR II) Floodplain Modeling (Monroe and Carbon Counties, Pennsylvania)	
Project Owner	Starr II, A Joint Venture
Year Completed (Actual or Estimated)	2021
Relation to Scope of Services	DR, FM, P&M

Trihydro was contracted in 2020 by FEMA and the Strategic Alliance for Risk Reduction (STARR II), a joint venture of three proven leaders, to develop 1-D steady state hydraulic models and delineate Zone AE floodplains. The vision and purpose of the STARR II partnership is to reduce the loss of life and property caused by floods. Our team has performed several floodplain modeling and remapping efforts, and as a STARR II named partner, produced floodplain modeling for Monroe and Carbon Counties in Pennsylvania using the HEC-RAS software package and StormCad design packages. With this modeling, we produced the standard set of FEMA maps and data products used to produce Flood Insurance Studies (FIS) and Flood Insurance Rate Maps (FIRM). Trihydro prepared geo-referenced 1-D steady state hydraulic models using HEC-RAS version 5.07 for 52 miles covering 12 streams. Using terrain data, field surveys, as-builts of crossing structures, and peak flows data, while also preparing floodways for each model, Trihydro's hydraulic models included SID 84 compliant modeling events. In addition to modeling, Trihydro prepared Floodway Data Tables for all the study streams and a Hydraulic Analysis Report that documented the methodology, assumptions, and data used in the hydraulics analysis.

Teton County Comprehensive Water Quality Management Plans (Teton County, Wyoming)	
Project Owner	Teton County
Year Completed (Actual or Estimated)	2023
Relation to Scope of Services	DR, FM, P&M

Trihydro is contracted with Teton County to prepare a Comprehensive Water Quality Management Plan (CWQMP). Trihydro is coordinating with Teton County, a Steering Committee, and external stakeholders to develop the CWQMP and define a regional approach to achieving water quality objectives. Once complete, the CWQMP will integrate with the 2020 Jackson/Teton County Comprehensive Plan to preserve and protect the region's ecosystem.

Cal-Wood Fire Infrastructure Protection Project (Boulder County, Colorado)	
Project Owner	Boulder County Parks and Open Space
Year Completed (Actual or Estimated)	2022
Relation to Scope of Services	DR, FM, P&M

Trihydro (teamed with Na Ali'i Consulting & Sales, LLC) worked for Boulder County Parks and Open Space (BCPOS) to select and implement a suite of mitigation measures to capture potential debris and mudflows in areas impacted by the recent Cal-Wood Fire. To address concerns of post-fire flooding, debris flows, and erosion, the County entered into a Cooperative Agreement, Emergency Watershed Protection (EWP) program with the Natural Resources Conservation Service (NRCS) to provide emergency stabilization and infrastructure protection to the most at-risk areas due to conditions created by fire. The Cal-Wood Fire began on October 17, 2020, and burned approximately 10,112 acres of private, County, State, and Federal land within Boulder County, Colorado. The project extent included the Geer Watershed, a sub-watershed of Left Hand Creek. Trihydro is performing hydrologic and hydraulic modeling, mitigation measure design, floodplain permitting support, surveying, and inspection services, as well as support for site assessment and post-fire restoration activities. This project was recognized as a recipient of the 2022 American Public Works Association (APWA) Colorado Chapter Award winner in the Parks and Trails category, honoring extraordinary Colorado project, programs, and individuals. This honor also appeared in the Colorado Public Works Journal in October 2022.

Town of Jackson 2021 Wastewater Treatment Plant Technical Review (Jackson, Wyoming)	
Project Owner	Town of Jackson, Wyoming
Year Completed (Actual or Estimated)	2022
Relation to Scope of Services	DR, P&M

Trihydro was contracted with the Town of Jackson, Wyoming to coordinate with the Town of Jackson, assembled Steering Committee, and external stakeholders and complete a technical review of the wastewater treatment plant. This project provided improvements and comprehensive planning for the wastewater treatment plant so the Town of Jackson can meet their water quality objectives and community initiatives.

Cheyenne Streets Pershing Boulevard (Cheyenne, Wyoming)	
Project Owner	WYDOT
Year Completed (Actual or Estimated)	Ongoing
Relation to Scope of Services	P&M

WYDOT contracted Trihydro to prepare construction documents to reconstruct Pershing Blvd. from Pioneer Avenue to Interstate 25 (0.61 miles of urban principal arterial). This project addressed drainage concerns, and improved curb, gutter, and sidewalk. The initial phase included preparing a reconnaissance study and report. Trihydro served as the prime consultant, managing project activities and coordination among several stakeholders including the City of Cheyenne Engineering Department, Cheyenne BOPU, the Cheyenne Metropolitan Planning Organization (MPO), and WYDOT. Preliminary engineering tasks included a supplementary survey, boundary survey, traffic analysis, and a stormwater outfall study. Design work progressed with a public involvement component keeping residents apprised and allowing comments and input to the final design. Final plans incorporated geometric roadway design, right-of-way retracement, a traffic control plan, traffic signal design, and construction sequencing with traffic routing. As part of a separate contract with the Cheyenne BOPU, Trihydro also prepared water line replacement and sanitary sewer rehabilitation designs that were incorporated into the Pershing Blvd. construction plans, without delaying the project letting.

Alkali Creek Reservoir Level II, Phase III NEPA Liaison (Big Horn Basin, Wyoming)	
Project Owner	Wyoming Water Development Commission
Year Completed (Actual or Estimated)	2019
Relation to Scope of Services	DR, P&M
Support the NEPA evaluation of the proposed Alkali Creek Reservoir. This site was identified through the Nowood River Storage Study. Trihydro supported coordination with the Bureau of Land Management (BLM), the 3rd party NEPA consultant, and other cooperating agencies, including performing data collection and evaluation, alternatives analyses, and responding to technical project inquiries.	

Fremont County Solid Waste Disposal District (FCSWDD) Technical Assistance (Fremont County, Wyoming)	
Project Owner	Fremont County Solid Waste District
Year Completed (Actual or Estimated)	Ongoing
Relation to Scope of Services	DR, P&M
Trihydro is contracted with the FCSWDD to provide technical assistance on various matters at their solid waste facilities. Activities include, but are not limited to, surveying and technical engineering assistance, operational and regulatory guidance, capacity audits, and permitting assistance. As part of this contract, Trihydro provides a monthly update on all contracted projects in the form of a Monthly Board Memo for use at the FCSWDD Monthly Board Meetings.	

City of Laramie Engineering Design Manual (Laramie, Wyoming)	
Project Owner	City of Laramie
Year Completed (Actual or Estimated)	Draft submitted January 2018
Relation to Scope of Services	DR, P&M
Trihydro worked with the City of Laramie to develop a draft Engineering Design Manual (EDM) to be used in conjunction with the City's Unified Development Code (UDC). The draft is currently under review by City of Laramie staff. The purpose of the EDM is to provide guidance for City of Laramie staff, engineers, surveyors, developers, and contractors working through the development, design, and construction processes. The EDM will include engineering design criteria, clearly communicating expectations and requirements, and providing the City a standard for performing reviews. The intent is to provide efficiency and consistency to the process. EDM preparation included reviewing existing City of Laramie documentation and applications associated with the UDC. Design standards are currently contained in several documents, written at different times and in different styles. The EDM is intended to be a "one-stop engineering guide" for those entities working through the development, design, and construction processes. Project work included reviewing existing documents; coordinating with the City of Laramie and subconsultants regarding preparation and review of the developed chapters; recommending updates to standards, the UDC, and applications; and providing input as to how the EDM will simplify the process for the City of Laramie, developers, engineers, and contractors.	

New Napa Building Civil Engineering and Surveying Support (Laramie, Wyoming)	
Project Owner	Get Set Properties
Year Completed (Actual or Estimated)	2022
Relation to Scope of Services	P&M
rihydro prepared a civil site design for a new Napa Auto Parts shop in Laramie, Wyoming. The site is located on the former Laramie Yttrium Plant site, which was remediated by the previous owner under the Wyoming Department of Environmental Quality (WDEQ) Voluntary Remediation Program (VRP). Prior to beginning site design, Trihydro completed topographic and boundary surveys and coordinated with the geotechnical engineering consultant to complete a subsurface investigation. For the civil site design components, Trihydro prepared the site plan and parking lot design, grading and stormwater drainage, and sanitary sewer, domestic water, and fire water services.	

I&M Canal Dam and Deep Run Creek Overflow Weir Removal & Replacement (Lockport, Illinois)	
Project Owner	Confidential
Year Completed (Actual or Estimated)	Initial services completed in 2018; Official FEMA map revision process was completed in 2021
Relation to Scope of Services	DR, FM, P&M

A completed project at a former refinery site included the decommissioning of a refinery-era dam and overflow weir on the I&M Canal, as well as the construction of replacement water control structures that will meet future surface water management and flood control needs. Trihydro led a multi-year effort, completing a flood study where we developed HEC-HMS and HEC-RAS models to support removal and replacement of multiple water control structures. Trihydro also coordinated the permitting process and performed field oversight during construction. A key component of the work included working with clients and the City of Lockport to remap the floodplain through the FEMA map revision (CLOMR/LOMR) process based on projected post-remediation conditions. We also assisted the City in providing the updated flood information to local residents. Trihydro spearheaded regulatory negotiations with multiple regulatory agencies to complete the remapping process, culminating in the issuance of updated Flood Insurance Rate Maps (FIRMs) in 2021.

Little Thompson Water District Surveying (Johnstown, Colorado)	
Project Owner	Little Thompson Water District
Year Completed (Actual or Estimated)	Ongoing
Relation to Scope of Services	P&M

CivilWorx, LLC subcontracted Trihydro to provide survey services to conduct a topographic survey and prepare easements along a four-mile corridor north of Johnstown, Colorado. CivilWorx is performing work for the Little Thompson Water District (LTWD) who serves domestic water to a 300-square mile area in Larimer, Weld, and Boulder counties. This project will create a new corridor and alignment for aging water lines. Specific services for this ongoing project include:

- Establishment of control, with ties to existing Public Land Survey System (PLSS) and NGS monuments.
- Boundary survey of properties located within and adjacent to the project. Compiled the survey data and record drawings into a CAD base map, resolved boundary discrepancies, and supplied CivilWorx with an accurate survey.
- Survey of underground utilities which have been added to the CAD base map.
- Legal descriptions and associated exhibits for a variety of permanent and construction easements
- UAS flights above the proposed corridor to provide a 1' contour interval topographic map of the project to be used for design and plan set

City of Sheridan Pavement Maintenance Projects (Sheridan, Wyoming)	
Project Owner	City of Sheridan
Year Completed (Actual or Estimated)	Ongoing
Relation to Scope of Services	P&M

Ridgepoint Consulting (acquired by Trihydro in 2023) has assisted the City of Sheridan with their annual pavement maintenance projects since 2013. These projects have included the replacement of old and antiquated fire hydrants within the project limits, isolated concrete reconstruction to enhance roadway drainage characteristics, Americans with Disabilities Act (ADA) improvements, and various asphalt surfacing and/or subgrade rehabilitation techniques, depending on the condition of the existing roadway surface and underlying base and/or subgrade. These improvements have ranged from milling and overlaying existing asphalt and concrete surfacing to full-depth reclamation (FDR) with cement, which utilizes existing deteriorated asphalt pavement and underlying base and/or subgrade to provide a new suitable base layer for hard surfacing. These various maintenance and rehabilitation techniques have allowed the City of Sheridan to be good stewards of public funds, while minimizing inconvenience to the traveling public.

City of Laramie Venture Drive (Laramie, Wyoming)	
Project Owner	City of Laramie
Year Completed (Actual or Estimated)	Ongoing
Relation to Scope of Services	FM, P&M

The objective of this project is to reconstruct the eastern half of Venture Drive (approximately 1,500 feet) to upgrade it to the City of Laramie's collector classification, including a wider pavement width and inclusion of curb and gutter. Additionally, this corridor has been identified by the City of Laramie to include a shared-use path on the south side of Venture Drive to provide a critical connection between the existing shared-use paths on Colorado Avenue and Adams Street.

Trihydro performed a site survey to facilitate project design and then evaluated the existing right-of-way widths and storm water needs before presenting design alternatives to the City of Laramie. Once a preliminary design was selected, Trihydro developed an alignment and profile to facilitate storm water collection, accommodate pedestrians, and meet constraints of the existing infrastructure. The street will be widened to facilitate drainage and will include curb and gutter. A 5-foot sidewalk on the north and a 10-foot shared use path on the south will be added to provide the connection between the existing shared-use paths on Colorado Avenue and Adams Street. Both the shared-use path and sidewalk will meet ADA guidelines.

Trihydro also evaluated several stormwater management alternatives, performed hydrologic analyses, and designed drainage facilities. The surface drainage presented a challenge as there is only approximately two feet of drop from the lowest roadway sag point to the bottom of the ditch on Adams Street where the system discharges. The limited elevation drop between roadway grades and the outfall location, combined with no existing underground storm sewer system in the area, prevented the use of storm sewer inlets and pipe. To mitigate these challenges, covered curb cuts will be used to allow water to flow from low points in the road profile, under the sidewalk, and into adjacent drainage ditches. Stormwater will then be conveyed through these ditches to an existing drainage ditch along Adams St. where it eventually makes its way to the Laramie River through an open ditch section. Project design is anticipated to be complete Spring 2024.

UPRR Overpass (Laramie, Wyoming)	
Project Owner	Wyoming Department of Transportation
Year Completed (Actual or Estimated)	2018
Relation to Scope of Services	DR, FM, P&M

Trihydro developed roadway alignment alternatives used in the Environmental Assessment (EA) for the Union Pacific Railroad (UPRR) Overpass and associated connecting roadway in Laramie, Wyoming. During the EA phase, Trihydro assisted with construction cost estimating, preparation of public involvement exhibits and 3D visualization models, and attendance at public meetings to answer questions and receive input. Trihydro was responsible for project management, which included coordinating between the electrical consultant, landscape architect, WYDOT's Right-of-Way, Traffic, and Structures Programs, and the City of Laramie. The preferred roadway alignment required some utility relocates and a new stormwater drain. The City of Laramie also chose to make utility improvements while the roadway was under construction. These utility designs were prepared by Trihydro's Rocky Mountain Infrastructure team including stormwater facilities, sanitary sewer, and water distribution line design. Trihydro prepared special provisions in WYDOT format for the water line and sanitary sewer work to meet City of Laramie standards. This project included several structures including widening the previous structure over the Laramie River, retaining walls along the approach fills and the 400-foot-long, two-span bridge over the UPRR. Additionally, this project included an extensive public involvement effort from the early EA development through the design development. Trihydro prepared renderings of the proposed structure to assist the public in visualizing the location and the structure upon completion.

Aspen Pines Water & Sewer District Sludge Treatment Wetland (Wilson, Wyoming)	
Project Owner	Aspens Pines Water and Sewer District
Year Completed (Actual or Estimated)	Design Completed in 2023
Relation to Scope of Services	P&M
Trihydro recently completed the construction plans and a detailed technical design report for Aspens Pines Water and Sewer District's proposed sludge treatment wetland (STW) in Teton County, Wyoming. The project will convert the WWTP's unused emergency overflow basin into a STW for biosolid treatment and long-term storage. Project components include a sludge distribution system within a sludge treatment and storage cell as well as a basin-wide drainage system. The sludge treatment cell will be vegetated with cattails from onsite sources. Vacuum trucks will pump sludge into a sludge feed pipeline, which will include evenly spaced risers for uniform sludge distribution. A perforated pipe system wrapped in filter fabric will serve as a basin drainage system that can convey water back to the wastewater treatment plant to control the water surface elevation. The ability to store biosolids onsite will save Aspens Pines Water and Sewer District significant money, as biosolids disposal costs are very high. It is estimated the STW may have a service life of approximately 50 years once the entire basin is converted. Extensive coordination and communication with WDEQ were required to receive project approval and obtain a Permit to Construct. This innovative project will be a 5-year pilot study, and construction is planned to begin in 2024.	

WYDOT Mill and Overlay Projects (Statewide at Various Locations)	
Project Owner	WYDOT
Year Completed (Actual or Estimated)	Ongoing
Relation to Scope of Services	P&M
Trihydro has completed final contract plans and documents for multiple mill and overlay projects under our current WYDOT Master Agreement for Road Design Services - Statewide. For these projects, Trihydro prepares Final Plans, Specifications, and Estimates (PS&E) conforming to WYDOT's Open Roads Design Manual. Cost estimates are prepared with established WYDOT bid items and special provisions are also provided with project submittals. To date, final PS&E Plans have been provided for 6 individual projects.	

3.1 REFERENCES FOR FIRM

Below is a list of client references for Trihydro. Additional references can be provided upon request.

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4.0 TRIHYDRO'S ABILITY TO PERFORM REQUESTED SERVICES

Trihydro understands project management is, first and foremost, crucial to completing a project on time and within budget. Good communication is critical between County Staff and Trihydro's Project Manager. Upon individual project award, Mr. Eldridge-Looker will identify the County's specific point of contact and provide frequent updates and regular communication. With engineers and surveyors staffed in Cheyenne, Fort Collins, and Laramie, Trihydro is well positioned to meet the County's requests. Moreover, Trihydro has other professional teams including CADD, GIS, and environmental services that could be beneficial to the County depending on specific project needs.

Project Communication

Trihydro believes communication is one of our best tools in meeting project objectives, managing budget, and completing work as scheduled. Effective communication is critical to keeping a project on course, and Trihydro continually strives for clear and consistent communication with our clients, project team, and other stakeholders. Trihydro's Project Manager will:

- Establish a communication list at the scoping/kick-off meeting for effective communication of project objectives, budget, work plan, reporting, schedule, and deliverables.
- If requested, develop a written communication plan identifying the methods and lines of communication for the project team, and maintain an internal communication plan that is clearly articulated even without required written plans.
- Routinely provide updates on work progress and communication relating to the project (often weekly).
- Return communication in a timely manner.
- Maintain accurate records of discussions and decisions on project issues, including meeting notes for discussions between Trihydro and the County, especially when other stakeholders are participating.
- Employ an "open door" policy to encourage the County to communicate ideas and feedback at all stages of a project and communicate issues on the day they arise.

Meeting Project Schedules

Completing awarded assignments on schedule is critically important. Mr. Eldridge-Looker is accustomed to managing a broad range of projects, from relatively simple, short-term projects to complex, multi-year endeavors. He can quickly identify and foresee project issues and concerns, provide mitigation measures and options, and bring these to the County's attention, allowing for timely resolution. Trihydro's project schedule approach includes:

- Establish a detailed schedule with clearly defined tasks and deliverables
- Monitor task progress daily
- Make schedule review a part of the project management plan
- Meet regularly with County project managers regarding project progress
- Establish hard completion dates throughout the project planning process

These factors help maintain project schedule, but more importantly, reduce elements that typically cause schedule delays. Through our past project experience, our team has demonstrated its ability to define and maintain project schedules and sustain project momentum.

Quality Assurance/Quality Control (QA/QC)

We take pride in our work and build quality and value into everything we do. Client satisfaction is of utmost importance, be it a report, drawing package, submittal review, or complex data files. To foster a culture of outstanding quality, we are committed to a rigorous quality management system that make quality a basic business principle. This operating philosophy focuses on client satisfaction achieved through meeting clients' expectations and requirements in a timely manner. Conformance to client requirements and meeting their expectations are the responsibility of each Trihydro employee. Our goal is to continue providing high-quality services for the mutual benefit of our clients and employees.

Our culture principles are documented in (1) our corporate Quality-Management System (QMS) Manual; (2) written procedures for field, laboratory, engineering/ design, site operations, and reporting; (3) assigned responsibilities for compliance and verification; and (4) feedback/corrective action procedures to continually improve quality. Our approach for using these four elements has evolved over decades of fieldwork expertise, subcontractor management, and engineering work.

4.1 DEVELOPMENT REVIEW

Trihydro understands the County's challenges accommodating growth and supporting rapid development. As resources are stretched thin and County staff are asked to do more, our team can step in to support:

- Development and subdivision plat application review
- Onsite and public ROW improvements
- Wyoming Pollutant Discharge Eliminations System (WYPDES) permit requirements
- Stormwater hydrology and hydraulics
- Traffic engineering and transportation
- NEPA requirements
- Geotechnical investigations review
- Engineering estimates and bonding calculation reviews

1) Review of site plans and similar development applications.

Our team specializes in civil site development and will use our expertise to provide non-biased development and subdivisions plat reviews. We have successfully completed civil site design, infrastructure design, resource planning, and environmental compliance projects across the nation. The diverse conditions and characteristics associated with planning projects has required our staff to adapt and effectively handle a multitude of projects with varying complexity.

The City of Laramie contracted Trihydro to complete a third-party review of the University of Wyoming's New Residences and Dining Hall project. The University is redeveloping 8.5 acres on campus and constructing two new residential buildings and a new dining hall. Once complete, the residences will house nearly 1,000 students. Our team was responsible for verifying the water and wastewater engineering design report, site plan, and traffic study were prepared with sound engineering practices and met the City of Laramie's design requirements and expectations. To meet the City of Laramie's expedited schedule, our team turned the review around in one week and provided a comprehensive comment list.

2) Preparation of engineering-specific Conditions of Approval related to site plans and subdivision permit applications.

As necessary, our team can prepare engineering-specific Conditions of Approval for site plans or subdivision permit applications. Trihydro currently serves as the City Engineer for the City of Sundance, WY. In our role as City Engineer, we complete engineering design reviews to verify development and infrastructure improvements meet City of Sundance ordinances. We work closely with the design engineers to review site plans and evaluate a project's potential impact on existing water, sanitary sewer, and stormwater infrastructure. We are also working with the City of Laramie to upgrade sanitary sewer collection systems, allowing the City of Laramie to approve development within the sanitary sewershed. We will use our experience to evaluate the bigger site plan and subdivision picture and incorporate necessary conditions to approve development.

3) Review of subdivision plat applications for conformance with the State and County regulations.

State of Wyoming and Laramie County Land Use Regulations were developed to promote public health, safety, and general welfare, protect the environment, and ensure design consistency. We understand the importance of regulatory compliance and

have long-standing relationships with municipalities and regulators. We have helped municipal clients prepare development guidance documents to verify subdivisions, infrastructure, and site designs are completed in accordance with consistent and sound engineering practices.

As City Engineer for the City of Sundance, we have conducted plan reviews for new developments including an industrial subdivision, an elementary school, upgrades to the WYDOT Port of Entry to support a maintenance facility, a retail store, and several other new buildings. We actively engage with City of Sundance staff throughout the year to understand long-term goals and visions as well as conduct annual strategic planning sessions.

4) Review of subdivision, site and development improvement plans for both onsite improvements and public right-of-way improvements for compliance with grading, drainage, WYPDES, transportation and County design standards.

Improper and inconsistent designs can lead to operation and maintenance headaches and public safety issues. Short-sighted grading designs can create drainage problems and circumvent best management practices (BMPs), degrading discharge water quality. Our team is well-versed in site grading, drainage, and WYPDES permit requirements and we understand the importance of effectively treating stormwater runoff and protecting water bodies. Proactive planning and management are imperative to reducing adverse impacts of stormwater runoff on receiving waters.

5) Review of hydrology maps and hydraulic calculations for private and public storm drain systems for compliance with State and County requirements.

Our professionals are experts in stormwater planning and have a thorough understanding of stormwater management's many challenges. We are experienced with complex municipal stormwater modeling and design projects and are well-versed in:

- Development and roadway projects within floodplains
- Stormwater quality control measures
- Storm drain and inlet design
- Stormwater detention design
- Permitting
- Floodplain and floodway modeling

In support of these activities, we have extensive experience using HEC-HMS and Rational Method calculations to evaluate rainfall and runoff scenarios. We also have experience using HEC-RAS modeling software to find the most cost effective and hydraulically efficient structures for crossing floodplains, creeks, and ephemeral drainages. Our team is staffed with CFMs who have passed a rigorous certification exam and maintain continuing education credits. CFMs are instrumental in promoting responsible floodplain development and mitigating the damage/rebuild cycle from natural disasters

6) Review of engineer's estimates for public and private improvements that may be subject to bonding requirements, verification of quantities and preparation of fee calculations.

Accurate bonding calculations are important to verify the County is sufficiently covered in the event of default. Trihydro is accustomed to developing and refining construction cost estimates throughout a project's design lifecycle. Our clients rely on us to accurately calculate quantities and costs to verify the intended project design can meet our client's budget. With today's construction market and materials volatility, cost estimating is more difficult and important than ever. We actively work with our clients and review public bidding platforms to obtain current bid tabulations and unit prices. Additionally, we communicate frequently with vendors and contractors to understand materials and labor fluctuations and their impact on construction costs. Project bonding should not be any different. Inaccurate bonding calculations can leave the County on the hook for expensive construction costs or environmental cleanup. We will pull our multi-faceted resources to verify quantities, fee calculations, and engineer's estimates are sufficient to protect the County.

7) Proactively communicating with private developers and associated design professionals by telephone, email, written correspondence, and face-to-face meetings at the County or consultant offices, whichever is requested by the applicant, to discuss plan check review comments.

In addition to our numerous public clients, Trihydro works extensively with private clients and developers. Growth and development lead to increased municipal tax revenue, which in turn, leads to improved roads, water, sanitary and storm sewer, and other infrastructure for our communities. We support sustainable and responsible development and strive to help our clients do the same. As noted above, proactive communication is paramount to project success. Emails and phone calls can often sufficiently accomplish project objectives, and virtual meetings have become the norm recently, but sometimes solutions need to happen in-person. With our headquarters in Laramie and additional project resources in our Cheyenne and Fort Collins offices, we can easily respond to face-to-face meetings with developers and design professionals at the County's office.

8) Review of NEPA documents, geotechnical investigations, traffic studies, and similar engineering reports to understand issues that may impact the design of private subdivision or development improvements, and/or public streets or utility infrastructure.

Development and subdivision applications are the result of significant preliminary studies including NEPA reviews, geotechnical investigations, and traffic studies. These preliminary studies factor into long-term impacts and need to be evaluated thoroughly and consistently. Trihydro's Risk Assessment/Ecological Services Team will provide NEPA document reviews to verify whether environmental, social, and economic effects are adequately assessed. Additionally, our engineering team will review geotechnical investigations, traffic studies, and other similar reports to understand design effects on the community. We can provide a high-level review of geotechnical reports and traffic studies and, if necessary, quickly contract a specialized subconsultant to support more thorough technical reviews.

9) Preparation of reports to the Board regarding engineering issues.

Trihydro routinely prepares reports and technical memorandums for our clients to review at board and council meetings. Reports include project summaries, scheduling status, budget updates, design and/or construction issues, and action items to keep our clients apprised of multiple project statuses.

Through our relationship with the City of Sundance, we identified several opportunities to improve city ordinances. We collaborated with City of Sundance staff and the Land Use Planning Committee to address specific items including adopting Wyoming Public Works Standard Specifications, composing a Floodplain Development Permit Application, and establishing city-wide fire flow requirements. We will incorporate this experience into our County work to promptly inform the County of potential engineering issues.

10) Other assignments not specifically listed above but required during the engineering review of development applications.

Our multi-faceted team can step in to tackle other assignments as needed to complete development application engineering reviews. Additional assignments may include Access Permit Applications, Utility Permit Applications, Road Construction Permit Applications, and traffic control plan reviews. Our team can step in to help verify applications are complete and meet Laramie County Land Use Regulations, Wyoming Public Works Standard Specifications, Manual on Uniform Traffic Control Devices requirements, and other standards and guidance.

11) Assignments shall be completed to meet specified deadlines. Firms and individuals shall demonstrate sufficient depth of resources to assure timely service delivery and redundant capability.

Trihydro's resource depth will allow our team to respond quickly to the County's requests and meet specified deadlines. Our size allows us the flexibility to manage project workload and staff a project as needed to exceed our client's expectations. Our leadership team is engaged, accessible, and involved in day-to-day operations to eliminate gaps between management and our project teams. Our Water Resources, Infrastructure and Water/Wastewater, and Surveying Services teams are all housed within the same Business Unit, facilitating frequent communication and resource sharing to meet project objectives and schedules.

4.2 FLOODPLAIN MANAGEMENT

Our engineering staff includes multiple CFMs who understand and are experienced in floodplain management concepts, policies, and programs. Trihydro has assisted several clients through the floodplain permitting process, as well as preparing and submitting Conditional Letters of Map Revision (CLOMR), Letters of Map Revision (LOMR), and Letters of Map Amendment (LOMA). Additionally, Trihydro staff have designed features within floodplain planning and streamflow restoration efforts to support the natural and beneficial functions of floodplains.

In addition to our floodplain management expertise, Trihydro is a mapping partner for FEMA as part of the STARR II team. Since 2020, Trihydro has developed hydraulic models and delineated Zone AE floodplains to support the updating of Flood Insurance Studies (FISs) for various locations. Starting in 2022, Trihydro is supporting FEMA Region 8 (which includes Wyoming, Montana, Colorado, North Dakota, South Dakota, and Utah) in its updates to the existing regulatory flood maps and associated modeling, as well as updates to FIS documentation.

1) Review all development permit applications to determine the permit requirements of the regulations have been satisfied.

Trihydro has a wealth of experience in not only preparing and supporting clients in their development permit applications, but also in reviewing and approving permits when serving as City Engineer for cities like Sundance, WY, and Garden Ridge, TX. One of our floodplain management specialists is currently serving on the Larimer County, CO Flood Review Board, which reviews over 20 floodplain development permit and CLOMR/LOMRs per year Moreover, we have assisted communities in creating and updating development ordinances and requirements, as well as creating development permit application forms.

2) Review all development permit applications to determine all necessary permits have been obtained from Federal, State, or local governmental agencies from which prior approval is required.

Trihydro has worked with clients to obtain a variety of Federal, State, and local permits relevant to development within a floodplain. These include federal requirements, such as Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334 (related to wetlands habitats) and Section 10(a)(1)(A) of the Endangered Species Act of 1973, 16 U.S.C. 1531 (related to endangered and threatened species). We have coordinated directly with the overseeing federal agencies, such as the U.S. Army Corps of Engineers (USACE) and the U.S. Fish and Wildlife Service (USFWS), so that applications are complete, and the required levels of detail and accuracy are met. Furthermore, Trihydro has worked directly with the WDEQ and with clients to verify appropriate permits are obtained when work in the floodplain could have potential impacts on water quality. For a project with Boulder County, CO, we performed a hydraulic analysis and obtained a floodplain development permit for post-wildfire streamflow protection measures and a riparian restoration area. Part of this process included verifying federal wetlands and endangered species permitting requirements were met.

In addition to verifying permitting requirements are met, Trihydro has assisted clients in submitting successful Letters of Map Change (LOMCs) to FEMA. For a client in Webb County, TX, working within the Rio Grande River basin, we prepared a Letter of Map Amendment based on Fill (LOMR-F) after modeling to determine the Base Flood Elevations (BFEs) for several sediment retention structures. Similarly, for a location in Lockport, IL, we prepared and submitted a LOMR to account for construction of several surface water drainage features installed as part of the overall refinery remediation project. Recent LOMC submittals include a LOMR for a residential development in Wellington, CO, a CLOMR for an oxbow restoration project in San Luis Obispo, CA, and a LOMR for a post-fire stream restoration project in Boulder County, CO.

3) Review all development permit applications to determine if the proposed development is located in the floodway. If located in the floodway, assure the encroachment provisions are met.

Trihydro's experts understand mapping and modeling used to determine if a proposed development is located within the floodway and can assess potential impacts on existing structures to determine if an application should be approved. Additionally, we have a dedicated team of surveyors who are experienced with accurately locating proposed development boundaries, floodway extents, and elevations.

Trihydro has experience with regulatory floodway restrictions on a variety of our projects and is familiar with how to present potential restrictions to our clients and suggest various mitigation measures: from no-rise certifications to CLOMR and LOMR submittals. Our experience includes both preparation and review of development permit applications in floodways.

4) When base flood elevation data have not been provided in accordance with the regulations, obtain, review, and reasonably utilize any base flood elevation and floodway data available as criteria for requiring that new construction, substantial improvements, or other development in Zone A are administered in accordance with the regulation's Specific Standards.

Trihydro staff include CFMs who understand how BFEs and flood hazard boundaries are derived and how to interpret data and maps when detailed FEMA models are not available. For previous work, we have performed flood frequency analyses and reviewed local high-water marks to estimate flood vulnerability of proposed developments. Furthermore, we are experts at developing and applying hydrologic and hydraulic models for the purpose of deriving BFEs and generating flood maps.

Trihydro is currently working to restore a decommissioned petroleum tank farm site in southern California that includes work within a Zone A approximate floodplain boundary. To meet County ordinances in this area, we developed models to determine BFEs and performed existing and proposed hydraulic analyses to quantify proposed impacts. Additionally, to meet local requirements, we prepared and submitted a CLOMR to FEMA, which was reviewed and approved.

Trihydro recently provided support for floodplain development permit applications for three transmission pole locations associated with the Ready Wyoming project. These transmission pole sites are located in Zone A floodplains in Laramie County, WY. Trihydro completed desktop 2D H&H analyses based on 2021 USGS LiDAR topographic data to support required calculations. Based on computed local depth and velocity at each site, Trihydro completed scour calculations and determined hydrostatic and hydrodynamic loads for each proposed transmission pole to certify proposed structures are adequately designed for scour and flood forces. Trihydro is currently providing floodplain permitting support for an additional 19 transmission pole locations in Zone A floodplains in Laramie County, WY.

5) Identify maintenance specifications for altered or relocated portions of watercourses so that flood-carrying capacity is not diminished.

Trihydro's engineers understand the requirements for long-term maintenance of natural and modified river systems so that discharge capacity is not reduced due to sedimentation, overgrowth, or other alterations. We have developed operation and maintenance (O&M) plans for a variety of clients to verify system stability and prevent any gradually developing, preventable increase in flood risk. For example, for a project in Boulder County, CO, we established an O&M plan for sediment and debris flow mitigation structures constructed in response to a wildfire. Similarly, Trihydro has developed numerous O&M plans for a variety of local authorities to protect hydraulic structures, stream restoration areas, and critical infrastructure.

6) Provide interpretation as to the location of F.I.R.M. boundaries of the Areas of Special Flood Hazard.

Our team has performed several floodplain modeling and remapping efforts. As mentioned above, Trihydro is a FEMA mapping partner (Region 8) as part of the STARR II team (see https://www.starr-team.com/starr/Pages/default.aspx). As a mapping partner, we are producing the standard set of FEMA maps and data products used to produce FIS and FIRMs. Additionally, we have performed flood mapping for a wide range of projects, including in the Houston metropolitan area in response to Hurricane Harvey and during a multi-year study to model and map the floodplain for an Illinois watershed. This watershed contained a decommissioned refinery and required modeling floods based on projected post-remediation conditions to increase the amount of developable and salable land. Trihydro coordinated the permitting process and performed field observation during construction as well as assisted with the site's flood zone remapping process by leading permitting and coordinating with

regulatory agencies. Our survey team is available to locate Special Flood Hazard Areas in the field and our CFMs can provide interpretation support if boundary inconsistencies arise.

Moreover, Trihydro has prepared a number of elevation certificates for our clients, the most recent one being for a property located in the Spring Creek drainage in Fort Collins, CO. For this project, the Spring Creek flood profiles were used to determine property BFEs. Combining this information with surveyed elevations on the property, we were able to file a LOMA to remove a corner of the property from the flood zone, allowing our client to develop the property.

7) Assist the County with the Community Rating System (CRS) program. This could include compiling information, reports for compliance purposes and any other needs related to the County CRS program. Note: The Community Rating System (CRS) is a voluntary program for National Flood Insurance Program (NFIP)-participating communities.

The Trihydro team understands the National Flood Insurance Program (NFIP) Community Rating System (CRS) and its potential to reduce flood insurance premium rates. Our experience with floodplain management and modeling supports cities and counties who wish to participate in this voluntary program. We understand how communities can achieve credits to improve their ratings and can help identify steps to realize CRS rating objectives. Our floodplain management specialists have experience coordinating with and assisting a wide range of CRS communities with compliance, including the City of Boulder and Boulder County who maintain CRS Class 5 ratings (25% discount) and the City of Fort Collins which maintains a CRS Class 2 rating (40% discount).

Additional Relevant Expertise

Relevant to floodplain management, modeling, and mapping, Trihydro has developed and applied HEC-HMS and HEC-RAS models for planning, design, and decision support purposes. We work with clients to identify clear modeling objectives, collect and analyze relevant datasets, formulate conceptual model design, develop the HEC-RAS model geometry and flow files, calibrate and validate the model to historical data or high-water marks, and apply the model to achieve the objectives. We understand how to parameterize and calibrate models and how to perform sensitivity analyses to determine and interpret model behavior. Trihydro has developed steady and unsteady models, utilizing both 1-D and 2-D modeling configurations. Additionally, we have applied HEC-RAS for hydraulic structures design and other system features, and we have developed and applied HEC-RAS for real-time flood mapping and flood impact analyses.

Trihydro staff also have extensive experience developing flood forecast models and decision-support systems. Working with the Texas Water Development Board (TWDB), Trihydro's flood forecasting expert assisted the West Gulf River Forecast Center (WGRFC) in developing and calibrating hydrologic models throughout Central and Southeast Texas. In response to intensive flood events in the region in 2013 and 2015, hydrologic models were developed that allowed the WGRFC to issue hourly forecasts to improve flood warning lead time. Furthermore, in response to Hurricane Harvey, models were developed for the WGRFC for the Houston area in the San Jacinto and Buffalo Bayou basins. These models significantly expanded the number of forecast points and improved forecast accuracy. Trihydro staff have also assisted the USACE in developing the Corps Water Management System (HEC-CWMS) for deployment in numerous watersheds in the western United States to provide decision support for dam operations during flood events or for operations prior to forecasted rain. USACE has also created a stand-alone version of HEC-CWMS called Real Time Simulation (HEC-RTS) that allows incorporation of the HEC modeling suite into a flood warning system for use by local agencies. Trihydro has expertise in supporting development and implementation of these systems.

4.3 PROJECTS AND MISCELLANEOUS NEEDS FOR PUBLIC WORKS

Our team will support County staff in technical design and civil engineering construction projects. Our management, lead engineers, surveyors, and design staff have the resources and qualifications to oversee project components from planning and scope development through design and construction to project closeout.

Plans, specifications, and project documents will be completed in accordance with current County and/or State and/or Federal standards. We will submit plans and drawings in AutoCAD 2020, or an earlier version, and engineering design data will be provided to integrate in ArcGIS formats. Engineering plans, drawings, and other data will be reviewed and packaged by

our CADD and/or GIS teams to verify the County's requirements are met. We commonly work with clients to establish data sharing platforms, GIS platforms, and dashboards to provide efficient data access. If the County desires, we can prepare similar platforms to facilitate data sharing.

1) Initial project planning, including identifying key milestones, scope description and design, delivery schedule.

Trihydro's team is well-versed in project planning, execution, and closeout for public and private clients. We emphasize project kick-off meetings as an excellent opportunity for Trihydro and our clients to openly discuss project objectives, expectations, schedules, and budgets. Because the County is looking for assistance in multiple project areas, the kick-off meeting is an opportunity to introduce project staff to the client and provide familiarity and comfort that we have assigned the right staff for the project. We prepare detailed work scopes outlining key assumptions and deliverables so our clients know what to expect. We tailor project schedules to meet our clients' expectations and can prepare simplified tables or complex Gantt charts depending on necessity.

2) Assisting County staff with project documentation for Division Manager, Department Head and Board of Supervisors approval.

We pride ourselves in our clients' confidence that Trihydro can serve as an extension of their staff. We understand resources are often limited and our team can step in to assist with needed project documentation. Trihydro maintains multiple electronic repositories to store project information and documentation including SharePoint, GIS platforms, dashboards, and our proprietary software, Enflection©. These programs allow our clients real-time access to their project information and data in a clean and organized manner.

3) Preparation of technical specifications using the County's style and formatting.

Trihydro maintains an in-house technical specification library from multiple projects and clients. This allows us to quickly pull specifications which we can then revise to meet Laramie County Land Use Regulations and the County's style and formatting. We also frequently use Wyoming Public Works Standard Specifications for municipal projects. Multiple specification versions also allow us to select and revise a specification to meet specific project needs. Furthermore, we maintain American Society for Testing and Materials (ASTM) and American Water Works Association (AWWA) standards libraries, providing easy access to those references.

4) Preparation of plans, technical specifications, bid documents, project manual etc. using the County's standards.

Trihydro's project team has prepared plans, specifications, bid documents, and project manuals for numerous infrastructure, development, and transportation projects. Plan sets undergo a strict CADD standards review prior to submittal to verify completeness and consistency from project to project. Additional submittals, including project manuals, go through our formatting and QA/QC peer review process prior to client delivery. We are also well versed in various bidding platforms including traditional hard copy documents and online platforms such as QuestCDN, depending on the County's preference. We understand poorly prepared bidding documents open our clients up to unnecessary change orders, construction delays, and frustration. Our QA/QC process helps eliminate these headaches and facilitate smooth construction.

5) Bid support and construction administration including construction inspection services specific to county roads, development improvements and other appurtenances as designated by the Public Works Director.

Our team has extensive experience in providing construction cost estimating, bidding assistance, administration, and observation services for public and private sector clients. Our staff is composed of experienced personnel with an array of construction knowledge. We understand the importance of completing projects on time and on budget and believe the leading cause of expensive construction cost overruns is project delays.

We are intimately familiar in administering construction projects funded through Federal and State grants and funding agencies such as:

- Clean Water and Drinking Water State Revolving Funds
- Mineral Royalty Grants

- Community Development Block Grants
- Wyoming Water Development Office
- Wyoming Abandoned Mine Lands Program
- United States Department of Agriculture, Rural Utility Services.

Trihydro's Grant Program expands the breadth of services Trihydro offers clients. Led by a Program Director who has over 12 years of grant administration experience, Trihydro provides guidance in navigating the complexity of federal grants and other state/local/foundation/other grant funding opportunities. This includes offering assistance with understanding pre-award grant administration requirements of federal grants as governed by 2 CFR 200 and, under appropriate circumstances, assisting with technical aspects of proposal writing.

Trihydro subscribes to the PIVOT-RP funding opportunity database allowing targeted searches of thousands of funding opportunities that can be shared with clients. Used by hundreds of research institutions and grant administrators world-wide, PIVOT-RP saves countless hours of aimless searching on the Internet for grant opportunities. By applying filters such as keywords, applicant eligibility, desired funding amount, funding opportunities can be found within minutes. These opportunities include the sponsor, funding category (keywords), funding amount, application requirements and deadlines, and where to find more information. Pivot-RP enables the user to mark opportunities, track them; and receive submittal deadline reminders and updates when the opportunity changes.

We understand funding sources can stipulate tedious contract requirements (e.g., Davis Bacon Wages, wage interviews, etc.), and our team of engineers and construction professionals can help navigate these murky conditions. We apply engineering expertise and contract document knowledge to resolve questions arising from construction issues and proactively minimize factors that result in change orders, budget overruns, delays, scheduling problems, and design errors.

Planning and design are critical components to every project, but it is ultimately how the project is constructed that determines success and longevity. Our team of engineers, surveyors, construction managers, and inspectors offer a long history of constructing civil site design, transportation, water and wastewater, and stormwater infrastructure projects. This experience pays dividends, not only in the quality of the finished project, but also in the completion process. We maintain a "one-team" mentality with the client, stakeholders, funding agencies, and project contractor to mitigate construction challenges.

During construction, our staff prepare daily reports and photos for construction team review. By providing on-demand updates, the team can observe progress and address items of concern quickly and efficiently. At project completion, we provide the client with as-built drawings tied to the daily photos and reports, providing a concise record of how project components were constructed.

6) Land Surveying Services: General survey work including, but not limited to, records research, road location survey, encroachments, monumentation, plat preparation and construction-oriented work.

Trihydro understands the responsibility of providing on-call professional land surveying services and is committed to

providing our clients with surveying and mapping excellence, cost effectiveness, and timely project delivery. We have provided similar services for a variety of clients including WYDOT and Northern Colorado Water Conservancy District. Additionally, Trihydro contracted with the Cheyenne BOPU to provide annual dam monument surveys at Rob Roy and Hog Park Reservoirs as well as bi-annual dam monument surveys at Crystal, Granite, and Crow Reservoirs. We will provide the same level of responsiveness to the County in our capacity as an on-call consultant. Our surveying team possesses training and experience conducting right-of-way and property surveys and is proficient preparing land plats, easements, and records of survey. Additionally, Trihydro provides construction surveying, hydrographic surveys, topographic/planimetric surveys, improvement surveys, and control surveys.

With Wyoming-licensed surveyors staffed in our Laramie and Fort Collins offices, we have several routes available to reach County facilities quickly and efficiently. Trihydro uses state-of-the-art surveying equipment (Trimble GPS, Robotic Total Stations, Digital Levels, and automated data collection technology) for surveying industrial, commercial, private, and municipal projects of all varieties and sizes. We offer a broad range of survey services including boundary, control, ALTA/American Congress on Surveying and Mapping (ACSM) Land Title Surveys, topographic surveys for design, construction staking, route alignment, oil and gas well infrastructure surveying and design, subdivision platting, easement preparation, and residential lot surveys. Our crews are outfitted with four-wheel drive trucks and all-terrain vehicles (ATVs) or utility task vehicles (UTVs), depending on the specific job requirements, providing quick and accurate surveys.

Our survey team uses Trihydro's CADD and GIS Teams to assist with preparation of plats and exhibits that accompany our legal documents, providing uniform "field to finish" operation. Our survey team members are experienced in topographic surveys, including site surveys for planning and engineering projects, volume surveys, and lake and river surveys. Our professionally-licensed surveyors are responsible for supervising and quality checking the control used in our aerial mapping program.

To enhance our engineering and surveying services, Trihydro developed an in-house UAS program. Our UAS program allows Trihydro to optimize survey costs, collect aerial and topographic data, and capture unique aerial perspectives. Our team of technical experts process data using industry leading photogrammetric, full-motion video, GIS, and surveying software to produce and share professional quality geospatial deliverables. It provides a tool for data collection with efficiencies not available with conventional surveying that can be used throughout the project process by collecting preconstruction design information, construction monitoring, and project completion data. Trihydro has experience operating multiple UAV configurations and models, employs licensed and certified pilots, maintains UAS-specific insurance, and operates under stringent UAS Standard Operating Procedures.

7) Solicitation and management of subconsultants and vendors needed to support design (material testing, potholing, bores, geotechnical, etc.).

Even though Trihydro is the largest engineering and environmental firm in Wyoming with additional resources spread across the country, we do subcontract specialty services. Our network of teaming partners includes subconsultants specializing in materials testing, potholing, bores, and other geotechnical work. We also frequently correspond and meet with vendors to discuss applications for long-standing technology as well as learn about emerging technologies. We can seamlessly contract with subconsultants and vendors to meet the County's requirements. For example, during the UW New Residences and Dining Hall third-party review project, Trihydro reviewed the water and wastewater engineering design report and civil site map but subcontracted the traffic study review to allow for concurrent work and meet the client's expedited schedule. The Trihydro Team and our subcontractor corresponded frequently through the accelerated review process to verify progress and provide a cohesive comments list.

8) Pavement management plan support (to include design and review).

A pavement management plan can provide a deliberate and data-driven approach to maintaining and improving roadway infrastructure. Trihydro's team of professionals can assist in supporting an existing pavement management plan through continued pavement evaluation and assessment, developing reasonable cost estimates to allow for better budgeting and resource allocation, prioritizing surfacing improvement needs, and implementing appropriate pavement maintenance and rehabilitation techniques through design, bidding, and construction administration to align with the overall intent of a pavement management plan and its goals.

9) Design of footings, retaining walls or other structures.

As with material testing, potholing, bores, and geotechnical support, our team would use our subconsultant network to pull resources for footing, retaining walls, or other structural designs and reviews.

10) Drainage/erosion control design.

From congested urban settings to remote abandoned mine land sites, Trihydro excels in drainage and erosion control design. Our team's project portfolio includes a variety of stormwater facilities and structures covering all phases of storage development, stormwater control, and water conveyance facilities, including:

- Curb and gutter
- Stormwater conveyance pipelines
- Artificially lined or turf reinforcing mat-lined channels
- Earthen and riprap-armored channels
- Geomorphic reclamation
- Stream restoration

Our designers and managers stay abreast of the latest professional practices and state-of-the-art software for modeling and designing stormwater infrastructure and drainage improvements. We have evaluated, designed, and observed construction on numerous BMPs such as:

- Construction entrances
- Hydrodynamic devices
- Detention/retention ponds
- Infiltration and sedimentation basins
- Biofiltration swales
- Check dams
- Traditional straw waddles and silt fence

We provide municipalities with site-specific solutions to drainage problems, performing planning, permitting, preliminary and final design, construction administration, and regulatory approvals as needed. Trihydro's project team is experienced with assisting municipalities in drainage easement acquisition to aid drainage structure maintenance, project design, and construction management. Additionally, we know how to implement the best drainage controls for civil site layouts. Our site design experience includes well pads, parking lots, community buildings, and subdivisions. Each site brings challenges to managing stormwater and grading, and we strive to complete sustainable site designs and use low impact development techniques. We coordinate closely with project teams, clients, and regulators to design sites meeting project objectives, enhancing water quality, and minimizing operation and maintenance.

11) Provide general current and comprehensive planning assistance as needed including, but not limited to:

a. Review of development submittal for planning issues.
b. Review of development submittals for conformance with comprehensive plan.
c. Preparation of zoning and regulation changes as needed
d. Preparation of reports and presentation to the Planning Commission and Board as necessary.

Our team is familiar with the importance of comprehensive planning to promote consistent and sustainable development. Trihydro is currently assisting Teton County, WY with developing their Comprehensive Water Quality Management Plan (CWQMP) to define a regional approach to achieving water quality objectives. Once complete, the CWQMP will integrate with the 2020 Jackson/Teton County Comprehensive Plan to preserve and protect the area's core ecosystem.

We also collaborate with the City of Sundance and the Land Use Planning Committee to review, interpret, and provide enforcement guidance for floodplain ordinances as well as prepare engineering review comments on proposed zoning code updates.

We will use our experience to assist the County in reviewing development submittals to identify potential planning issues and verify conformance to the Laramie County Comprehensive Plan. Additionally, we will prepare reports and presentations to the Planning Commission and Board as necessary to support informed decisions.

We understand the County has invested significant effort into furthering development and accommodating growth, and our team will act as an extension of County staff to complete development reviews, floodplain management, and miscellaneous public works projects. Our experienced professional engineers, land surveyors, and support staff specialize in these areas and can quickly respond to the County's needs. For more specialized services, we will coordinate with our extensive subconsultant network so the County will only need to work with one point of contact. Our work products will adhere to Trihydro's precise QA/QC program so the County can expect consistent and comprehensive deliverables. We are confident our experience with similar projects will allow us to provide quality services on time and within budget.

5.0 TRIHYDRO FEE STRUCTURE

Trihydro's 2024 Schedule of Charges is provided in Appendix B.

6.0 TRIHYDRO'S AREAS OF SPECIALTY

Who We Are

Founded and headquartered in Laramie, Wyoming in 1984, Trihydro is an engineering and environmental consulting firm started by three individuals with a vision and a passion for developing sustainable solutions. In the early years, Trihydro was known and named for its technical expertise in geology, chemistry, and engineering. Since that time, we have advanced purposefully – in environmental science, engineering, surveying, technology, and regulatory compliance – to help our clients achieve their objectives.

Today, Trihydro has approximately 550 employees and 28 branch and field offices throughout the nation, and we continue to challenge ourselves to provide effective, responsive, and safe solutions. We are dedicated to upholding a company-wide culture reflecting our core principles of integrity, honesty, and respect. The quality of our work, the value of our brand, and the dedication of our employees is carried into every project we take on.

Core Service Areas

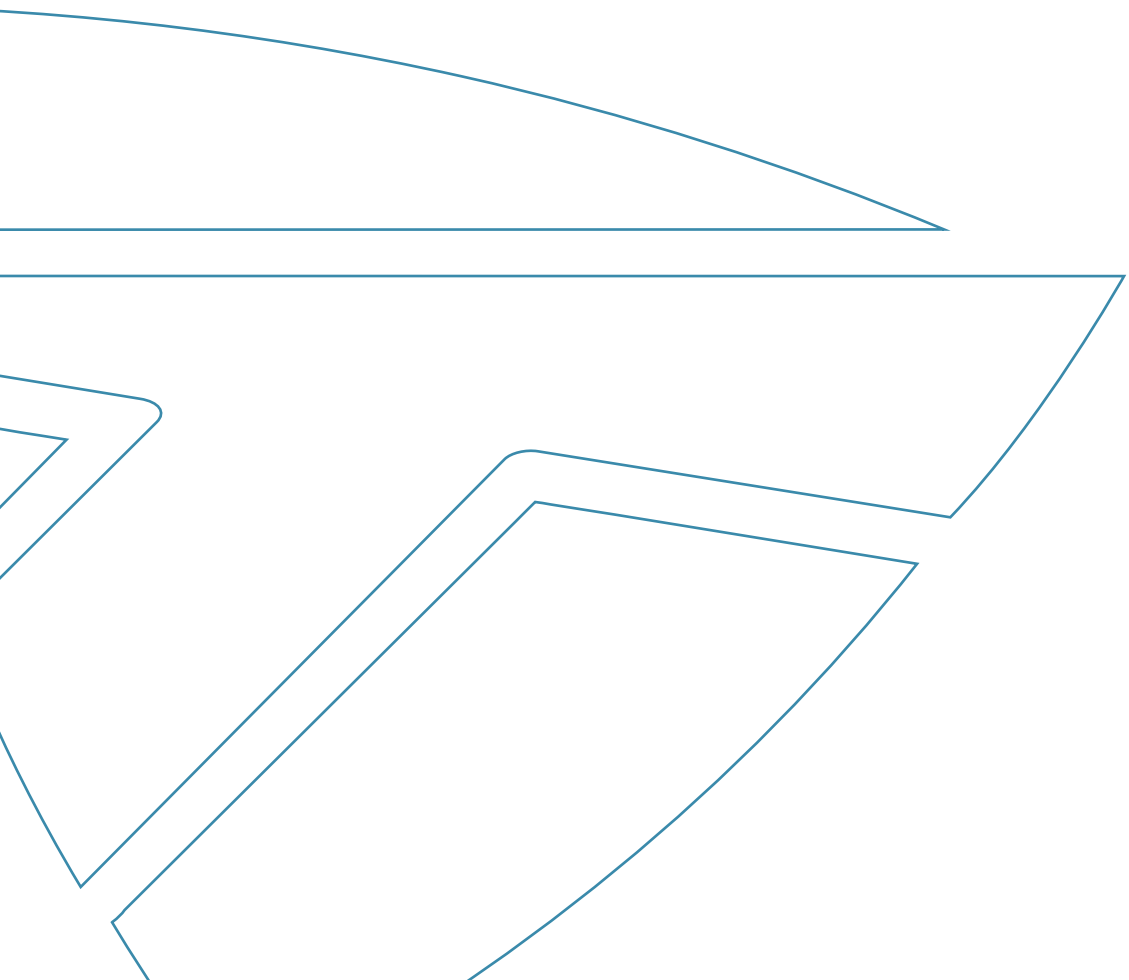
Trihydro's core service offerings include:

- Air Consulting
- Decommissioning and Reconfiguration
- Ecological Services
- Emerging Contaminants
- Planning, Permitting, Management, and Regulatory Compliance
- Environmental Remediation
- Site Assessment, Characterization, and Modeling
- Human Health and Ecological Risk Assessment
- Infrastructure
- Land Reclamation
- Natural Resource Management and Resilience
- Solid Waste Management
- Stormwater Management
- Surveying and UAS Services
- Technology Consulting
- Water Resources
- Water and Wastewater Treatment

Commitment to Working Safely

Trihydro is rooted in a strong safety culture that emphasizes personal responsibility and hazard avoidance or mitigation. "Our Safety is My Responsibility" is a foundation of Trihydro's safety culture, and supported from Trihydro's President, Kurt Tuggle, down to our field technicians. Our goal is to implement project activities with zero incidents. We believe every safety incident is preventable and that the "Goal of Zero" is achievable. We are committed to delivering trusted solutions safely.

Appendix A:
Key Personnel Resumes



Loren Eldridge-Looker P.E.

Project Manager

Mr. Eldridge-Looker is a Group Manager for Trihydro's Rocky Mountain Infrastructure and Water/Wastewater Team and Trihydro's Surveying Services Team Leader. Mr. Eldridge-Looker has 15 years of experience in civil engineering, water resources, water quality, technical reporting, and environmental monitoring. His knowledge includes project management, design, reporting, permitting, and construction management for water supply, storage, and distribution systems; wastewater infrastructure and treatment; and hydraulic and hydrologic projects. Furthermore, he has extensive experience in master planning and preparing project budgets, cost estimates, and schedules. Mr. Eldridge-Looker is accustomed to managing a broad range of projects, from relatively simple, short-term projects to complex, multi-year legacy endeavors.

Expertise

- Project Management
- Potable Water and Wastewater Infrastructure
- Hydraulic and Hydrologic Design
- Construction Administration and Observation

Licenses and Certifications

- Professional Engineer, Wyoming #14281
- Professional Engineer, New Mexico #22207
- Professional Engineer, Texas #116779
- Professional Engineer, Colorado #0061608

Education

University of Wyoming: B.S./2009/ Civil Engineering

Project Experience

NORTH CITY IMPROVEMENTS, CHEYENNE BOARD OF PUBLIC UTILITIES, CHEYENNE, WY, 10/2020

PROJECT MANAGER

Mr. Eldridge-looker is currently the project manager for the Cheyenne Board of Public Utilities North City Improvements Project. This project involves design and construction of a 6-million-gallon welded-steel water storage tank, modifying an existing 5-million-gallon welded-steel water storage tank, decommissioning an 11-million-gallon underground concrete water storage tank, 3,000 linear feet of 12- and 24-inch potable water transmission line, electronic control valves, instrumentation and controls, electrical work, and other associated appurtenances. Mr. Eldridge-looker is responsible for managing project resources, schedule, deliverables, and budget; completing design and report reviews; coordinating public relations; and administering construction-phase services.

EATON PIPELINE PHASE 3, NORTH WELD COUNTY WATER DISTRICT, WELD COUNTY, CO, 05/2023

PROJECT MANAGER

Mr. Eldridge-Looker is currently the project manager for the North Weld County Water District Eaton Pipeline Phase 3 Project. This project involves design and construction of over 21,000 linear feet of 30-inch potable water transmission line. Additional project components include designing a pressure reducing valve station and boring under highway and railroad right-of-way. The new transmission line will mostly be installed through private property requiring coordination with approximately two dozen landowners. Mr. Eldridge-looker is responsible for managing project resources, schedule, deliverables, and budget; completing design and report reviews; assisting with landowner coordination; and administering construction-phase services.

IVINSON AVE. UTILITY, STREET, STORM DESIGN: 6TH ST. TO 15TH ST., CITY OF LARAMIE, LARAMIE, WY, 04/2024

PROJECT MANAGER

Mr. Eldridge-Looker is currently the project manager for the City of Laramie Ivinson Ave. Utility, Street, Storm Design: 6th St. to 15th St. Project. This project involves combining up to four sanitary sewer mains into a single 3,100-linear-foot trunk line; upgrading and installing approximately 3,200 linear feet of potable water line; rehabilitating approximately 2,300 linear feet of storm sewer line; reconstructing approximately 2,600 linear feet of roadway; and milling and overlaying approximately 1,700

linear feet of roadway. Mr. Eldridge-looker is responsible for managing project resources, schedule, deliverables, and budget; completing design and report reviews; and coordinating public relations efforts.

SCHOOL DRAINAGE IMPROVEMENTS PROJECTS, ALBANY COUNTY SCHOOL DISTRICT NO. 1, LARAMIE, WY, 02/2024
PROJECT MANAGER

Mr. Eldridge-Looker is currently the project manager for the Albany County School District No. 1 Velma Linford Elementary School and Laramie Middle School Drainage Improvements Projects. Storm and snowmelt events cause ponding and freezing issues within both schools' playgrounds and parking lots. Additionally, large storm events can lead to water infiltration within the school buildings. Trihydro is contracted to evaluate existing drainage issues; prepare preliminary drainage improvement alternatives; complete the selected improvement designs; and support bidding services. Mr. Eldridge-looker is responsible for managing project resources, schedule, deliverables, and budget and completing design and report reviews.

C-LINE SEWER REPLACEMENT PHASE 2, CITY OF LARAMIE, LARAMIE, WY, 06/2021
ASSISTANT PROJECT MANAGER

Mr. Eldridge-Looker is currently acting as the Assistant Project Manager for the City of Laramie C-Line Sanitary Sewer Replacement Phase 2 project. Trihydro completed video assessments, flow monitoring, modeling and sizing evaluations and alignment and profile designs; and is currently performing construction administration and observation to upgrade over 3,000 linear feet of 15- and 18-inch sanitary sewer and 300 linear feet of potable water line. Project design and bidding were completed Spring 2023 and construction is anticipated to begin Spring 2024. Mr. Eldridge-Looker is responsible for managing project resources, schedule, deliverables, and budget; completing design and report reviews; and administering construction-phase services.

WASTEWATER TREATMENT PLANT TECHNICAL REVIEW, TOWN OF JACKSON, JACKSON, WY, 11/2021-11/2022
ASSISTANT PROJECT MANAGER

Mr. Eldridge-Looker served as the Assistant Project Manager for the Town of Jackson Wastewater Treatment Plant Technical Review project. Trihydro was contracted to assess the Town of Jackson's wastewater treatment plant operations and discharge water quality to evaluate conceptual-level modifications and improvements. Mr. Eldridge-Looker was responsible for managing project resources, schedule, deliverables, and budget; drafting the technical report; and coordinating stakeholders.

Michelle Sell, P.E.

Project Director

Ms. Sell has 25 years of experience in civil and water resources engineering. She is knowledgeable in the design of gravity sanitary sewer lines, water lines, stormwater lines, and water and wastewater treatment centers. Her background includes a variety of experience on pipeline, water treatment, and building projects, providing construction observation/monitoring services. Ms. Sell has been managing projects for over 10 years and is recognized by her peers for her organization and collaboration skills. She is experienced with management of scope, schedule, and budget, as well as preparing funding applications for a variety of civil engineering projects.

Expertise

Civil Engineering
Construction Administration
Project Management
Water Distribution System and Storage Design

Licenses and Certifications

Professional Engineer, Wyoming #11567

Education

University of Wyoming: B.S./1998/ Civil Engineering

Project Experience

EATON PIPELINE PHASE 3 WATER LINE PROJECT, NORTH WELD COUNTY WATER DISTRICT, WELD COUNTY, CO, APRIL 10, 2023-ONGOING

PROJECT DIRECTOR

Trihydro is designing approximately 4 miles of 30-inch water line for the North Weld County Water District (NWCWD). Trihydro is coordinating with NWCWD to confirm hydraulic model results for the water line size. Project work includes survey services, a geotechnical evaluation, a subsurface utility investigation, an alignment evaluation, a horizontal bore, coordination with permitting agencies, and coordination with landowners.

CR 84 SMALL DIAMETER WATER LINE PROJECT, NORTH WELD COUNTY WATER DISTRICT, WELD COUNTY, CO, JUNE 12, 2023-ONGOING

PROJECT DIRECTOR

Trihydro is designing approximately 0.9 miles of water line to replace an existing 2.5-inch water line that needs replaced. Trihydro is coordinating with NWCWD to confirm hydraulic model results for the water line size. Project work includes survey services, a geotechnical evaluation, a subsurface utility investigation, an alignment evaluation, coordination with a ditch company, coordination with permitting agencies, and coordination with landowners.

C-LINE SEWER REPLACEMENT PROJECT, CITY OF LARAMIE, LARAMIE, WY, 2017-2021

PROJECT MANAGER

Trihydro performed an evaluation, including system modeling, to determine updated routing for the C-Line Sanitary Sewer Main along 2nd Street from Hancock to Canby, and along Canby from 1st to 6th Street. Ms. Sell is the project manager overseeing project design and permitting with the Wyoming Department of Environmental Quality (WDEQ) as well as plan/project manual review.

15TH STREET RECONSTRUCTION PROJECT, CITY OF LARAMIE, LARAMIE, WY, 2020-2022

PROJECT DIRECTOR

Trihydro completed a roadway design project for the City of Laramie along 15th Street between Grand Avenue and Sheridan Street. The project also included identifying curb and gutter reconstruction areas and evaluating Americans with Disabilities Act (ADA) ramps for compliance with current regulations.

SUNDANCE WEST WATER STORAGE TANK PROJECT, CITY OF SUNDANCE, SUNDANCE, WY, 2018-2022
PROJECT MANAGER
Trihydro designed a new water storage tank to replace three existing tanks; new pumps for existing pump stations, including PRVs; and the design of new water transmission line. The project included reviewing the system model, coordinating with the City of Sundance, Wyoming Water Development Office, WDEQ, and several landowners to obtain easements. Ms. Sell served as Project Manager for this work.

SOUTHERN SANITARY SEWER SYSTEM IMPROVEMENTS PROJECT, CONFIDENTIAL CLIENT, SOUTHEAST, WY
PROJECT MANAGER
The southern sanitary sewer system improvements project included updating a portion of the facility's gravity sanitary sewer line, as well as design of a new wastewater lagoon system. Demand calculations were performed for current and future build-out, and the system sized appropriately. Ms. Sell oversaw the project design and permitting.

SANITARY SEWER LIFT STATION PROJECTS, CONFIDENTIAL CLIENT, SOUTHEAST , WY
PROJECT MANAGER
These projects have consisted of the design of several sanitary sewer lift stations to convey wastewater from new buildings to an existing wastewater treatment system. The projects included evaluating the existing loads on the system, calculating loads from the new buildings, preparing construction documents, and permitting the work through WDEQ. Ms. Sell served as Project Manager responsible for assisting with quality assurance/quality control reviews.

BANNER ROAD SANITARY SEWER OUTFALL, CITY OF LARAMIE, LARAMIE, WY, 2013-2020
PROJECT MANAGER
Trihydro performed an evaluation and design of approximately 3,895-LF of sanitary sewer trunk line in Banner Road from West Curtis Street to the West Laramie Lift Station. As part of the project, the design included abandoning an existing 15" sanitary sewer line and connecting a parallel 24" line to an existing manhole immediately upstream of the lift station. Ms. Sell was the Project Manager and oversaw permitting with WDEQ, an environmental assessment for the State Revolving Funds Program, and plan/project manual review. The estimated construction cost was $2.2 million.

2021 WASTEWATER TREATMENT PLANT TECHNICAL REVIEW, TOWN OF JACKSON, JACKSON, WY
PROJECT MANAGER
Trihydro completed a Wastewater Treatment Plant (WWTP) Technical Review for the Town of Jackson. The scope included evaluating the existing WWTP, performing a condition assessment, system modeling, evaluating system improvements/modifications, working with the Town, Steering Committee, and stakeholders, preparing a decision matrix and recommendations including a cost/benefit analysis, and presenting information at a public meeting.

FY2020 WASTEWATER PRE-TREATMENT FACILITY, CITY OF LARAMIE, LARAMIE, WY
PROJECT MANAGER
Trihydro designed a pre-treatment facility for the City of Torrington including a Vactor Truck receiving station, headworks structure (both mechanical and manual bar screens), and a bypass lift station. Trihydro also designed a water line to provide potable water to the facility, as well as completed overall site grading. The project includes assisting with funding applications, field survey, permitting, bidding assistance, and construction administration/observation. The estimated construction cost is $6 million.

TAMMY REED, P.E.

Senior Technical Advisor and Quality Reviewer

Ms. Reed has practiced engineering consulting for over 30 years. Her background includes civil, water resources, and transportation engineering consulting. Her experience includes managing projects and personnel, design, feasibility studies, master planning, permitting, developing construction plans and specifications, providing bidding assistance, construction administration and monitoring, and quality assurance/quality control (QA/QC) reviews. Ms. Reed is Business Unit Leader for Trihydro Corporation's Infrastructure and Natural Resources Business Unit. She serves as project director and technical advisor for a wide variety of civil engineering projects. She also writes technical proposals and participates in corporate strategic planning, and staff mentoring.

Ms. Reed has served as the project director and project manager on water utility projects including new construction and rehabilitation of existing infrastructure. Her water master planning experience includes evaluations of existing water systems. These evaluations include conditions analysis of water supply, transmission, storage, and distribution components. Tammy works with municipalities, state agencies, and other stakeholders throughout the process so expectations and preferences are understood and conveyed in the final report summarizing existing conditions and recommendations.

One of Ms. Reed's responsibilities is QA/QC reviews. She performs QA/QC reviews for engineering design reports, proposals, construction plans and specifications. She is very thorough and uses a "plan-scrub" technique to check and cross check for potential conflicts with other utilities, consistent bid item labeling in the plans, bid form and specifications, and overall clarity for contractor understanding, which is beneficial to the bidding process.

Expertise

- Roadway Schematic Planning and Design
- Transportation geometric design
- Water, sanitary sewer, and storm sewer design
- Preparation of ROW engineering documents for appraisal and negotiations
- Public Involvement
- Permitting through various agencies
- Preparation of construction plans and specifications
- Construction cost estimating
- QA/QC reviews

Licenses and Certifications

Professional Engineer:

#8177, Wyoming

Education

University of Wyoming:

MS/1993/Civil Engineering

BS/1991/Civil Engineering

Project Experience

C-LINE SEWER REPLACEMENT PROJECT LARAMIE, WYOMING

PROJECT DIRECTOR

Project Director for Phases I and II of the C-Line Sanitary Sewer Replacement project in Laramie, WY. Trihydro provided engineering design services for the updated routing for the C-Line Sanitary Sewer Main along 2nd Street from Hancock to Canby, and along Canby from 1st to 6th Street for Phase I of the project. Phase II includes the same services for the removal/replacement of the sewer main along 6th Street between Canby St. and Ivinson Ave. Ms. Reed serves as the Project Director responsible for resource allocation, successful project completion, and quality assurance/quality control.

WYOMING DEPARTMENT OF TRANSPORTATION MASTER AGREEMENT FOR ROAD DESIGN SERVICES STATEWIDE, WYOMING

PROJECT DIRECTOR

Project Director for WYDOT Master Agreement for Road Design Services, which Trihydro has completed seven mill and overlay projects and is currently working on an urban reconstruction project. The projects include preparing plan and detail sheets, summary sheets, cost estimates, and special provisions and incorporating information provided by other WYDOT Programs. Ms. Reed is responsible for providing resources, quality assurance/quality control reviews, and successful project completion.

CHEYENNE BOARD OF PUBLIC UTILITIES NORTH CITY IMPROVEMENTS CHEYENNE, WYOMING

PROJECT DIRECTOR

Ms. Reed is serving as the Project Director on the Cheyenne Board of Public Utilities North City Improvements project. This project includes hydraulic model evaluation, surveying, design, permitting, and construction administration for a new 6-million-gallon welded-steel water storage tank in Cheyenne, WY; modifications to an existing 5-million-gallon welded-steel water storage tank; approximately 3,200 feet of 24-inch water line; control valves; electrical; and instrumentation. Ms. Reed's role includes allocating resources, successful project completion, and quality assurance/quality control reviews. Phase I bid in early 2023 and Phase II is anticipated to bid in early 2024 with construction completion in 2025.

GRAND AVENUE WATERLINE REPLACEMENT PHASE (15TH TO 21ST STREET) & PHASE II (13TH TO 15TH STREET) LARAMIE, WYOMING

PROJECT ENGINEER

This City of Laramie project consisted of preparing construction plans and specifications for the removal and replacement of two water transmission lines located in Laramie's main east/west corridor and Laramie's main thoroughfare. This project included coordination with WYDOT, multiple stakeholders, an extensive potholing effort, preparation of a traffic detour plan, and permitting. As project director, Ms. Reed coordinated team resources and provided quality control and quality assurance reviews for the project deliverables.

LARAMIE STREETS UPRR OVERPASS LARAMIE, WYOMING

PROJECT ENGINEER

This project included a reconnaissance study, assistance with the Environmental Assessment process, environmental investigation and demolition recommendations for site contamination by a former refinery, roadway design, utility design (water, sanitary sewer, and stormwater drain), public involvement, and preparation of final construction plans. The development for this project began in 2007 and the design was completed in early 2016. ***This project won the Wyoming Engineering Society's President's Project of the Year Award in February 2019.***

Jade Gernant, P.E.

Senior Engineer, Development Review Services

Mr. Gernant has more than 29 years of experience in transportation and civil engineering projects, including road design, pipeline design and construction for water and sewage systems. His experience includes preparation of preliminary engineering reports for project funding, construction cost estimating, feasibility studies, design reports for project permitting, pipe material selection matrices, easement exhibits, and preparation of construction plans and specifications. Mr. Gernant's transportation engineering experience includes design and management of projects that include urban and rural roadway design and construction, right-of-way engineering, management and scheduling of surveying, participation in public meetings, geotechnical, structural and roadway drainage design services, as well as coordination with Wyoming Department of Transportation (WYDOT) staff on state projects throughout design.

Expertise

Civil Engineering
Construction Administration
Construction Oversight
QA/QC
Project Management

Licenses and Certifications

Professional Engineer, Wyoming #8774

Education

University of Wyoming: B.S./1992/ Civil Engineering

Project Experience

15TH STREET RECONSTRUCTION, CITY OF LARAMIE, LARAMIE, WY, OCTOBER 2020-APRIL 2022
PROJECT MANAGER/LEAD PROJECT ENGINEER

Mr. Gernant served as the Project Manager and Lead Project Engineer for the 15TH Street Reconstruction Project in Laramie, Wyoming. Trihydro completed a roadway design for 15th Street from Grand Avenue to Sheridan Street. Design activities included full-depth pavement reconstruction, identifying curb and gutter replacement sections, upgrading ramps to be ADA compliant, striping, and signage.

WYDOT MASTER AGREEMENT, WYOMING DEPARTMENT OF TRANSPORTATION, STATEWIDE, WY, JANUARY 2019-ONGOING
PROJECT ENGINEER/ASSISTANT PROJECT MANAGER

Mr. Gernant serves as a Project Engineer and the Assistant Project Manager for a Master Agreement with WYDOT and has completed six mill and overlay projects under this agreement and is currently working on one more. The projects include preparing plan sheets, detail sheets, summary sheets, cost estimates, special provisions, and incorporating information provided by other WYDOT Programs into the plans. Mr. Gernant is responsible for providing technical assistance to design staff, review of plan sheets and summaries for conformance to WYDOT standards, and oversight of the internal project team.

C-LINE SANITARY SEWER, CITY OF LARAMIE, LARAMIE, WY, 2017-APRIL 2021
TECHNICAL ADVISOR/QA-QC/CONSTRUCTION ADMINISTRATION

Trihydro provided design and construction administration/observation services for the replacement of segments of the C-Line sanitary sewer interceptor along 1st and 2nd Streets from Hancock to Canby Street and along Canby Street and Baker Street from 1st to 6th Streets. This project was needed to improve the City's sanitary sewer system reliability, as well as reduce system maintenance. The project included new installation and removal and replacement of existing reinforced concrete pipe (RCP), vitrified clay pipe (VCP), and polyvinyl chloride (PVC) sanitary sewer pipe with approximately 2,800 linear feet (LF) of new 36-inch A-2000 PVC; 1,050 LF of new 15-inch PVC; and 390 LF of new 18-inch PVC sanitary sewer pipe within portions of 1st Street, 2nd Street, 4th Street, Baker Street, and Canby Street. This project also included relocation of approximately 750 LF of

8-inch diameter PVC water main. Mr. Gernant provided technical assistance and QA/QC review during design and performed construction administration services, including management of full-time on-site construction observation field staff during construction.

WWC6CI - C-LINE SANITARY SEWER PHASE 2 - 6TH ST. - CANBY TO IVINSON, CITY OF LARAMIE, LARAMIE, WY, JUNE 2021-ONGOING

TECHNICAL ADVISOR/QA/QC/CONSTRUCTION ADMINISTRATION

Mr. Gernant provided technical assistance to junior staff, field investigation, and QA/QC reviews during design of the City of Laramie C-Line Sanitary Sewer Replacement Phase 2 project. Trihydro was contracted to complete video assessments, flow monitoring, modeling and sizing evaluations, alignment and profile designs, and construction administration and observation to upgrade over 3,000 linear feet of 15- and 18-inch vitrified-clay-pipe sanitary sewer to 24-inch polyvinyl chloride (PVC) pipe and 300 linear feet of iron potable water line to PVC pipe. Additional project components include installing new storm sewer inlets and manholes to accommodate the new sanitary sewer line alignment as well as upgrading intersections with Americans with Disabilities Act ramps. Project design is complete and construction is anticipated to commence Spring 2024. Mr. Gernant is responsible for managing field staff and providing construction administration services during the construction phase.

UPRR OVERPASS (US HWY 287), WYOMING DEPARTMENT OF TRANSPORTATION, LARAMIE, WY, FEBRUARY 2002-DECEMBER 2003

PROJECT MANAGER/DESIGN ENGINEER

Mr. Gernant was responsible for the road design of 1.2 miles of US Hwy 287 south of Laramie and widening of the bridge over the Union Pacific Railroad. This project included full reconstruction of the existing roadway with a 4-lane traveled way, associated turn lanes and reconstruction of the east-bound I-80 off-ramp at 3rd Street with a concrete pavement section. Mr. Gernant managed the consultant engineering services, which included roadway design, intersection and off-ramp design, stormwater system design, coordination of the roadway design with the WYDOT bridge design, preparation of project specific special provisions, project summary sheets and coordination with WYDOT staff from Preliminary Design through Final Design.

WAMSUTTER STREETS AND UPRR CROSSING, WYOMING DEPARTMENT OF TRANSPORTATION, WAMSUTTER, WY, 2002-2004

PROJECT MANAGER/DESIGN ENGINEER

Mr. Gernant was responsible for the road design of 0.96 miles of a new portion of County Road 4-235 through Wamsutter, Wyoming. The project included design of a separation structure over the Union Pacific Railroad.

LARAMIE TRANSMISSION PIPELINE - PHASE II, CITY OF LARAMIE, ALBANY COUNTY, WY, MAY 2011-DECEMBER 2014

PROJECT MANAGER/PROJECT ENGINEER

With his previous employer, Mr. Gernant performed engineering and construction administration services for Phase II of a raw water pipeline project, which included replacement of 8,330 linear feet of 36-inch raw water transmission pipeline from Sodergreen Lake to the Laramie Water Treatment Plant (WTP). The purpose of this project was to replace the failing steel pipeline between Sodergreen Lake and the WTP, originally installed in 1947, that had become a maintenance issue due to age. Debris in the line, pressure surges, and water quality were also issues addressed during design. Mr. Gernant performed the full-time construction observation, reviewed contractor pay applications and completed the project closeout documents required by WWDC, Wyoming Department of Transportation, the State of Wyoming, and the City of Laramie.

SMP RELOCATION PROJECT - US HWY 14A (M.P. 3.2 TO M.P. 5.6), SHOSHONE MUNICIPAL WATER JOINT POWERS BOARD, PARK COUNTY, WY, SEPTEMBER 2009-NOVEMBER 2012

PROJECT MANAGER/PROJECT ENGINEER

This $7 million design and construction project included relocation of 12,600 feet of 24-inch mortar lined steel, treated water transmission pipeline from existing highway right-of-way to private property. The project included three bored and cased state highway crossings. As Project Engineer for his previous employer, Mr. Gernant performed design tasks as well as management of construction observation personnel, weekly construction coordination meetings, review of contractor pay applications, review of daily construction reports and construction materials testing reports and bi-weekly project site visits.

Scott Lee, P.E.

Senior Engineer, Development Review Services

Mr. Lee is a civil engineer with over 23 years of broad experience in the transportation and water resources industries. Throughout his career, Scott has been directly involved with the management, planning, development, design, and construction of many successful projects. Mr. Lee has led multi-disciplinary teams on complex and high-profile projects that required extensive public outreach and education. Scott has worked directly with Wyoming government entities, municipalities, private companies, landowners, ranchers, and farmers on various civil projects. Scott's transportation experience includes highway and roadway design, site design, roundabout intersection design, highway/roadway drainage, signing and striping, and highway safety systems. Mr. Lee's water resources experience includes storm drainage design, storm sewer pipelines, hydraulic structures, irrigation systems and structures, water distribution, subsurface drainage, hydrology, hydraulic analysis and modeling, and dams/reservoirs. Scott is also very experienced with project bidding and construction administration, management, and oversight. Additionally, Mr. Lee is knowledgeable in public outreach presentations and educational workshops to gain public support. This experience was acquired on controversial transportation projects converting traditional intersections into roundabouts.

Expertise

Project Management
Water Resources Engineering
Water Distribution Systems
Stormwater Drainage Design
Irrigation System Design
Hydrologic/Hydraulic Analysis and Modeling
Transportation Engineering
Construction Plans and Specifications
Bidding Services
Construction Administration, Management, and Oversight

Licenses and Certifications

Professional Engineer:
#15878, Wyoming
#63319, Montana
#C 66936, California

Education

California State University, Sacramento:
B.S./2001/Civil Engineering

Project Experience

CITY OF SUNDANCE 3RD STREET WATER LINE, SUNDANCE, WY, JUNE 2023-ONGOING

PROJECT MANAGER/PROJECT ENGINEER

Mr. Lee is currently serving as the Project Manager and Lead Project Engineer for a water distribution improvement project in the City of Sundance. The project consists of system upgrades including approximately 2,000 feet of 10-inch water distribution main on 3rd Street, approximately 2,300 feet of 8-inch main on N. West Street and Cleveland Street (U.S. Highway 14), fire hydrant replacement, new gate valves, underground utility crossings, numerous service line replacements/reconnections/modifications, and curb stop and water meter replacements. The new distribution mains will replace smaller, existing mains. The project will also include a jack and bore operation under Sundance Creek and horizontal directional drilling of select water service lines to avoid impacts to existing retaining walls and other existing infrastructure. Mr. Lee will also assist the City with bidding services and may provide construction services as well.

STRUCTURE ELE REPLACEMENT, FREMONT COUNTY, WY, JANUARY 2021-DECEMBER 2021

PROJECT MANAGER/PROJECT ENGINEER

Mr. Lee was the Project Manager and Lead Project Engineer for a Fremont County Transportation Department bridge (Structure ELE) replacement project on Paradise Valley Road at the Pilot Canal. Scott was responsible for hydraulic modeling, structure sizing, structure design coordination, subsurface exploration coordination, and roadway design, which included a realignment, profile adjustments, and widening. Extensive coordination and communication with Fremont County, the Midvale Irrigation

District, and Forterra Precast was required regarding the design, manufacturing, and installation of a new 55-foot long, precast, double 12-foot by 7-foot reinforced concrete box culvert to provide increased roadway safety and operations and additional capacity for irrigation demands. Mr. Lee also provided bidding and construction services for the project, including construction administration and oversight.

STORM SEWER REPLACEMENT, SOUTHWEST WYOMING, DECEMBER 2020-MAY 2022
PROJECT MANAGER/PROJECT ENGINEER
Mr. Lee served as the Project Manager and Lead Project Engineer for a storm sewer replacement project that was required by WDEQ to intercept and convey clean stormwater runoff. The project included a 1,500-ft diversion ditch, roadway culvert crossings, a 5,850-foot, 48-inch HDPE storm sewer pipeline, manholes, special grading, an outlet channel with riprap erosion control, and a detention basin alternative evaluation. Complex hydrologic and hydraulic modeling were required. Mr. Lee, in coordination with other industry professionals, also designed a custom, watertight pipe-to-manhole connection that was required to obtain WDEQ approval. Extensive coordination and communication were required with a confidential, private client.

SPEAS IRRIGATION LINE STRUCTURE AND EFFLUENT FALL PROTECTION, NATRONA COUNTY, WY, MAY 2021-MAY 2023
PROJECT MANAGER/PROJECT ENGINEER
Mr. Lee was the Project Manager and Lead Project Engineer for a Wyoming Game and Fish Department (WGFD) project at the Dan Speas Fish Hatchery. The purpose of the project was to implement improvements for protection against Aquatic Invasive Species (AIS). Improvements included a custom copper-lined, stainless steel flume at the settling pond outfall to create vertical separation from the creek, and a large, precast concrete vault and 24-inch irrigation line plumbing modifications to separate irrigation water from production water. Helical piers were installed to create sufficient support for both structures due to existing soil conditions. Scott also assisted WGFD with bidding services and provided construction services for the project, including construction administration, management, and oversight. After construction was completed, WGFD expressed great satisfaction with the final product.

SHOSHONI LANDFILL CLOSURE, SHOSHONI, WY, SEPTEMBER 2021-JANUARY 2022
PROJECT MANAGER
Mr. Lee served as the Project Manager for the Fremont County Solid Waste Disposal District (FCSWDD) Shoshoni Landfill Closure construction project. The closure covered an area of approximately 15 acres and involved subgrade preparation, a geocomposite gas collection system and vents, a geomembrane liner, a geocomposite drainage layer, protective cover soil, topsoil, and reclamation. Scott was responsible for construction quality assurance (CQA), daily coordination with the contractor, submittal reviews and approvals, material testing and survey reviews, select observation, observation coordination, payment application review and negotiation, budget monitoring, and coordination with the FCSWDD. Mr. Lee was also involved with bidding services for the project.

BUILDING DEMOLITION, SHOSHONI, WY, NOVEMBER 2021-MAY 2022
PROJECT MANAGER/PROJECT ENGINEER
Mr. Lee served as the Project Engineer for the Town of Shoshoni building demolition construction project. Scott produced the bidding documents, contract documents, and construction specifications for the demolition of five existing buildings and foundations at two properties within the Town. Mr. Lee also performed the bid evaluation and provided the construction contract award recommendation to the Town. Other services included a pre-construction meeting and final walk-through to ensure the contracted work had been completed to the Town's satisfaction.

BCR RESERVOIR ENLARGEMENT, SARATOGA, WY, COMPLETED 2020
PROJECT MANAGER/PROJECT ENGINEER
Mr. Lee produced final construction plans and specifications to enlarge an existing fishing reservoir from 2 acres/16 acre-feet to approximately 15 acres/145 acre-feet through excavation and earthen dam construction. Scott was responsible for project management and design, which included complex grading, dam and spillway design, hydrology, hydraulic analysis, dam breach analysis, material selection and quantity development, design of fish habitat features, and the development of construction

specifications and contract requirements. Extensive coordination with Ranch management, Wyoming Safety of Dams, WGFD, WSEO, and WDEQ was required.

TWIN CREEK WATER DISTRIBUTION AND UNDERDRAIN, PARKMAN, WY, COMPLETED 2020
PROJECT MANAGER/PROJECT ENGINEER

Mr. Lee designed, managed, and provided construction support/coordination for a new potable water distribution system for a private cattle ranch. The system consists of over 0.6 mile of 4-inch main that supplies private residences, hydrants, stock tanks, barns, etc. through 1-inch and 2-inch service connections. This branched system contains various valves, including continuous acting air/vacuum relief vents. Mr. Lee also provided final construction documents and construction support/coordination for a deep underdrain system to mitigate basement flooding at the main ranch house. Extensive coordination with the Owner and Ranch management was required for both projects. The Owner has reported that both projects were a success.

OWL CREEK IRRIGATION, THERMOPOLIS, WY, COMPLETED 2018
PROJECT MANAGER/PROJECT ENGINEER

Mr. Lee provided design and construction services for an irrigation pipeline extension and new irrigation lateral pipeline for a private landowner. The project was needed to provide the necessary infrastructure and water supply to flood irrigate approximately 80 acres with gated pipe. The new system includes approximately 1800 feet of new irrigation pipe (PIP 80), various fittings, gate valves, risers and alfalfa valves for gated pipe connections, and air/vacuum release valves. Outflow channel design and stabilization was also included. Mr. Lee prepared the final construction plans, specifications, and estimate. He also provided construction coordination with the contractor and performed periodic observation and monitoring.

IRRIGATION STRUCTURES, GLENROCK, WY AND LA GRANGE, WY, COMPLETED 2019
PROJECT MANAGER/PROJECT ENGINEER

Mr. Lee produced final construction plans, specifications, and estimates for a new reinforced concrete check structure and turnout, and improvements to an existing reinforced concrete diversion structure that were needed to restore effective operation and mitigate channel erosion. The improvements consisted of a reinforced concrete wingwall extension with an overflow weir and deep footing, a 4-foot reinforced concrete cutoff wall with footing, improved grading, and rock armor. Extensive coordination and communication with the private landowners were required.

SIMPSON LANE ROUNDABOUT, HIGHWAY 1, FORT BRAGG, CA, COMPLETED 2011
PROJECT ENGINEER/ASSISTANT PROJECT MANAGER

Mr. Lee served as the Lead Project Engineer and Assistant Project Manager for a roundabout construction project at a constrained location on State Highway 1 on the Mendocino County coast. Scott led a multi-disciplinary team on the design of a multi-lane, elliptical-shaped roundabout to replace a signalized intersection. He was responsible for all aspects of project development, including roadway and traffic design. Features included complex grading, asphalt concrete pavement, concrete pavement, shared-use concrete paths, ADA access ramps and compliance, curb and gutter, traffic islands, drainage systems, vegetated buffers, decorative concrete, signing and striping, central island grading and landscaping, and lighting. This was a high-profile project with heavy local opposition. Mr. Lee performed extensive public outreach, including open-house meetings and educational workshops to gain project support. Scott also provided construction support and periodic oversight. This project was nominated for a 2011 Excellence in Transportation Award.

HOPLAND ROUNDABOUT, HIGHWAY 175, OLD HOPLAND, CA, COMPLETED 2007
PROJECT ENGINEER/ASSISTANT PROJECT MANAGER

Mr. Lee served as the Lead Project Engineer and Assistant Project Manager for the reconstruction of an existing intersection on State Highway 175 from an awkward 3-legged intersection to a 4-legged, single-lane modern roundabout. He planned and designed the project from start to finish, performing all roadway, drainage, and traffic design. This was a high-profile project with heavy local opposition. Scott assisted with extensive public outreach and gave educational speeches to the County Board of Supervisors and a Technical Committee. Mr. Lee also provided construction support and periodic oversight. In 2008, the project received Project of the Year Honorable Mention from the Construction Management Association of America, and it was nominated for a Caltrans 2009 Excellence in Transportation Award.

EMIGRANT GAP REHABILITATION, INTERSTATE 80, NORTHERN CALIFORNIA, COMPLETED 2012
PROJECT ENGINEER
This large rehab on Interstate 80 involved the reconstruction of approximately 10 miles of concrete-paved, divided highway in the Sierra Nevada Mountains. Mr. Lee was the Lead Project Engineer for the drainage and stormwater treatment components. He led a design team that performed hydrology, hydraulic analysis, and design for new drainage systems, replacement of existing systems, rehabilitation of existing systems, and stormwater treatment facilities. There were 155 drainage systems involved. Mr. Lee also provided construction support.

PIGEON PASS EXPRESSWAY, HIGHWAY 84, LIVERMORE, CA, COMPLETED 2008
PROJECT ENGINEER
This project was a major realignment of State Highway 84 that involved the design and construction of approximately 2.3 miles of new 4-lane expressway through the mountains in Alameda County. As the Lead Project Engineer for the project drainage component, Mr. Lee was responsible for the planning, hydrology, hydraulic analysis, and drainage system design. Scott was also responsible for stormwater treatment, onsite wetland mitigation, and subsurface drainage systems. Mr. Lee also assisted with highway design, permitting, and provided construction support.

Matt Rhodes

Ecologist, Development Review Services

Mr. Rhodes is an ecologist with 12 years of professional experience. His expertise includes the design, implementation, and analysis of ecological projects, especially those concerning the revegetation of disturbed lands. He is also experienced in permitting and compliance under the National Environmental Policy Act (NEPA) and Endangered Species Act (ESA), among other statutes. Mr. Rhodes's professional career spans conservation-focused research for nonprofit organizations, fundamental research in academia, federal land management, and applied research and technical support in the private sector. His experience includes field botany, plant ecology and conservation, pollination ecology, chemical ecology, landscape genetics, rangeland ecology and management, native and invasive species management, and wetland delineation. He is also a skilled technical writer and has published peer-reviewed articles in journals such as Molecular Ecology, American Journal of Botany, Journal of Heredity, and The Quarterly Review of Biology. Mr. Rhodes has provided field and technical support to numerous ecological projects throughout the western U.S. He is well-versed in the flora of the southwestern U.S. and Great Plains, and has led or supported ecological projects in Arizona, California, Colorado, Nevada, New Mexico, Texas, Utah, and Wyoming. He is also adept at data analysis and has used diverse statistical techniques to analyze ecological datasets.

Expertise

Abandoned Mine Lands
Plant Ecology
Field Botany
Construction Oversight
Mine Reclamation
Mine Permitting
NEPA
SWPPP Inspection

Education

Truman State University: B.A./2010/ Biology

Northwestern University: M.S./2013/ Plant Biology and Conservation

Project Experience

NEPA ANALYSIS AND REPORTING, WYOMING

ECOLOGIST

Mr. Rhodes has completed NEPA analysis and report preparation for energy and municipal projects in Wyoming. His responsibilities have included resource identification, baseline characterization, field investigations of project footprints, impact analysis, and agency coordination.

AQUATIC MONITORING AND RIPARIAN HABITAT ASSESSMENT, CALIFORNIA

ECOLOGIST

Mr. Rhodes currently provides technical support for a long-term estuary monitoring project. His responsibilities include conducting field surveys for aquatic organisms, documenting the composition and health of salt marsh vegetation communities, and preparing technical reports.

ECOLOGICAL RISK ASSESSMENT, NEW MEXICO

ECOLOGIST

Mr. Rhodes currently provides technical support for an ecological risk assessment project. His responsibilities include parameterizing exposure dose calculations, reviewing dose sensitivity distributions, conducting statistical analyses of estimated exposure doses, and report preparation.

MINE RECLAMATION AND REVEGETATION, WYOMING, NEW MEXICO, AND TEXAS

ECOLOGIST

Mr. Rhodes currently provides technical support for multiple mine reclamation and revegetation projects. His responsibilities include preparing revegetation plans, conducting vegetation surveys using a variety of field protocols, designing seed mixes, assessing revegetation success, characterizing the distribution and abundance of noxious weeds, and preparing technical reports to support bond release efforts.

SAGEBRUSH HABITAT MANAGEMENT AND DISTURBANCE MITIGATION, WYOMING

ECOLOGIST

Mr. Rhodes provided technical support for a multiple-stakeholder conservation team dedicated to sagebrush habitat restoration in areas disturbed by wildfire. His responsibilities included monitoring existing project areas, assisting in the development of new habitat restoration projects, analyzing vegetation dynamics within project areas, supporting stakeholder engagement and outreach, and building partnerships with other organizations involved with sagebrush habitat restoration.

RANGELAND ECOLOGY AND HABITAT ASSESSMENT, WYOMING

BIOLOGIST

Mr. Rhodes provided field support for multiple federal land management programs. His responsibilities included conducting vegetation surveys for greater sage-grouse habitat assessments, monitoring rangeland compliance, evaluating rangeland utilization, assessing the condition and trend of riparian systems, and characterizing the distribution and abundance of invasive plant species.

ECOLOGICAL PERMITTING AND COMPLIANCE, ARIZONA

BIOLOGIST

Mr. Rhodes provided field and technical support for numerous pre-development energy and mining projects in Arizona. His responsibilities included the development of permitting and compliance documents under NEPA, ESA, Migratory Bird Treaty Act and Clean Water Act, research and field studies on special-status plant and animal species, statistical analysis, training and managing field crews, and maintaining a current knowledge of technical fields and both state and federal natural resource laws, regulations, and policies. Among other projects, Mr. Rhodes prepared baseline biological evaluations, led field surveys for federally listed plant taxa, conducted field surveys for federally listed wildlife taxa, prepared Biological Assessments for ESA Section 7 consultation, modified grazing management plans to accommodate conservation measures prescribed during ESA Section 7 consultation, and prepared technical analyses to inform status reviews of federally listed species.

Claudia Torrence P.E.

Senior Engineer, Development Review Services

Ms. Torrence has over 28 years of professional consulting engineering experience in both transportation and civil engineering. Her transportation project management experience includes preparation of design plans and specifications, Quality Assurance/Quality Control (QA/QC), managing project budgets, and scheduling. Ms. Torrence has worked on numerous projects that include design of urban and rural roadways, roadway drainage, right-of-way (ROW) engineering, wetland mitigation sites, water distribution systems, and sanitary sewer systems.

Expertise

Roadway Design

Roadway Hydrology and Hydraulics

ROW Engineering Document Preparation

Project Management

QA/QC

Licenses and Certifications

Professional Engineer:

#6951, Wyoming

Education

University of Wyoming: B.S./1990/ Civil Engineering

Project Experience

LARAMIE UNION PACIFIC RAILROAD OVERPASS, WYOMING DEPARTMENT OF TRANSPORTATION, LARAMIE, WY

PROJECT MANAGER

Trihydro provided professional engineering services for the Wyoming Department of Transportation, including reconnaissance and environmental assessment, roadway design, utility (storm, sanitary and water) design, public involvement and preparation of final plan documents. Trihydro was responsible for management of the project, and incorporation of all design elements into the final plans. This includes coordinating between the electrical consultants, landscape architect, right-of-way, traffic, and bridge design. The project includes 1.2 mile of roadway and several structures including widening the existing structure over the Laramie River, retaining walls along the approach fills and the preferred 400 ft long, two-span bridge over the UPRR. Ms. Torrence's specific role for this project was Project Manager. Estimated construction costs were $24 million.

WYDOT US HIGHWAY 30, WYOMING DEPARTMENT OF TRANSPORTATION, MEDICINE BOW, WY

PROJECT MANAGER

The project included providing for all aspects of this turn-key project consisting of full reconstruction, and widening and overlay for 11.5 miles of U.S. Highway 30 in Medicine Bow, Wyoming. This included aerial photography, geotechnical investigations, mapping, hydrology and hydraulics, right-of-way acquisition plans, roadway design and design specifications. Ms. Torrence served as project manager and design engineer responsible for QA/QC.

WYDOT STATE HIGHWAY 191, WYOMING DEPARTMENT OF TRANSPORTATION, HIGHWAY 191, WY

PROJECT MANAGER

This project included two sections of State Highway 191 in Wyoming. The projects included design plans, hydraulic analysis, floodplain evaluation study, official right-of-way acquisition plans and multiple public meetings. This project included design of two wetland mitigation sites. Ms. Torrence served as project manager responsible for design plans for two sections (11.5 miles) of Wyoming Highway 191.

ROGERS CANYON ROAD, ALBANY COUNTY, WY

PROJECT MANAGER

This project included providing design plans and specifications, and bidding and construction administration for 5 miles of county road in Laramie, Wyoming. Project was constructed to substantial completion the summer of 2008. Ms. Torrence served as project manager responsible for QA/QC, and construction administration.

WYDOT INTERSTATE I-80, WYOMING DEPARTMENT OF TRANSPORTATION, ALBANY AND LARAMIE COUNTIES, WY
PROJECT ENGINEER

This included two sections of I-80 between Laramie and Cheyenne, Wyoming. The projects included providing design plans and specifications for widen and overlay of 4.6 and 7.4 miles of Wyoming I-80. The projects included design of several interchanges, with associated on/ off ramps and acceleration/ deceleration lanes. Ms. Torrence served as project engineer responsible for preparation of design plans and specifications.

WYDOT STATE HIGHWAY 34, WYOMING DEPARTMENT OF TRANSPORTATION, SOUTHEAST WYOMING, WY
PROJECT MANAGER/DESIGN ENGINEER

These projects included several sections of Wyoming Highway 34. The projects included preparation of design plans in challenging terrain with numerous cultural and environmental challenges including the design of several wetland mitigation sites. Ms. Torrence served as project manager and design engineer.

Tyson Dutton, P.E.

Project Engineer, Development Review Services

Mr. Dutton has more than 12 years of civil engineering experience, most of it with the Montana Department of Transportation (MDT), where he gained experience in the design of roads as well as project management. He has worked on numerous projects that include the design of both urban and rural roadways. His responsibilities included the preparation of construction plans and specifications, cost estimating, generating engineering reports, and management of a project, including the budget and schedule.

Expertise

Civil Engineering
Project Management
Grading Plan and Earthwork Design
Roadway Design
Construction Plan Preparation
Bidding document and cost estimate preparation
Civil specifications preparation

Licenses and Certifications

Professional Engineer, Montana #PEL-PE-LIC-49466
Professional Engineer, Wyoming #PE 19346

Education

University of Wyoming: B.S./2011/ Civil Engineering

Project Experience

CHEYENNE STREETS US 30, DELL RANGE BLVD., FOXGLOVE DR, AND US 30 FRONTAGE ROADS, WYOMING DEPARTMENT OF TRANSPORTATION, CHEYENNE, WY, SEPTEMBER 2022-ONGOING

PROJECT MANAGER/PROJECT ENGINEER

Mr. Dutton is currently involved with the design of this project. Project work includes reconstructing 1.0 mile of existing road on Dell Range and Whitney St., realigning two intersections, creating alignments to extend two frontage roads, along with drainage and ADA requirements for Dell Range and Whitney. He has been involved in designing the alignment, grading and ADA for this project. Mr. Dutton has recently taken over project management duties for this project.

CR 84 SMALL DIAMETER WATER LINE, NORTH WELD COUNTY WATER DISTRICT, EAST OF FORT COLLINS, CO, JUNE 2023-ONGOING

PROJECT MANAGER

Trihydro is designing approximately 1 mile of 6-inch water line for the North Weld County Water District (NWCWD). Project work includes survey services, a geotechnical evaluation, subsurface utility investigation, easement exhibit preparation, an alignment evaluations, horizontal directional drilling, coordination with landowners and preparation of construction plans and specifications. Mr. Dutton is responsible for managing project resources, schedule, deliverables, budget; Coordinating with landowners and other stakeholders; and completing design and report reviews on this project.

C-LINE SANITARY SEWER REPLACEMENT PHASE 2 PROJECT, CITY OF LARAMIE, LARAMIE, WY, JUNE 2021-ONGOING

PROJECT ENGINEER

Mr. Dutton is currently acting as a Project Engineer for the City of Laramie C-Line Sanitary Sewer Replacement Phase 2 project. Trihydro is contracted to complete video assessments, flow monitoring, modeling and sizing evaluations, alignment and profile designs, and construction administration and observation to upgrade over 3,000 linear feet of 15- and 18-inch vitrified-clay-pipe sanitary sewer to 24-inch polyvinyl chloride (PVC) pipe and 300 linear feet of iron potable water line to PVC pipe. Additional project components include installing new storm sewer inlets and manholes to accommodate the new sanitary sewer line alignment as well as upgrading intersections with Americans with Disabilities Act (ADA) ramps. Project design is complete and construction is anticipated to commence Spring 2024. Mr. Dutton was involved in the design of the water line and ADA ramps, creating the cost estimate and developing the project specifications.

VELMA LINFORD ELEMENTARY SCHOOL DRAINAGE IMPROVEMENTS PROJECT, ALBANY COUNTY SCHOOL DISTRICT NO. 1, LARAMIE, WY, DECEMBER 2023-ONGOING

ASSISTANT PROJECT MANAGER

Trihydro is providing design and surveying services to Albany County School District at the Velma Linford Elementary School to provide a drainage design to convey storm water away from the school building and playground. Project work includes survey services, a geotechnical evaluation, subsurface utility investigation, and a design to convey storm water from the playground to a storm sewer inlet southwest of the school building. Mr. Dutton is responsible for managing project resources, schedule, deliverables, and the budget on this project.

LARAMIE MIDDLE SCHOOL DRAINAGE IMPROVEMENTS PROJECT, ALBANY COUNTY SCHOOL DISTRICT NO. 1, LARAMIE, WY, DECEMBER 2023-ONGOING

ASSISTANT PROJECT MANAGER

Trihydro is providing design and surveying services to Albany County School District at the Laramie Middle School to provide a drainage design to convey storm water away from the school building, north parking lot and tennis courts. Storm water collects in the north parking lot from surrounding school grounds as well as Reynolds Street. Project work includes survey services, a geotechnical evaluation, subsurface utility investigation, and a design to convey storm water from the parking lot to a detention pond south of the school building. Mr. Dutton is responsible for managing project resources, schedule, deliverables, and the budget on this project.

LARAMIE – CHEYENNE, BNSF, OVERHEAD WARNING SYSTEM, WYOMING DEPARTMENT OF TRANSPORTATION, CHEYENNE, WY, FEBRUARY 2023-JANUARY 2024

PROJECT MANAGER

Mr. Dutton served as the project manager, coordinating with project stakeholders, WYDOT Programs and the project design team. Project work includes an early warning detection system to direct over height trucks to an alternate route before the BNSF bridge over I-80.

MT 200 RECONSTRUCT, MONTANA DEPARTMENT OF TRANSPORTATION, FLOWING WELLS, MT

PROJECT MANAGER/PROJECT ENGINEER

Mr. Dutton served as project manager and road designer for a 7-mile reconstruction while working for MDT. This project included offsetting the alignment, replacing 2 bridges, and removing 3 others. He was responsible for managing the schedule, budget, coordinating work between the various design teams, the cost estimate, writing project reports, special provision and designing the alignment, grading and permanent erosion control of the project.

ROUNDABOUT SOUTH OF SIDNEY, MONTANA DEPARTMENT OF TRANSPORTATION, SIDNEY, MT

PROJECT ENGINEER

Mr. Dutton served as a member of the design team for the Roundabout South of Sidney project. This project consisted of replacing the intersection of MT 200 and MT 16 with a roundabout. The design work included grading the roundabout, drainage, detours and accommodating truck traffic through the roundabout. He was responsible for the design of the grading, concrete surfacing, and detour for the project as well as the plans production, cost estimate, special provisions and milestone reports.

Ryan Christensen

Senior Engineer, Development Review Services

Mr. Christensen has over 22 years of experience on a large variety of engineering projects and served as one of the co-owners and Principals of Ridgepoint Consulting, now doing business as Trihydro. His involvement has been from initial studies through construction completion, where the projects have included design, bidding, and construction administration services for underground utilities, street and roadway corridors, residential developments, schools, and commercial/private site infrastructure. This experience has been invaluable in terms of the development of his technical/design background, communication/leadership skills, and project management abilities. He has a strong work ethic and attention to detail and is always looking for opportunities to broaden his abilities and areas of specialization.

Expertise

Civil Engineering

Construction Administration

Project Management

Licenses and Certifications

OSHA 10-Hour General Industry

Professional Engineer, Wyoming #PE 11303

Professional Engineer, South Dakota #11278

Professional Engineer, Montana #PEL-PE-LIC-21896

Education

South Dakota School of Mines & Technology: B.S./2001/
Civil Engineering

Project Experience

SCSD#2 MAINTENANCE FACILITY SAFETY UPGRADES & REPAIRS, SHERIDAN COUNTY SCHOOL DISTRICT NO. 2, SHERIDAN, WY, OCTOBER 2019-DECEMBER 2023

CIVIL ENGINEERING PROJECT MANAGER

Mr. Christensen was the civil engineering project manager for a project completed for the local school district. The project included design, bidding, and construction observation. The Owner's existing maintenance facility exhibited poor surface drainage characteristics within the old gravel parking lot, as well as within the building's old concrete shop floor. Designed and constructed improvements included a new concrete-paved parking lot with associated concrete curbs & gutters and double gutters that allowed for proper drainage away from the existing building and toward an adjacent city street, as well as a grated floor drain system with an associated pipe network to intercept drainage from the shop floor.

FIRST BANK OF WYOMING - NEW SHERIDAN BRANCH, FIRST BANK OF WYOMING, SHERIDAN, WY, JANUARY 2021-DECEMBER 2023

CIVIL ENGINEERING PROJECT MANAGER

Mr. Christensen was the civil engineering project manager for a project completed for a new, local banking branch. The project included design, bidding, and construction observation. The Owner purchased property within the City of Sheridan for construction of a new bank building and necessary site infrastructure. Designed and constructed site infrastructure within the property included earthwork grading; underground utilities for water, sanitary sewer, building foundation perimeter drain, and storm water; a storm water detention pond; a 40-stall, asphalt-paved parking lot with access drives; a concrete-paved ATM/teller drive-through; concrete curbs & gutters, double gutters, fillets, and sidewalks with ADA ramps; as well as pavement markings and signage.

SHERIDAN MOTORS CHRYSLER & GMC AUTOMOTIVE DEALERSHIPS, SHERIDAN MOTORS, SHERIDAN, WY, JANUARY 2021-DECEMBER 2023

CIVIL ENGINEERING PROJECT MANAGER

Mr. Christensen was the civil engineering project manager for a project completed for two new, local automotive dealerships. The project included design, bidding, and construction observation. The Owner purchased property within the City of Sheridan for construction of the new automotive dealerships and necessary site infrastructure. Designed and constructed site infrastructure included earthwork grading; underground utilities for water, sanitary sewer, building foundation perimeter drains, and storm water; a 420-stall, asphalt-paved parking lot with access drives; concrete-paved building aprons/vehicle service drives; concrete curbs & gutters, double gutters, fillets, and sidewalks with ADA ramps; as well as pavement markings and signage.

MORRISON RANCH FILING 1 RESIDENTIAL SUBDIVISION, MORRISON RANCH, LLC, SHERIDAN, WY, JANUARY 2016-JULY 2018

CIVIL ENGINEERING PROJECT MANAGER

Mr. Christensen was the civil engineering project manager for a project completed for a private Owner, and the project included design, bidding, and construction observation. The Owner purchased property within the southwestern portion of the City of Sheridan for construction of a new, 43-lot residential subdivision and necessary utilities and street surfacing infrastructure. Designed and constructed infrastructure included earthwork grading; underground utilities for water, sanitary sewer, and storm water; a storm water detention pond; ±3,500 linear feet of steel-reinforced, concrete-paved streets; concrete curbs & gutters, double gutters, fillets, boulevards, and steel-reinforced sidewalks with ADA ramps; as well as pavement markings and signage.

WCSD#7 UPTON ELEMENTARY/MIDDLE SCHOOL PARKING LOT RECONSTRUCTION, WESTON COUNTY SCHOOL DISTRICT NO. 7, UPTON, WY, JUNE 2012-AUGUST 2015

CIVIL ENGINEERING PROJECT MANAGER

Mr. Christensen was the civil engineering project manager for a project completed for a School District (Owner), and the project included design, bidding, and construction observation. The Owner chose to reconstruct the old hard surfacing around their entire, existing elementary/middle school, which originally consisted of a combined parking lot, parent drop-off, and bus loop, as well as a delivery area. Historically, the originally-constructed site infrastructure was configured to allow the visitor, staff, parent, and bus traffic to intermix. This created confusion and traffic congestion within the property at certain times. The Owner desired to reconstruct the hard surfacing within the property so as to separate the traffic from the parking lot, parent drop-off, bus loop, and delivery area. Also, the existing asphalt-paved site infrastructure was showing signs of age, including cracking, heaving, settling, and potholes, and was exhibiting certain areas of poor surface drainage. Further, the Owner discovered during design of the project that they were having issues with groundwater infiltrating the school's foundation crawlspace, which was causing significant odor inside the building. Designed and constructed infrastructure included earthwork grading; underground utilities for storm water; a foundation perimeter drain system around the existing school to drain the groundwater to an outfall location within the property; a 119-stall, concrete-paved parking lot; a concrete-paved parent drop-off, bus loop, and delivery area; concrete curbs & gutters, double gutters, fillets, and sidewalks with ADA ramps; updated exterior lighting throughout the site; landscape irrigation; planting of trees; bike racks; as well as pavement markings and signage. Preliminary design and a construction cost estimate was developed for an off-site storm water pipe to carry the discharged groundwater from under the building ±1,400 linear feet down an adjacent street to a large storm water system in a nearby highway, but there was not available funding to construct the pipe at that time. The end of the current storm water outfall pipe is along the western side of the Owner's property, adjacent to a city street, so it will be easily accessible in the future to connect to and extend when there is available funding to do so.

WCSD#7 UPTON HIGH SCHOOL DRAINAGE & TRACK IMPROVEMENTS, WESTON COUNTY SCHOOL DISTRICT NO. 7, UPTON, WY, OCTOBER 2018-AUGUST 2019

CIVIL ENGINEERING PROJECT MANAGER

Mr. Christensen was the civil engineering project manager for a project completed for a School District (Owner), and the project included design, bidding, and construction observation. The foundation crawlspace under the Owner's existing high school was showing signs of having standing water. The cause of the water was being attributed to the existing roof drain downspouts emptying storm water onto the adjacent concrete sidewalks surrounding the school, where the water was then draining along a negative grade across the sidewalks and infiltrating the crawlspace at the outside walls. The old sidewalk exhibited areas of cracking, settling, and buckling, and some of the concrete panels had tipped to the extent that they no longer allowed positive

drainage away from the school. The Owner desired to reconstruct the sidewalks around the perimeter of the school so as to re-establish proper positive drainage, as well as to intercept the storm water flows from the roof drains in an underground pipe system. Further, the Owner was having issues with several locations around the existing, synthetic-surfaced running track exhibiting areas of poor surface drainage. It appeared that freeze/thaw cycles in these locations were causing the synthetic surfacing and its underlying asphalt to crack and heave. The original synthetic surfacing had also reached the end of its useful life. Designed and constructed infrastructure included earthwork grading; an underground storm water system around the perimeter of the school to intercept discharged water from the existing roof drains and to outfall the water in a green space a sufficient distance away from the building; stainless-steel, powder-coated downspout shoes to match the color of the existing roof drain downspouts and to serve as a means of connecting the downspouts to the new storm water piping; a storm water system within the vicinity of the existing running track and football field to drain low points around the track; a steel-reinforced concrete sidewalk around the perimeter of the school, with a proper cross-slope to allow positive drainage away from the foundation; sidewalk ADA ramps; landscape irrigation, sodding, and hydro-seeding in any disturbed areas; as well as site signage. Also, the running track was re-sprayed with new, blue-colored synthetic surfacing to rejuvenate the condition of the track. Further, the resurfaced track had new paint markings applied to meet current track and field standards.

Chad Lynn, P.E.

Senior Engineer, Development Review Services

Mr. Lynn has 20 years of experience in the field of civil engineering. Over the course of his career, his work ethic, attention to detail and coordination abilities have proven invaluable while assisting clients to complete their project goals. Mr. Lynn has experience with a variety of project types and has played an integral part in project management, design, and construction administration duties on many projects. He is also closely familiar with a variety of funding sources (DWSRF, CWSRF, WWDO) and their reporting requirements. This involvement has developed Chad into a well-rounded and experienced engineer with a strong technical background.

Expertise

Civil Engineering
Construction Administration
Project Management

Licenses and Certifications

OSHA 10 Construction
Professional Engineer, Wyoming #PE 11795
Professional Engineer, North Dakota #PE-7922

Education

Montana State University: B.S./Civil Engineering

Project Experience

CITY OF SHERIDAN PAVEMENT MAINTENANCE, CITY OF SHERIDAN, SHERIDAN, WY, 2013-ONGOING

PROJECT MANAGER/PROJECT ENGINEER

Since 2013, Mr. Lynn has served as Project Manager and Project Engineer from design through bidding and construction of various pavement maintenance and rehabilitation projects for the City of Sheridan, including the City of Sheridan 2023 Pavement Maintenance Project. Depending upon the type of pavement distress observed within a particular project area, roadway improvements have ranged from milling and overlaying an existing asphalt surface to utilizing cement-modified soil (using a small proportion of Portland cement mixed with the roadway's existing crushed base and pulverized asphalt surfacing section) to significantly improve the roadway subgrade characteristics prior to the placement of new asphalt surfacing. Other improvements associated with these projects have included isolated concrete reconstruction to improve drainage characteristics, ADA improvements, and the removal and replacement of old and/or inoperable fire hydrants within the limits of these projects.

NORTHWEST RURAL WATER DISTRICT FLUSHING HYDRANT REPLACEMENT AND CORROSION PROTECTION, NORTHWEST RURAL WATER DISTRICT, PARK COUNTY & BIG HORN COUNTY, WY, 2021-2024

PROJECT MANAGER/PROJECT ENGINEER

Mr. Lynn was the Project Manager for design, bidding, and construction administration services for the replacement of ±167 flushing hydrants within various water service areas of the Northwest Rural Water District (NRWD). The majority of these hydrants had been in service for 20-25 years and had no means of cathodic protection when originally installed. During construction, Mr. Lynn assisted owner and the project's contractor with the development and implementation of a project schedule that minimized water service disruption to NRWD's customers and resulted in very few customer complaints during the 14-month construction timeframe.

SHERIDAN COUNTY RAPID CREEK CULVERT REPLACEMENT, SHERIDAN COUNTY, SHERIDAN COUNTY, WY, 2019-2020

PROJECT MANAGER

Mr. Lynn served as Project Manager and Project Engineer from design through bidding and construction for a large culvert replacement project on Sheridan County Road 53 in Big Goose Canyon, which serves as the only access to the City of Sheridan Big Goose Water Treatment Plant. During the spring of 2019, heavy runoff created by significant precipitation events caused a portion of an existing 69"x98" corrugated metal pipe (CMP) arch to wash out, leaving the roadway passable to only one lane of

traffic. The project included the installation of a 12'x6' reinforced concrete box (RCB) culvert, site grading to accommodate the new structure and Rapid Creek channel realignment, roadway improvements, channel armouring, and other erosion control measures.

CITY OF SHERIDAN WATER METER REPLACEMENT, CITY OF SHERIDAN, CITY OF SHERIDAN/SHERIDAN COUNTY, WY, 2015-2018

OWNER'S CONSULTANT/PROJECT MANAGER

Mr. Lynn served as the Owner's Consultant and Project Manager for a system-wide water meter replacement project and the implementation of an Advanced Metering Infrastructure (AMI) system within the City of Sheridan and Sheridan Area Water Supply Joint Powers Board service area boundary, which serves approximately 18,000 water customers. The project included the development of procurement documents for a qualified Design/Builder and project management services during system implementation, which included the replacement of over 9,000 residential and commercial water meters and the installation various infrastructure components to support the AMI system.

BOBCAT ESTATES RESIDENTIAL SUBDIVISION, DEVELOPER, SHERIDAN COUNTY, WY, 2021-2024

PROJECT MANAGER

Mr. Lynn was the civil engineering project manager for a ±125.8-acre, 22 lot, subdivision project completed for a private Owner just beyond the southern corporate limits of the City of Sheridan, within Sheridan County. The project included subdivision platting (with assistance from a surveying subconsultant), design, bidding, and construction observation for the installation of over 5,400 lineal feet of 12" water main, ±770 lineal feet of 8" water main, 22 - 1" residential water services, fire hydrants, and pressure reducing valves with vault. The project's site infrastructure also included over 6000 lineal feet of asphalt and concrete roadway improvements through the subdivision, allowing the connection between two state highways, and providing for primary and secondary access to the subdivision.

Phil Burkhalter, PH.D, P.E., CFM

Engineering Specialist, Floodplain Management Services

Dr. Burkhalter has over 25 years of experience working in water resources and environmental consulting and research. With an emphasis on Water Resources Planning and Management, his work has included decision support system development and implementation, flood forecasting model development, groundwater flow and quality modeling, water allocation studies, water rights, and application of several hydrologic and hydraulic models. Additionally, he has served for many years as a Program and Project Manager for several clients including the US Army Corps of Engineers and the National Weather Service.

Expertise

Project Management
Decision Support System Development
Hydrologic Modeling
Hydraulic Modeling
Consumptive Use Modeling
Remote Sensing for Water Resources Applications
Soil Salinity and Waterlogging
Groundwater Modeling
NEPA

Licenses and Certifications

Project Management Professional (PMP)
Certified Floodplain Manager (CFM)
Project Management Professional, National #21-12063

Education

Colorado State University: Ph.D./2005/ Water Resources Planning & Management, Civil Engineering

Texas A&M University: B.S./1992/ Civil Engineering

Colorado State University: M.S./2000/ Water Resources Planning & Management, Civil Engineering

Project Experience

MODELING, MAPPING, AND CONSEQUENCES (MMC) PRODUCTION CENTER, CORPS WATER MANAGEMENT SYSTEM (CWMS) DEVELOPMENT, U.S. ARMY CORPS OF ENGINEERS, MULTIPLE LOCATIONS, 2016-2020

PROGRAM MANAGER/PROJECT MANAGER/TECHNICAL LEAD

For the U.S. Army Corps Of Engineers' (USACE'S) vicksburg district, oversaw multiple projects in support of the MMC production center's efforts to deploy the Hydrologic Engineering Center's (HEC'S) corps water management system (CWMS) across the country. projects included complete cwms implementations for the rogue river watershed in Oregon and the cowlitz and lewis watersheds in Washington and developing a 2-D river analysis system (RAS) model for the Boise River in Idaho.

CAL-WOOD FIRE INFRASTRUCTURE PROTECTION PROJECT, NA ALI'I CONSULTING AND SALES, BOULDER COUNTY, CO, 2021-ONGOING

PROJECT MANAGER/LEAD MODELER

Serving as Project Manager and Lead Modeler on a project to provide debris and sediment flow protection to a post-wildfire region in Boulder County. As part of the Natural Resources Conservation Service (NRCS) Emergency Watershed Protection program, the project includes the design of specific mitigation measures based on hydrologic, hydraulic, and debris flow modeling results, which were performed primarily using a 2-D rain-on-grid approach available in HEC-RAS v.6.0. In addition, prepared 1-D hydraulic models of proposed structures in support of obtaining a floodplain development permit for the County. Work also includes field data collection and analysis, site assessment, additional permitting support, construction oversight, post-construction inspections, and additional design modeling

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) MAPPING PARTNER, STARR II, A JOINT VENTURE, MULTIPLE LOCATIONS, MD, 2021

PROJECT MANAGER/TECHNICAL LEAD

As part of the STARR II team, serves as the Trihydro Project Manager and Technical Lead as a mapping partner for FEMA Flood Insurance Study (FIS) updates. Current projects include areas in FEMA Region 3, with projects in Regions 8, 9, and 10 begining mid-2022. Project work includes developing hydraulic floodplain models in HEC-RAS, updating mapping products, and revising

FIS documentation. Models are developed from high-resolution terrain data, field survey data of river cross-sections and structures, and hydrologic modeling outputs.

TEXAS WATER DEVELOPMENT BOARD—HYDROLOGIC MODEL DEVELOPMENT FOR THE WEST GULF RIVER FORECAST CENTER (WGRFC), TEXAS WATER DEVELOPMENT BOARD, TEXAS, 2017-2019

PROJECT MANAGER/SENIOR HYDROLOGIC MODELER

This project involved the development and calibration of hydrologic models to support the National Weather Service's (NWS's) WGRFC. Funded by the Texas Water Development Board, the project included sites in Texas impacted by recent major floods in and near the cities of Houston, Austin, and San Antonio. Models were developed to execute at a 1-hour time step with the primary purpose of improving the WGRFC's capacity to provide timely and accurate flood forecasts.

USACE HYDROLOGIC HAZARDS TEAM PROBABLE MAXIMUM FLOOD ANALYSIS, U.S. ARMY CORPS OF ENGINEERS', MULTIPLE RIVER BASINS, OH, 2016-2017

PROJECT MANAGER/SENIOR HYDROLOGIC MODELER

Performed two probable maximum flood (PMF) studies as part of USACE's hydrologic hazards team. Work included development of calibrated HEC-HMS models and routing models incorporating USACE dam operations in HEC-RESSIM. Developed models were used to simulate system response to selected probable maximum precipitation events, which were developed using HMR-52 guidelines.

CONSUMPTIVE USE MODELING, MULTIPLE CLIENTS, COLORADO RIVER BASIN, CO, 2019-2020

PROJECT MANAGER/TECHNICAL LEAD

Worked with the NWS Colorado Basin River Forecast Center (CBRFC), the Southern Nevada Water Authority (SNWA), and the US Bureau of Reclamation (USBR) to improve long range water supply forecasts through the development of consumptive use models within CBRFC's existing forecast modeling framework. In addition, set up and applied the State of Colorado's CDSS models (StateMod, StateCU) for a selected pilot basin to guide the modeling process and provide comparison results.

Travis Rounsaville P.E., CFM

Senior Engineer, Floodplain Management Services

Mr. Rounsaville is a Colorado licensed professional engineer with 17 years of experience and holds an M.S. in hydraulic engineering, emphasis on open channel flow. He has extensive experience as a project engineer for hydrologic and hydraulic studies, hydraulic design, floodplain permitting, field data collection, surveying, and construction management. His project management experience includes bridge and culvert replacement projects throughout the country. Mr. Rounsaville is efficient and adept at completing projects on schedule and within budget. He is highly capable of collaborating with a large team or working independently to meet project goals.

Expertise

Hydrologic Modeling
Hydraulic Modeling (1D & 2D)
Floodplain Permitting
Hydraulic Structure Design
Stream Surveying and Field Data Collection
Project Management
Risk & Resilience Planning

Licenses and Certifications

Certified Floodplain Manager (CFM) #US-21-12126
Professional Engineer, Colorado #46042

Education

Colorado State University: B.S./2005/ Civil Engineering
Colorado State University: M.S./2007/ Hydraulic Engineering (Open Channel)

Project Experience

BOXELDER COMMONS LETTER OF MAP REVISION, TOWN OF WELLINGTON, WELLINGTON, CO, AUGUST 2023-ONGOING
PROJECT MANAGER

The Town of Wellington contracted with Trihydro to complete as-built hydraulic analyses and flood hazard mapping in support of a Letter of Map Revision (LOMR) for several residential housing developments constructed adjacent to Boxelder Creek. The goal of this LOMR is to remove up to 75 houses from a preliminary effective Zone AE floodplain, which is expected to become fully effective in 2024. Floodplain permitting based on preliminary effective information is complex and requires additional coordination with the Colorado Water Conservation Board to ensure project success. Mr. Rounsaville's responsibilities include project management, hydraulic modeling, and floodplain permitting.

EAST FORK SAN LUIS OBISPO CREEK OXBOW GRADING CLOMR , SAN LUIS OBISPO, CA, JANUARY 2023-APRIL 2024
PROJECT ENGINEER - HYDRAULIC ANALYSIS AND FLOODPLAIN PERMITTING

As part an ongoing remediation project, proposed grading would reconnect historic oxbow areas along the East Fork San Luis Obispo Creek, increasing wetland area and habitat diversity with slower moving waters off the main channel. Mr. Rounsaville is the project engineer responsible for hydraulic modeling and floodplain permitting associated with the project. Floodplain permitting for this project is complex due to a preliminary effective study as well as an appeal request and restudy recently submitted by San Luis Obispo County for the same study reach. Mr. Rounsaville coordinated extensively with San Luis Obispo County floodplain management staff to ensure compatibility between the county's restudy appeal and Trihydro's Oxbow grading CLOMR submittal. This CLOMR application was successfully approved in April 2024.

LARIMER COUNTY FLOOD REVIEW BOARD, LARIMER COUNTY, LARIMER COUNTY, CO, JULY 2023-ONGOING
BOARD MEMBER

Mr. Rounsaville is currently serving on the Larimer County Flood Review Board. The Flood Review Board was created by enactment of flood zoning regulations in Larimer County to advise the County Engineer and County Commissioners on local floodplain management issues. Duties include reviewing CLOMR/LOMR applications, reviewing hydraulic modeling and floodplain mapping submittals, and reviewing floodplain special permit and variance requests.

CAL-WOOD INFRASTRUCTURE PROTECTION PROJECT, BOULDER COUNTY PARKS AND OPEN SPACE, BOULDER COUNTY, CO, 2023-ONGOING

PROJECT ENGINEER - FLOODPLAIN PERMITTING

Mr. Rounsaville is the project engineer responsible for hydraulic modeling, floodplain mapping, and floodplain permitting for the Cal-Wood Infrastructure Protection Project. The Cal-Wood Fire began on October 17, 2020, and burned approximately 10,112 acres of private, County, State, and Federal land within Boulder County, Colorado. The design and implementation of erosion control and sediment management work on Boulder County's managed lands was contracted to a design-build team that was led by Trihydro (teamed with Na Ali'i Consulting & Sales, LLC). Trihydro worked with Boulder County Parks and Open Space to implement the project through the fall of 2021 and spring of 2022. The project included traditional erosion control techniques along with process-based restoration. Treatments included beaver dam analogues, cross vanes, low water crossings, filter dams, rock drop structures, directional tree felling, and ended with a major floodplain reconnection project in the lowest project reach. Trihydro recently submitted a Letter of Map Revision for the project, based on as-built survey information collected in 2022 and 2023.

SHORT-TERM RENTAL FLOODPLAIN DEVELOPMENT VARIANCE REQUEST(S), LARIMER COUNTY, CO, 2023

PROJECT MANAGER

Mr. Rounsaville was the project manager for multiple short-term rental (STR) variance requests submitted to the Larimer County Flood Review Board. The popularity of STRs along flood prone river corridors led Larimer County to establish additional floodplain requirements to achieve flood safety for such properties. Variance requests submitted by Mr. Rounsaville typically included photo documentation, hydraulic analyses, emergency operations plans, background research to determine historic rental use for the property, documentation of performance during previous flood events, a structural stability analysis documenting potential scour and anticipated flood forces, and a presentation to the Larimer County Flood Review Board.

REVE DEVELOPMENT FLOODPLAIN DEVELOPMENT PERMIT/CLOMR ON BOULDER SLOUGH, SOUTHERN LAND COMPANY, BOULDER, CO, 2019-2020

PROJECT ENGINEER – HYDRAULIC ANALYSIS AND FLOODPLAIN PERMITTING

Prior to joining Trihydro, Mr. Rounsaville was responsible for hydraulic analyses and floodplain mapping in support of a CLOMR and Floodplain Development Permit submittal for the Reve Development. This consisted of hydraulic analyses and floodplain mapping on Boulder Slough, including. This study included one-dimensional hydraulic modeling of an approximately 0.6-mile reach of the Boulder Slough main channel, along with two-dimensional hydraulic modeling of a series of six interconnected split flow paths totaling 3.1 miles in order to determine impacts of the proposed Reve Development. Mr. Rounsaville also provided coordination between the developer and the City of Boulder during review of the floodplain development permit.

GARFIELD COUNTY 2D LARGE SCALE HYDRAULIC MODELING, CDM SMITH, GARFIELD COUNTY, CO, 2018

PROJECT ENGINEER

Prior to joining Trihydro, Mr. Rounsaville was responsible for 2D large scale hydraulic modeling of Work Area CHP-4 (approximately 1/4 of Garfield County). This project utilized HEC-RAS 5.0.3 to model a 670 square mile work area in western Garfield County, Colorado. The model utilized rain-on-grid hydrologic input to apply excess precipitation to a 2D mesh, then routing the rain-on-grid excess precipitation through the project area over a 3-day run time using the Diffusion Wave (simplified Full Momentum) equations for hydraulic computations. Mr. Rounsaville modified the 2D mesh to include boundary conditions, breaklines to better define roads and streams in the project area and added internal monitoring lines for calibration. Mr. Rounsaville then utilized gage data and regional regression equations to calibrate the model based on peak flows at those internal monitoring locations.

FLOODPLAIN MODELING REPORT AND HYDRAULIC ANALYSES OF FOSSIL CREEK IN SUPPORT OF THE FOSSIL CREEK TRAIL PROJECT, CITY OF FORT COLLINS PARKS DEPARTMENT, FORT COLLINS, CO, 2018

PROJECT ENGINEER

Prior to joining Trihydro, Mr. Rounsaville was responsible for hydraulic analyses in support of a floodplain modeling report for the City of Fort Collins Stormwater Department's review of a pedestrian trail and associated trail crossings of Fossil Creek. The project included analysis of three break-away structures located in a City regulated floodplain and erosion buffer zone. Mr. Rounsaville conducted the hydraulic analyses for the floodplains and floodway, and delineation of floodplain/floodway boundaries of Fossil Creek between College Avenue and Shields Street. Mr. Rounsaville was also responsible for reporting and applications submitted to the City of Fort Collins for project approval, as well as all coordination conducted with City of Fort Collins Parks Planning and Development, and Stormwater staff.

Kelby Wilkison P.E.

Project Engineer, Project Support Services

Mr. Wilkison brings over 10 years of multifaceted expertise in mining, abandoned mine land remediation, civil engineering, and environmental engineering projects. Currently, he serves as Trihydro's Abandoned Mine Land Team Group Manager responsible for complete project lifecycles from preliminary studies to construction. His technical competencies traverse hydrological analyses, hydraulic systems modeling, innovative landform reclamation techniques, permitting, estimation, and construction administration. With diverse experience across domains, Mr. Wilkison manages complex remediation initiatives by directing teams to deliver solutions tailored to client goals. His qualifications position him to lead total reclamation projects by applying strategy, problem-solving skills, and solution implementation from start to finish while meeting budget, schedule, and metrics for success.

Expertise

Abandoned Mine Lands
Mine Reclamation
Civil Engineering
Project Management
Repository Design
Natural Landform Modeling

Licenses and Certifications

GeoFluv Designer Certification
Professional Engineer, Wyoming #17344
Professional Engineer, Iowa #P27318

Education

South Dakota School of Mines & Technology: B.S./2014/
Civil and Environmental Engineering

Project Experience

JAGER ABANDONED MINE LAND RECLAMATION, IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP, MAHASKA COUNTY, IA, APRIL 2019-MARCH 2024

PROJECT MANAGER AND DESIGN ENGINEER

Tasked with developing reclamation plans for the Jager AML site, a former coal strip mine with several hazard features, Trihydro utilized innovative landform grading techniques to manage agricultural drainage effectively. The final reclamation design, spanning 51 acres, focused on geomorphically stable concepts, significantly improving water quality and reducing erosion. Trihydro's responsibilities included developing construction plans and specifications, addressing challenges of agricultural drainage, and utilizing a 3D model for design communication. This project is a testament to Trihydro's proficiency in addressing complex environmental and safety hazards through innovative reclamation design .

SHIRLEY BASIN 400 PILE ABANDONED MINE LAND RECLAMATION, WDEQ ABANDONED MINE LAND DIVISION, SHIRLEY BASIN, WY, JANUARY 2020-MARCH 2022

DESIGN ENGINEER

Managed geomorphic reclamation, 3D modeling, and lek design at AML Shirley Basin 400 Pile. The project focused on restoring sage-grouse habitats, involving innovative geomorphic grading for habitat and lek placement. Developed a 3D model for visualizing sage-grouse sight lines from leks. Collaborated with AML, Wyoming Game and Fish Department, Bureau of Land Management, The Nature Conservancy, and environmental consultancies, employing advanced geomorphic grading and 3D visualization techniques to achieve project goals.

RILEY PASS BLUFF C,D,E ABANDONED MINE LAND RECLAMATION, USDA FOREST SERVICE, CUSTER GALLATIN NATIONAL FOREST, SD, AUGUST 2016-DECEMBER 2017

DESIGN ENGINEER

Trihydro contributed as a specialty subcontractor to the reclamation of Riley Pass Uranium Mine, which began operations in 1954 and spanned 250 acres. The project, overseen by LT Leon Associates, focused on Bluff C, D, and E (Bluff CDE), involving the excavation and consolidation of radioactive materials into repository cells. Trihydro assisted in developing design and

specifications for these cells and the final natural landform topography. Geomorphic grading concepts were incorporated, designed using Carlson's Natural Regrade software to align with the native landforms. The project encompassed reclaiming 34 acres, including the removal of approximately 22,000 cubic yards of mine waste, showcasing Trihydro's capability in implementing geomorphic approaches within challenging site constraints .

BLACK PINE MINE RECLAMATION, MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY, GRANITE COUNTY, MT, DECEMBER 2014-OCTOBER 2016

DESIGN ENGINEER

Mr. Wilkison, in his capacity as Design Engineer, was integral to the Black Pine Metal Reclamation Project. He spearheaded the environmental assessment and reclamation plan development, employing geomorphic reclamation techniques and Carlson's Natural Regrade software. His focus was on meticulously characterizing metals-impacted areas and managing the design of the on-site repository for contaminated materials. Mr. Wilkison's expertise in project data management and contribution to the Engineering Evaluation/Cost Analysis (EE/CA) were pivotal. His role ensured effective construction support and the project's success in achieving long-term environmental sustainability.

CALWOOD FIRE INFRASTRUCTURE PROTECTION, BOULDER COUNTY, BOULDER COUNTY, CO, JANUARY 2021-AUGUST 2022

TECHNICAL ADVISOR AND DESIGN ENGINEER

As Technical Advisor and Design Engineer, Mr. Wilkison led the engineering design and review of natural erosion structures for the Calwood Fire Infrastructure Protection project in Boulder County, Colorado. His expertise was pivotal in developing erosion control solutions at the watershed's apex, focusing on sediment reduction through minimally invasive structures and preserving post-fire vegetation. Collaborating with Watershed Science and Design and Boulder County Parks and Open Space, Mr. Wilkison contributed to the implementation of various treatments, including beaver dam analogues and rock drop structures, culminating in significant floodplain reconnection.

BOSTON HILL PHASE I ABANDONED MINE LAND RECLAMATION, STATE OF NEW MEXICO ABANDONED MINE LAND PROGRAM, GRANT COUNTY, NM, DECEMBER 2021-FEBRUARY 2023

TECHNICAL ADVISOR

Mr. Wilkison served as a Technical Advisor to the design engineer in the Boston Hill Phase I Abandoned Mine Land Reclamation project in Silver City, New Mexico. The project, initiated by the New Mexico AML program, involved safeguarding approximately 510 abandoned mine features, including shafts, adits, pits, and open stopes, across a mix of city, BLM, and privately held lands.

BURKE-MARTIN MINE RECLAMATION, USDA FOREST SERVICE, SUMMIT COUNTY, CO, DECEMBER 2023-ONGOING

TECHNICAL ADVISOR

Mr. Wilkison, in his role as Technical Advisor for the Burke Martin Mine Reclamation Project, specializes in grading design to address the challenges of mine waste stabilization and landform restoration. His primary focus is on developing effective grading strategies to manage site-specific hazards. Key responsibilities include designing drainage channels and earthen berms, essential for controlling runoff and erosion in mountainous terrain. His expertise in grading design is instrumental in creating efficient, sustainable solutions for land reclamation. This involves detailed planning and optimization of land contours to ensure stability and safety of the reclaimed site. Mr. Wilkison's contribution is critical in the technical planning and execution of the reclamation project, focusing on grading aspects that align with the overall objectives of mine waste containment and landform stability. His technical insights ensure the project meets the necessary engineering standards and design specifications.

FRY CANYON TAILINGS CERCLA NTCRS RECLAMATION, BUREAU OF LAND MANAGEMENT, SAN JUAN COUNTY, UT, JANUARY 2024-ONGOING

DESIGN ENGINEER

Mr. Wilkison leads the engineering design of the Fry Canyon Tailings CERCLA NTCRA project, a crucial environmental remediation effort targeting contaminants such as arsenic, copper, lead-210, and radium-226 at a former mining site. This project requires meticulous design to safely excavate and consolidate approximately 41,000 cubic yards of tailings and pond wastes. As the Project Manager and Design Engineer, Mr. Wilkison's responsibilities include the development of a comprehensive Non-Time Critical Removal Action (NTCRA) plan. His design strategy entails stabilizing these materials on an upland tailings pile, specifically engineered to prevent off-site contamination. Key to this process is the grading design, aimed at managing stormwater run-on and runoff, with slopes maintained at no steeper than 5H:1V. The project also involves the design and installation of a soil cover system over the consolidated tailings. This cover, composed of soil, mulch, and native

vegetation, is crucial for stabilizing the site, controlling erosion, and containing the spread of contaminants. Mr. Wilkison's technical expertise ensures that the cover system is engineered to optimize containment efficiency while facilitating site restoration. Throughout the design phase, Mr. Wilkison's role is instrumental in aligning the project with environmental regulations and ensuring the technical feasibility of the remediation strategy. His focus on the details of the engineering design contributes significantly to the project's goal of restoring the integrity of the site.

CHEYENNE STREETS US 30, DELL RANGE BLVD., FOXGLOVE DR, AND US 30 FRONTAGE ROADS, WYOMING DEPARTMENT OF TRANSPORTATION, CHEYENNE, WY, MARCH 2022-SEPTEMBER 2022

DESIGN ENGINEER

As a Design Engineer, Mr. Wilkison provided essential support in the design and plan production for the Cheyenne Streets project, which encompassed US 30, Dell Range Boulevard, Foxglove Drive, and US 30 Frontage Roads. His responsibilities included designing a roundabout at the Dell Range and Whitney Road intersection, re-aligning the Dell Range Boulevard and US 30 intersection, and widening the pavement on Dell Range Boulevard and US 30. Mr. Wilkison also developed horizontal and vertical alignment designs for the US 30 Frontage Roads and performed right-of-way retracement. Additionally, he was involved in the hydraulic design of storm water conveyance structures. The project's challenges included optimizing traffic flow, improving safety, and ensuring efficient drainage. Mr. Wilkison's technical skills and attention to detail were crucial in developing design solutions that addressed these challenges effectively. His contributions to the project helped enhance the transportation infrastructure in Cheyenne, benefiting both the client and the community.

COUGHLIN-POLE MOUNTAIN PLAT, RAWSTONE DEVELOPMENT, LARAMIE, WY, JUNE 2021-APRIL 2022

DESIGN ENGINEER

Mr. Wilkison served as the Design Engineer responsible for producing comprehensive construction drawings for the Coughlin-Pole Mountain project in Laramie, Wyoming. His role involved ensuring compliance with City and Wyoming Department of Environmental Quality/Water Quality Division (WDEQ/WQD) requirements. The project's scope included designing water and sanitary distribution and collection systems, determining the proposed locations of water and sanitary mains and service lines, and developing street plans and profiles. Mr. Wilkison also conducted an analysis of environmental conditions and prepared an estimated cost for City contribution. Additionally, he authored memorandums summarizing the water and sanitary sewer design and amending the existing master drainage report. His attention to detail and proficiency in design software ensured the production of accurate and complete construction drawings. Mr. Wilkison's technical expertise and ability to navigate regulatory requirements were key to the successful execution of this project, delivering a well-designed infrastructure solution for the client.

ALKALI CREEK DAM DESIGN, WYOMING WATER DEVELOPMENT COMMISSION, CROOK COUNTY, WY, JANUARY 2021-DECEMBER 2021

DESIGN ENGINEER

As the Design Engineer for the Alkali Creek Dam project in northeast Wyoming, Mr. Wilkison played a crucial role in the design and hydraulic modeling of the dam. His responsibilities included conducting dam breach modeling to assess potential downstream impacts and performing 2D flood modeling to analyze the effects on downstream confluences and critical structures. The project's challenges involved ensuring the dam's structural integrity while minimizing the risk of flooding to nearby areas. Mr. Wilkison's expertise in hydraulic modeling and dam design was instrumental in developing solutions that addressed these challenges effectively. His thorough analysis and attention to detail have been essential in advancing the project through the permitting process and design iterations. As the project progresses, Mr. Wilkison continues to provide technical support and collaborate with the client to refine the design, ensuring that the final dam design meets safety standards and mitigates potential flood risks.

Richard Jacobson

GIS & CADD Services Team Leader, Project Support Services

Mr. Jacobson is an Engineer Intern with over 6 years of civil engineering, civil design, and drafting experience. He is the Trihydro GIS and CADD Services Team Leader, a team of 10 GIS and CADD experts. Mr. Jacobson is an AutoCAD certified professional, and his engineering software expertise includes Autodesk Civil 3D and Bentley's WaterGEMS, FlowMaster, MicroStation, and OpenRoads Designer programs. He also serves as a Trihydro project manager and project lead, successfully managing projects from proposal to final completion, and has experience in construction observation and documentation. Additionally, he provides company-wide AutoCAD and Civil 3D training and assists Trihydro IT staff with Autodesk software installations and configurations. During his career Mr. Jacobson has worked on projects throughout the country, and beyond, utilizing and adapting to many different design guidelines and CADD standards. Moreover, Mr. Jacobson brings a wealth of training, supervision, and field instruction skills from a prior career in public service with the City of Laramie.

Expertise

Computer Aided Drafting and Design

Post-processing of collected data from field surveying

Civil Engineering

Topographic Surveys

Licenses and Certifications

Engineer in Training, Colorado #77361

Engineer in Training, Montana #PEL-EI-LIC-71766

Engineer in Training, Arizona #13307

Education

Sheridan College: A.S./1997/ Police Science

Old Dominion University: B.S./2020/ Engineering Technology

Project Experience

FM 725 WATER LINE RELOCATION, GREEN VALLEY SPECIAL UTILITY DISTRICT, NEW BRAUNFELS, TX, JANUARY 2020 - ONGOING

PROJECT ENGINEER

Project consisted of relocating 6,600 Linear Feet of water line from TxDOT Right of Way. Was involved in the analysis and design of the relocation. Actively coordinated with TxDOT and utilized Civil 3D to draft plan sets and design pipe.

NORTH HOLDING POND STORMWATER IMPROVEMENT PROJECT, CONFIDENTIAL REFINERY CLIENT, BORGER, TX, 2020-2021

CIVIL DESIGNER/DRAFTER

The North Holding Pond Stormwater Improvement project consisted of design and implementation of stormwater improvement best management practices (BMPs) for a large refinery in northern Texas. The refinery grounds were experiencing erosion of a steep bank, which is approximately 135 vertical feet above a natural drainage. The bank borders a large waste-holding pond which will be capped and decommissioned in the future. The erosion was located near the pond and the refinery was concerned the pond's integrity would be affected. Trihydro's role was to design a stormwater channel to intercept surface runoff and route it around the pond, through BMPs, and ultimately discharge stormwater into the natural drainage. Mr. Jacobson provided the Civil 3D design and plan set drafting of the stormwater channel and downstream BMP's. Mr. Jacobson also designed stormwater culverts, piping, manholes, and riprap outfall channels. Additionally, Mr. Jacobson provided a hydrology and system-capacity analysis to verify the stormwater system would handle the client request storm event. Mr. Jacobson used a combination of HEC-HMS, soil research, and spreadsheet calculations to determine peak runoffs at various system points, channel capacities, culvert sizing, existing detention pond capacity, stormwater piping sizes, and riprap sizing.

NEW POTABLE WATER TREATMENT PLANT AND WATER DISTRIBUTION SYSTEM PROJECT, UNITED STATES AIR FORCE, SOTO CANO AIR FORCE BASE, HONDURAS, 2019-2022

CIVIL DESIGN, DRAFTING, AND PROJECT TEAM MENTORING

Civil Design, Drafting, and Project Team Mentoring for the Soto Cano Air Force Base New Potable Water Treatment Plant and Water Distribution System project. This project involved the design of raw water line, a potable water treatment plant, and a water distribution system for a United States Air Force base located in Honduras, South America. The raw water system and distribution system entailed the design of approximately 70,000 linear feet of water line, water services for base buildings, fire hydrants, and air release valves. The project followed US Army Corps of Engineers (USACE) design guidelines and CADD standards. Mr. Jacobson provided Civil 3D design of the raw water lines and the distribution system. Mr. Jacobson also provided plan set drafting mentoring and assisted with plan sheet drafting as needed to help meet project deadlines.

CHEYENNE STREETS US 30, DELL RANGE BLVD., FOXGLOVE DR, AND US 30 FRONTAGE ROADS, CITY OF CHEYENNE, CHEYENNE, WY, ONGOING

DESIGN ENGINEER

Design Engineer supporting the design and plan production for the project. The project work included the design of a roundabout at the Dell Range and Whitney Road intersection, re-aligning the Dell Range Boulevard and US 30 intersection, pavement widening on Dell Range Boulevard and US 30, horizontal and vertical alignment design for the US 30 Frontage Roads, right-of-way retracement, and the hydraulic design of storm water conveyance structures.

CITY OF LARAMIE 4TH STREET – HARNEY STREET TO FLINT STREET, CITY OF LARAMIE, LARAMIE, WY, 2020

PROJECT ENGINEER

Project Engineer for the City of Laramie 4th Street – Harney Street to Flint Street project. This project included preparing construction plan documents for a full-depth reconstruction project on 4th Street. The project area was identified as Soil Zone 1 in the 2017 Pavement Study and included 6-inches of hot plant mix, 13-inches of crushed base with a geotextile fabric. This project also included curb and gutter spot repairs and ADA upgrades. Mr. Jacobson provided Civil 3D design for the reconstructed roadway, plan set drafting and plan set drafting mentoring, and quantity and cost estimating. Mr. Jacobson also prepared project summary tables, project team meeting agendas, and time guidelines for drafting team members.

CITY OF LARAMIE WWCLH6 C-LINE SANITARY SEWER INTERCEPTOR, CITY OF LARAMIE, LARAMIE, WY, 2017-2021

CIVIL DESIGN/DRAFTER PROJECT MENTORING/CONSTRUCTION OBSERVER

Civil Design and Drafter Project Mentoring and Construction Observer for the City of Laramie WWCLH6 C-Line Sanitary Sewer Interceptor. This project involved the design and construction administration of approximately 3,800 linear feet of 36-inch diameter, 18-inch diameter, and 15-inch diameter sanitary sewer collection line as well as approximately 700 linear feet of 8-inch diameter water distribution line. Mr. Jacobson provided civil design plan set mentoring during the design phase. Mr. Jacobson also provided approximately 4 months of full-time on-site construction observation, monitoring, and reporting during the construction phase. During this time, Mr. Jacobson actively coordinated with the contractor's superintendent and the construction crew to help achieve the project's design goals. Mr. Jacobson also provided construction quantity calculations, daily construction reports, change order civil design, and attended weekly construction meetings to update the client and project manager on the project's progress.

Daniel Kricken, P.L.S., RPLS

Senior Professional Land Surveyor

Mr. Kricken has over 25 years of professional land surveying experience that includes control and boundary, right-of-way, topographic, planimetric, and hydrologic surveys, and construction staking. His areas of expertise include land surveying, drafting, and construction staking. Mr. Kricken's experience includes road rights-of-way projects throughout Wyoming. He has worked on numerous projects for municipalities including retracing urban road rights-of-way, establishing control for aerial mapping, and topographic and planimetric surveys of multiple municipal building sites and road construction. Mr. Kricken is proficient with Trimble GPS equipment and software, Total Stations, Levels, and AutoCAD Civil 3D. He is also a Federal Aviation Administration (FAA) Certified Part 107 Remote Pilot.

Expertise

As-built Surveys
Construction Staking
Ground-based Scanning
Land Reclamation
Topographic Surveys
UAS Surveys
Bathometric Surveys
Stream Surveys
Project Management
Orthometric processing

Licenses and Certifications

OSHA 40-Hour HAZWOPER
Professional Land Surveyor, Wyoming #11484
Emergency Medical Technician, Wyoming #108917
FAA Remote Pilot, National #4268352
Professional Land Surveyor, Texas #7029

Education

University of Wyoming: B.S./1999/ Rangeland Ecology and Watershed Management

Metropolitan State University of Denver: B.S./2007/ Surveying and Mapping

Project Experience

ADAMS STREET RECONSTRUCTION PROJECT, CITY OF LARAMIE, LARAMIE, WY

PROJECT SURVEYOR

Trihydro contracted with the City of Laramie (City) for the design of the reconstruction of Adams Street. The project consisted of performing a right-of-way retracement, design of sanitary and storm sewer systems, water main replacement, and street reconstruction. Mr. Kricken's specific role was Project Surveyor responsible for surveying planimetric and topographic features for the design of a new sewer alignment and right-of-way retracement.

GRAND AVENUE WATERLINE REPLACEMENT, CITY OF LARAMIE, LARAMIE, WY

PROJECT SURVEYOR

Trihydro prepared design plans and specifications for the City for the removal and replacement of two water transmission lines located in Grand Avenue. This project included obtaining potholing information to identify unknown underground utilities, surveying existing utilities, and providing updated utility mapping. There were numerous existing utilities along this corridor requiring coordination with local utility companies. Mr. Kricken was responsible for establishing survey control and overseeing the survey of existing utilities located in the design corridor. This included visible features as well as requesting underground locates and air-knifing potholes to locate underground utilities.

CHEYENNE STREETS/PERSHING BOULEVARD, WYOMING DEPARTMENT OF TRANSPORTATION, CHEYENNE, WY

PROJECT SURVEYOR

Trihydro contracted with WYDOT to prepare design documents to reconstruct Pershing Boulevard from Pioneer Avenue to I-25 in Cheyenne, Wyoming. Mr. Kricken was the project surveyor responsible for conducting the preliminary engineering surveys and preparing the boundary survey and right-of-way retracement. The boundary survey for this project was a challenge since

this is a very old area of Cheyenne. To resolve the right-of-way, detailed records searches of titles and recorded plats were performed to re-establish the existing right-of-way

LARAMIE STREETS VISTA DRIVE RECONSTRUCTION, CITY OF LARAMIE, LARAMIE, WY
PROJECT SURVEYOR
Trihydro prepared design plans and specifications for Vista Drive in Laramie, Wyoming, including a new pathway along the roadway to tie to the City's existing pathway system. Trihydro prepared official right-of-way acquisition exhibits and legal descriptions, performed the level one survey, located public land corners, and determined boundary control deficiencies. Concluded in 2013, preliminary and final record of survey were produced. Mr. Kricken was responsible for developing site control, preliminary surveys, conducting research to establish right-of-way boundaries, creating legal descriptions, and creating both records of survey including establishing property boundary monumentation.

HAPPY JACK LANDFILL EXPANSION, CITY OF CHEYENNE, LARAMIE COUNTY, CHEYENNE, WY
PROJECT SURVEYOR
Trihydro prepared a variance application and lifetime permit application for the 40-acre expansion of the City of Cheyenne's Happy Jack Landfill. Through the variance process, the project team determined the expansion of the landfill will save the City of Cheyenne over 100 million dollars over 30 years versus hauling waste to Ault, CO. Mr. Kricken served as the project surveyor for the project. This includes construction staking for contractors to build to design, conducting aerial control surveys to capture volumetric quantities of earthwork, and certification of completed earthwork to design standards.

SAGE CREEK ROAD - FEDERAL HIGHWAY ADMINISTRATION, ACE ENGINEERING, INC, CARBON COUNTY, WY
PROJECT SURVEYOR
Mr. Kricken served as project surveyor for the construction staking of 18 miles of Sage Creek Road located in Carbon County Wyoming. Survey services included providing slope stakes, grade stakes, utility stakes, retaining wall stakes, bluetops, and detailed staking reports. Construction stakes and control was also provided for the construction of several bridges. The project required coordination with Federal government inspectors to provide services to Federal standards. The contractor had three construction crews working on different sections of the road at same time, requiring detailed coordination with multiple survey crews. This project required remote staffing logistics and coordination to complete the project within a short season construction window.

LARAMIE AIRPORT SEWER, CITY OF LARAMIE, ALBANY COUNTY, WY
PROJECT SURVEYOR
Mr. Kricken was the project surveyor for the Topographic and Planimetric survey for a sanitary sewer pipeline to connect the Laramie Regional Airport to the City of Laramie's sanitary sewer system.

VISTA DRIVE, CITY OF LARAMIEALBANY COUNTY, WY
PROJECT SURVEYOR
Trihydro prepared design plans and specifications for Vista Drive in Laramie, Wyoming, including a new pathway along the roadway to tie to the City of Laramie's existing pathway system. Trihydro prepared official right-of-way acquisition exhibits and legal descriptions, performed the level one survey, located public land corners, and determined boundary control deficiencies. Concluding in 2013, preliminary and final record of survey were produced. Mr. Kricken was responsible for developing site control, preliminary surveys, conducting research to establish right-of-way boundaries, creating legal descriptions, and creating both records of survey including establishing property boundary monumentation.

COLE WATER STORAGE TANK RELOCATION, CITY OF SUNDANCE, CROOK COUNTY, WY
PROJECT SURVEYOR
Trihydro was contracted by the City of Sundance, Wyoming, in coordination with the Wyoming Water Development Office (WWDO) to evaluate a new site for an existing 275,000-gallon water storage tank. A preferred site was selected for a detailed investigation, which included conducting a topographic and boundary survey and a geotechnical analysis. Mr. Kricken was responsible for establishing site control, conducting the courthouse research for conveyance documents for the boundary survey, searching for property corner monuments for the boundary survey, and conducting and overseeing the topographic survey. Mr. Kricken also created the easement description and exhibits for courthouse recording.

SAFETY OF DAMS INSPECTION AND SURVEYING PROJECT, CHEYENNE BOARD OF PUBLIC UTILITIES, CITY OF CHEYENNE, WY

PROJECT SURVEYOR

Trihydro provides annual and bi-annual surveying, monitoring, and geotechnical reporting services for six reservoir dams in southeast Wyoming. Field activities for this project include dam inspection observations, movement monument surveying, piezometer and inclinometer measurements, and toe drain flow recording. Data from the comprehensive dam inspections is used to assess the dam performance and evaluate maintenance needs. Mr. Kricken serves as the project surveyor responsible for surveying of movement monuments, piezometer depth measurements, and reduction of data for the annual reports.

UNIVERSITY OF WYOMING CENTRAL ENERGY PLANT, COOLING TOWER AND SUMP SITE PLAN SURVEY, UNIVERSITY OF WYOMING, CITY OF LARAMIE, WY

PROJECT SURVEYOR

Project Manager responsible for detailed topographic surveying of the UW Cooling Tower and Sump Site project site including coordination and location of underground utilities, building footprint location, establishing survey control benchmarks and boundary resolution for future planning and design.

UNIVERSITY OF WYOMING ENGINEERING COMPLEX PROJECT, GE JOHNSON, CITY OF LARAMIE, WY

PROJECT SURVEYOR

Project Manager responsible for detailed topographic surveying of the UW Engineering Complex project site including coordination and location of underground utilities, building footprint location, and boundary resolution for future planning and design.

WORLAND STREETS ADA UPGRADES, WYOMING DEPARTMENT OF TRANSPORTATION, CITY OF WORLAND, WASHAKIE COUNTY, WY

PROJECT SURVEYOR

Trihydro contracted with the WYDOT for a Level-1 survey of Big Horn Avenue to re-establish right-of-way control along U.S. Hwy 16/Big Horn Avenue through Worland, Wyoming. The project consisted of performing a right-of-way retracement, research of land records and roadway plans, and re-establishing right of way monumentation. Mr. Kricken's specific role was Project Surveyor responsible for surveying right-of-way retracement, research and monument staking.

Ken Huffman P.L.S.

Senior Surveyor

Mr. Huffman has over 35 years of experience surveying, which includes establishing control networks, boundary, right-of-way, topographic and hydrologic surveys, DOT Infrastructure projects across 3 states, as well as construction staking of many subdivision, highway, pipeline, and water resources projects. Mr. Huffman has experience with Trimble GNSS equipment, Trimble Total Stations and scanners, TBC software, and AutoCAD. Mr. Huffman is currently involved with projects that include boundary, control, topographic, and construction surveys, as well as the staking of monitor and gas wells. Mr. Huffman is also an FAA Part 107 UAS Pilot and has participated in numerous UAS projects providing both survey services and flight operations for our UAS program. Prior to Trihydro, Mr. Huffman was enlisted for 22 years in the Navy Seabees surveying construction projects in Iraq, Bosnia, Guam, Honduras, Spain, Cuba and the U.S.

Expertise

ALTA Surveys
As-built Surveys
Boundary Surveys
Construction Staking
Ground-based Scanning
Project Management
UAS Surveys
Control Network Surveying Design

Licenses and Certifications

Professional Land Surveyor, Colorado #38734
Professional Land Surveyor, Nebraska #830
Professional Land Surveyor, Wyoming #19694
Journeyman Surveyor, National #X0098680001 - 23681
FAA Remote Pilot, National #4765128

Education

Sheridan College: A.A.S./2022/ Surveying Technology
University of Wyoming: Supplemental Studies/2022/ Cadastral Surveying

Project Experience

REFINERY SURVEYING, SINCLAIR WYOMING REFINING COMPANY, SINCLAIR, WY, MAR 2019-ONGOING

PROJECT SURVEYOR

Ongoing surveying, monitoring, and geotechnical reporting services for the Sinclair, Wyoming Refinery. Field Activities for this project include construction staking for infrastructure upgrades on site, topographic surveys during Asbestos Removal in SWMU25, monitoring elevation monuments in the CAMU area and collecting monitoring well (MW) data to evaluate movement. Mr. Huffman serves as party chief responsible for construction staking for infrastructure sites; conducting topographic surveys for each lift in the SWMU25 asbestos removal area, then comparing 3D digital terrains for volume removed; conducting a digital level survey of vertical benchmarks surrounding the CAMU area and surveying of the monitoring wells annually.

CITY OF LARAMIE CONTROL NETWORK, CITY OF LARAMIE, LARAMIE, WY, AUGUST, 2023-ONGOING

SENIOR SURVEYOR

Establish, survey, and document a survey control network across existing City limits and future City expansion. Mr. Huffman will use existing established control points and expand the network to include 8 new and set 23 new monuments suitable for blue booking recordation with NOAA's National Geodetic Survey (NGS) department. These control points will be incorporated in the framework for all positioning activities in the Nation.

C-LINE SANITARY SEWER INTERCEPTOR PH 1 & 2, CITY OF LARAMIE, LARAMIE, WY, JUN 2020-JUN 2022

PROJECT SURVEYOR

Surveyor for the C-Line Sanitary Sewer Interceptor Phase 1 project from the intersection of 2nd street and Lyons meandering through the city to the intersection of E Canby St and 6th street as well as the Phase 2 project from the intersection of Canby and 6th, along 6th street to Ivinson Avenue, then East to 8th Street. Mr. Huffman was responsible for setting control,

construction layout and surveying the existing utilities located within the design corridor. to include visible features as well as requesting underground locates of municipal utilities. surveying the existing utilities located within the design corridor, locating pot holes and measuring depths of manholes.

LAND SURVEYING TRAINING, U.S. DEPARTMENT OF DEFENSE, WORLDWIDE, JUN 2011-JUL 2014
MILITARY CERTIFIED PROFESSIONAL TRAINER

Working at Trimble Navigation, assigned to the US Marine Corps Systems Command in Quantico, VA. Mr. Huffman spent a year writing a 14-task lesson plan for the US joint forces Military surveyors. As a retired Military Surveyor, he then conducted 35 2-week worldwide training events. The training consisted of various lesson plans to ensure the military surveyors were prepared for future missions. A portion of this class included a 2-day lesson on "Establishing GNSS Control network". This lesson provided the students with the knowledge on how to plan, conduct and post process through Trimble Business Center (TBC) and OPUS, a multi-point control network on the military installation. Mr. Huffman was considered the subject matter expert for this lesson.

BOPU DAM SETTLEMENT SURVEY, CHEYENNE BOARD OF PUBLIC UTILITIES, CHEYENNE, WY, MARCH 2019-ONGOING
PROJECT SURVEYOR

Ongoing surveying, monitoring, and geotechnical reporting services for six dams in Southeast Wyoming. Field activities for this project include dam inspection observations, monument surveying, piezometer and inclinometer measurements, and toe drain flow recording. Data from the comprehensive dam inspections is used to assess the dam performance and evaluate maintenance needs. Mr. Huffman serves as the party chief responsible for surveying movement monuments and piezometer depth measurements.

LITTLE THOMPSON WATER DISTRICT WATERLINE EXPANSION, CIVILWORX, JOHNSTOWN, CO, NOV 2021-ONGOING
LEAD PROJECT SURVEYOR / PLS

Responsible for field and office work for Civilworx in the Little Thompson Water District area of Colorado. Trihydro is subcontracted to provide survey services to conduct topographic surveys and produce easements along a 4-mile corridor north of Johnson, Colorado. The project includes landowner coordination, survey (including UAS (Unmanned Aerial System) and PLSS (Public Land Survey System) surveys), design of 4 miles of new water line. The work includes detailed warranty deed interpolation of existing land ownership and creating new easement descriptions across 21 different landowners for the proposed corridor, coordinating utility locates and interpolating earlier CDOT (Colorado Department of Transportation) CAD (Computer Aided Design) work in the LCR16 and I25 intersection.

ALKALI CREEK RESERVOIR, WYOMING WATER DEVELOPMENT COMMISSION, HYATTVILLE, WY, MAY 2020-ONGOING
LEAD PROJECT SURVEYOR

Responsible for field and office work for Alkali Creek Reservoir in Hyattville, Wy. Trihydro is currently completing final design of Alkali Creek Reservoir which includes a 2,500-foot long, 100-foot high, zoned earthen embankment, that will store 8,000 acre-ft. The project includes landowner coordination, geotechnical investigations, survey (including UAS and PLSS surveys), design of 4.5 miles of supply canal, downstream bed and bank stabilization, earthen dam design, outlet works, principal and auxiliary spillways, instrumentation and controls, and public access area including access roads, parking areas, and boat ramps. The work includes detailed warranty deed interpolation of existing land ownership and creating new easement descriptions across 20 different landowners for the proposed Anita Ditch, which will feed the Alkali Reservoir.

GLADE RESERVOIR, BLACK & VEATCH CORPORATION, FT COLLINS, CO, JUNE 2020-ONGOING
PROJECT SURVEYOR

Surveyor responsible for performing work at Glade Reservoir site as part of the Northern Integrated Supply Project (NISP) under the direction of the Northern Colorado Water Conservancy District (Northern Water). The NISP project includes the proposed Glade and Galeton reservoirs, associated pipelines and infrastructure, and will serve 15 participant communities and districts located in Northern Colorado. Glade reservoir is a proposed 170,000-acre-foot reservoir with a 280-foot-tall earthen dam. The project involves boundary surveys, staking of monitoring wells and boreholes, surveying of Highway 287, Highway 14 and ditch rights of way, diversion structures and seismic lines.

MARATHON REFINERY, GALLUP, NM, MARATHON GALLUP REFINERY, GALLUP, NM, NOV 2019-ONGOING
PROJECT SURVEYOR

Responsible for scanning SWMU-1 ponds at the Marathon refinery complex near Gallup, NM. Without the ability to physically enter the pond bottoms, he was responsible for setting scanning control around the three ponds and the borrow pit area, totaling approximately 10 acres. The project included refinery coordination and access to complete the project. The data

collected was used to quantify the total holding capacity of the SWMU-1 ponds and used as a planning tool to subcontract a company to decommission the ponds.

CHIMNEY HOLLOW RESERVOIR, BLACK & VEATCH CORPORATION, LOVELAND, CO, JAN 2022-ONGOING
PROJECT SURVEYOR

Surveyor responsible for performing work at chimney hollow reservoir site as part of the northern integrated supply project (NISP) under the direction of the northern Colorado water conservancy district (northern water). The NISP project includes the proposed glade and Galeton reservoirs, associated pipelines and infrastructure, and will serve 15 participant communities and districts located in northern Colorado. Chimney hollow is a proposed 90,000 acre foot reservoir with a 335 foot tall asphalt-core dam. The project involves quality control and quantity surveying

Jack Mitten

Associate Surveyor

Mr. Mitten has over 3 years of experience surveying. He is well versed in drafting programs such as Asbuilt and Civil 3D. Since joining Trihydro Mr. Mitten has assisted in multiple projects including the city wide survey control network for the City of Laramie

Expertise

ALTA Surveys
As-built Surveys
Boundary Surveys
Computer Aided Drafting and Design
Construction Staking
Project Management
Topographic Surveys

Licenses and Certifications

FAA PART 107 sUAS

Education

University of South Florida: B.S./2018/ General Business Administration, Minor in Marketing

University of Florida: Supplemental Studies/2023/ Geomatics Certificate

Project Experience

ROADS AND HIGHWAY CONSTRUCTION, MULTIPLE LOCATIONS

FIELD SURVEYOR

Road and Highway construction, expansion and updating. Pressure and Gravity pipe systems and related structures. MSE Walls, super elevated curves, curbs and sidewalks, traffic switches, etc.

BRIDGE CONSTRUCTION, MULTIPLE LOCATIONS

FIELD SURVEYOR

Drafting Asbuilt Record Drawings on Civil 3D, communicating with clients, checking plans for errors, calcing points for layout, performing the layout, asbuilting the progress and analyzing the asbuilts for possible issues in future stages of construction.

CADASTRAL SURVEYING, MULTIPLE LOCATIONS

FIELD SURVEYOR

Boundary line adjustments, family subdivision drawings, PLSS Monumentation records searches, deed record searches, block breakdowns.

SUBDIVISION CONSTRUCTION, MULTIPLE LOCATIONS

FIELD SURVEYOR

Layout of utility pipes and hardware both pressurized and gravity fed. Layout of drainage systems and ponds, monumentation of lots and blocks, curb and sidewalk. Drafting of Asbuilt Record Drawings for the county for the above improvements.

Bill Layton

Construction Inspector

Mr. Layton brings over three decades of construction project management expertise, navigating large-scale endeavors with skill and dedication. With a career marked by diverse projects across various companies, he prioritizes effective communication and teamwork, ensuring project success and safety standards. Mr. Layton brings over three decades of construction project management expertise, navigating large-scale endeavors with skill and dedication. With a career marked by diverse projects across various companies, he prioritizes effective communication and teamwork, ensuring project success and safety standards. His extensive field experience and mentorship capabilities make him a valuable asset to Trihydro, providing hands-on project support and expert guidance in subcontractor management, bidding, and oversight. His ability to cultivate relationships and mobilize support was instrumental the Colorado Springs forest fires.

Expertise

Project Management

Health and Safety

Cost Estimating

Land development and commercial construction

Real property inventory surveys

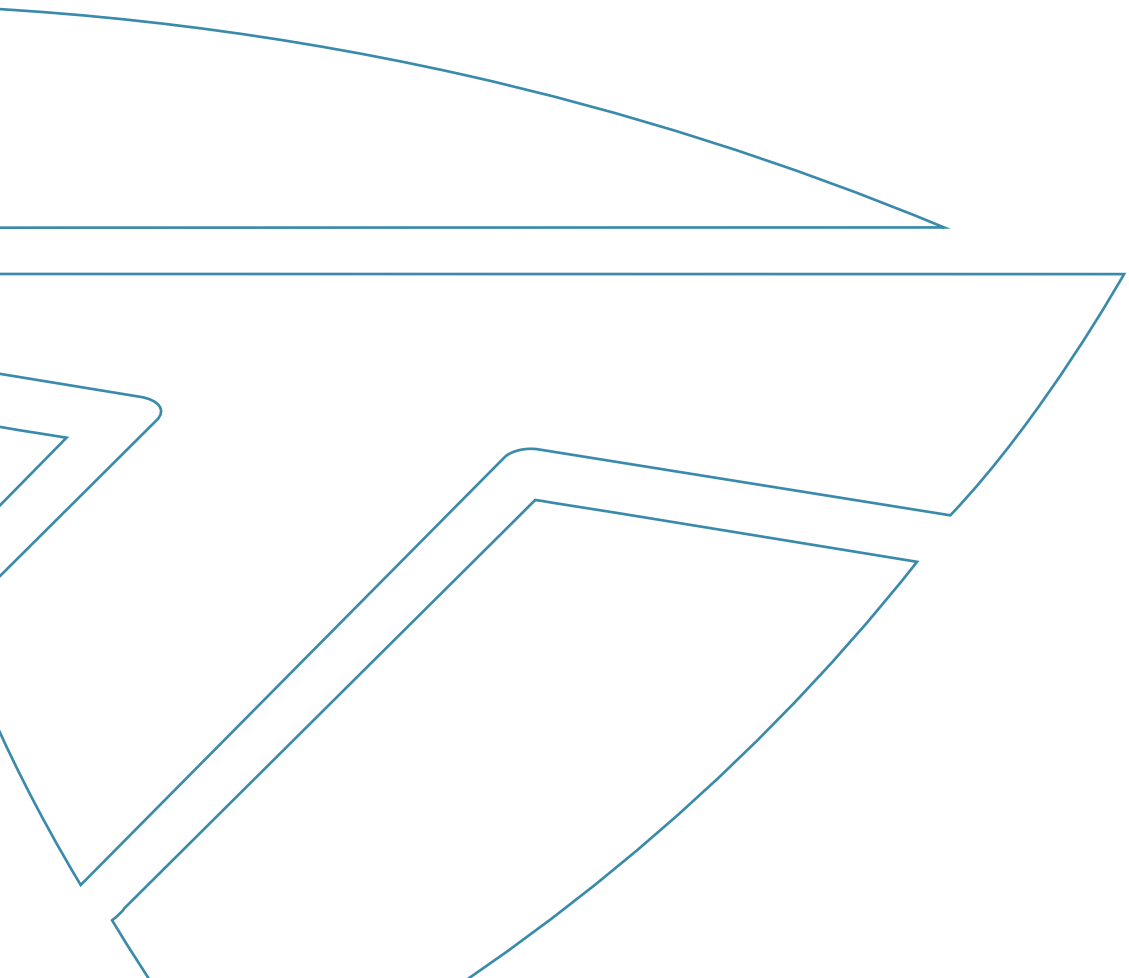
Licenses and Certifications

Education

Project Experience

- Daily oversight and contractor management for Countryside development, Fountain, CO.
- Project management of several large drainage projects for National Development Corp.
- Facilitation of site work at Parkfield subdivision, Denver, CO.
- Site planning and development for Layton Truck site (no relation).
- Site coordination for Craddock Companies on Fountainhead Self Storage complex and Devita medical facility.
- Project management for Carico Construction Inc. on a Marriott hotel in Colorado Springs, CO.
- Project management for John J. Kirlin at Fort Carson, CO for several projects ranging from $10K-6.2MM.
- Project management for industrial surveys of military hospitals around the world for VW International Inc.
- Project management for annual Faith Presbyterian Church youth group work camp. Generally involved 40-60 people and 4-6 varied construction projects.
- 20+ Years of planning, organizing, and executing the SADS Oktoberfest. 800 attendees in 2017 (last event at our house).

Appendix B:
Trihydro Schedule of Charges



TRIHYDRO STANDARD SCHEDULE OF CHARGES

JANUARY 1, 2024 - DECEMBER 31, 2024 [2, 3, 4]

PERSONNEL	UNIT RATE[1, 7]
Senior Principal	260.00/hour
Principal	235.00/hour
Project Principal	220.00/hour
Technical Specialist 4	270.00/hour
Technical Specialist 3	255.00/hour
Technical Specialist 2	240.00/hour
Technical Specialist 1	225.00/hour
Professional Level 12	220.00/hour
Professional Level 11	206.00/hour
Professional Level 10	192.00/hour
Professional Level 9	178.00/hour
Professional Level 8	164.00/hour
Professional Level 7	149.00/hour
Professional Level 6	135.00/hour
Professional Level 5	125.00/hour
Professional Level 4	113.00/hour
Professional Level 3	102.00/hour
Professional Level 2	93.00/hour
Professional Level 1	83.00/hour
Technician Level 8	132.00/hour
Technician Level 7	123.00/hour
Technician Level 6	113.00/hour
Technician Level 5	105.00/hour
Technician Level 4	95.00/hour
Technician Level 3	86.00/hour
Technician Level 2	76.00/hour
Technician Level 1	67.00/hour
Administrative 4	87.00/hour
Administrative 3	76.00/hour
Administrative 2	68.00/hour
Administrative 1	57.00/hour

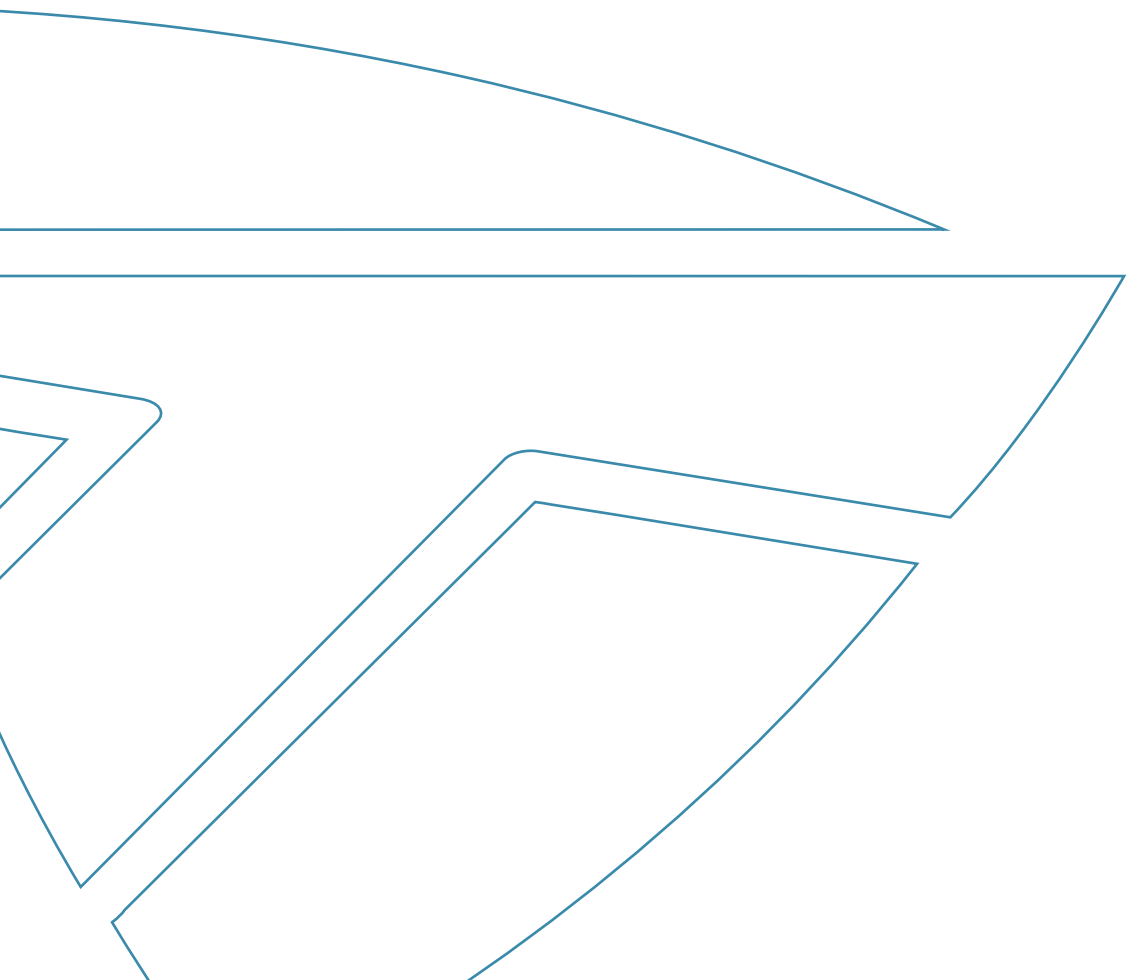
EXPENSES	
Subcontracts (Labor, Equipment and Services)	Cost + 10%
Shipping (i.e. Documents, Equipment, Supplies)	Cost

TRAVEL EXPENSES	
Meal Per Diem [6]	$59/day/person
Airline Tickets	Cost
Hotel/Motel	Cost
Rental Vehicle	Cost

FIELD EXPENSES AND EQUIPMENT	
Consumable Field Supplies	Cost + 10%
Rental Equipment	Cost + 10%
Purchased Equipment	Cost + 10%
Company Field Instruments, Equipment, Vehicles, etc.	See Project-Specific Cost Estimate
Consumable Field Supplies and PPE	See Project-Specific Cost Estimate
Company Vehicles (daily) [5]	$95/day min or 65.5 cents/mile
Company Vehicles (monthly)	Cost + fuel cost

1. The above charges include fringe benefits, overhead and profit. No multiplier is used for billing.
2. An annual escalation rate less than or equal to 5% will be applied to these rates for multi-year projects and contracts.
3. Payment of invoices shall be due within thirty days; delinquent amounts due shall accrue a late charge of 1 1/2% per month from date of invoice.
4. The rates in this Schedule of Charges are subject to change on December 31, 2024.
5. Minimum charge of $95/day. Daily mileage exceeding 145 miles is charged at the current IRS rate per mile. Mileage rates are subject to change throughout the year.
6. Any International travel meal per diem will be at cost.
7. Expert testimony services, including but not limited to preparing for and time spent in depositions, arbitration or trial testimony, shall be charged at 3.0 times the individual's billing level. Other expert technical consulting services, including but not limited to research, review, evaluation, and preparation of expert technical opinions and deliverables, shall be charged at 2.0 times the individual's billing level.

Appendix C:
Wyoming Resident Firm Certificate



STATE OF WYOMING

CERTIFICATE OF RESIDENCY

Contractor Number: 0220

THIS CERTIFIES THAT:

TRIHYDRO CORPORATION

HAS BEEN GRANTED RESIDENCY STATUS PURSUANT TO WYOMING STATUTE 16-6-101, AS AMENDED. FIVE PERCENT PREFERENCE SHALL BE ALLOWED WHEN BIDDING ON ANY PUBLIC WORKS CONTRACT FOR A PERIOD OF ONE (1) YEAR FROM THE DATE CERTIFICATION IS GRANTED. GRANTED THIS 2ND DAY OF JUNE TWO THOUSAND AND 23

Michele Johnson, Program Manager

EXPIRATION DATE: 6/1/2024

To verify the authenticity of the certificate, please contact our office at 307-777-7261 or visit wyomingworkforce.org/businesses/labor/info

CERTIFICATE SERIAL NUMBER: 0206202332

Attachment C

Insurance Requirements for Professional Services

Contractor shall procure and maintain for the duration of the contract, *and for 5 years thereafter*, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees, subcontractors, contractors, or consultants.

MINIMUM SCOPE AND LIMIT OF INSURANCE

Coverage shall be at least as broad as:

1. **Commercial General Liability** (CGL): Insurance Services Office Form CG 00 01 covering CGL on an "occurrence" basis, including products and completed operations, property damage, bodily injury, and personal & advertising injury with limits no less than $1,000,000 per occurrence, and endorsed with Stop Gap coverage providing Employers Liability insurance with limits no less than $1,000,000 per accident for bodily injury or disease. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit.
2. **Automobile Liability**: Insurance Services Office Form Number CA 0001 covering Code 1 (any auto), with limits no less than $1,000,000 per accident for bodily injury and property damage.
3. **Umbrella or Excess Liability:** Contractor may achieve required limits and coverage for Commercial General Liability and Automobile Liability through a combination of primary and excess or umbrella liability insurance, provided such primary and excess or umbrella liability insurance policies result in same or greater coverage as coverages required in paragraphs 1 and 2 above, and in no event shall any excess or umbrella liability insurance provide narrower coverage than primary policy. Excess policy shall not require exhaustion of underlying limits only through actual payment by underlying insurers.
4. **Workers Compensation** as required by the State of Wyoming, with Statutory Limits.
5. **Professional Liability** with limits no less than $1,000,000 per occurrence or claim, and $2,000,000 policy aggregate.

If Contractor maintains broader coverage and/or higher limits than minimums shown for insurance, including but not limited to umbrella or excess liability insurance, Laramie County requires and shall be entitled to the broader coverage and/or higher limits maintained by Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the Laramie County.

Self-Insured Retentions
Self-insured retentions must be declared to and approved by the Laramie County. At the option of the Laramie County, either: the Contractor shall cause the insurer to reduce or eliminate such self-insured retentions as respects the Laramie County, its officers, officials, employees, and volunteers; or the Contractor shall provide a financial guarantee satisfactory to the Laramie County guaranteeing payment of losses and related investigation, claim administration, and defense expenses.

Other Insurance Provisions
The insurance policies are to contain, or be endorsed to contain, the following provisions:

1. **Laramie County, its officers, officials, employees, and volunteers are to be covered as additional insureds** on the CGL policy with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts, or equipment furnished in connection with such work or operations and automobiles owned, leased, hired, or borrowed by or on behalf of the Contractor. General liability coverage can be provided in the form of an endorsement to the CONTRACTOR's insurance (at least as broad as ISO Form CG 20 10, CG 11 85 or **both** CG 20 10, CG 20 26, CG 20 33, or CG 20 38; **and** CG 20 37 forms if later revisions used).
2. For any claims related to this project, the **Contractor's insurance coverage shall be primary and noncontributory** insurance coverage at least as broad as ISO CG 20 01 04 13 as respects Laramie County, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by Laramie County, its officers, officials, employees, or volunteers shall be excess of the Lead's insurance and shall not contribute with it.

Each insurance policy required by this clause shall provide that coverage shall not be canceled, except with notice to Laramie County.

Claims Made Policies
If any coverage required is written on a claims-made coverage form:

1. The retroactive date must be shown, and this date must be before the execution date of the contract or the beginning of contract work.
2. Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of contract work.
3. If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a retroactive date prior to the contract effective, or start of work date, the CONTRACTOR must purchase extended reporting period coverage for a minimum of five (5) years after completion of contract work.
4. A copy of the claims reporting requirements must be submitted to Laramie County for review.

Acceptability of Insurers
Insurance is to be placed with insurers with a current A.M. Best rating of no less than A: VII, unless otherwise acceptable to Laramie County.

Waiver of Subrogation
Contractor hereby agrees to waive rights of subrogation which any insurer of Contractor may acquire from Contractor by virtue of the payment of any loss. Contractor agrees to obtain any endorsement that may be necessary to effect this waiver of subrogation.

Verification of Coverage
Contractor shall furnish Laramie County with original certificates and amendatory endorsements, or copies of the applicable insurance language, effecting coverage required by this contract. All certificates and endorsements are to be received by Laramie County within 2 weeks of work commencing. However, failure to obtain the required documents prior to the work beginning shall not waive the Contractor's obligation to provide them. Laramie County reserves the right to require complete, certified copies of all required insurance policies, including endorsements, required by these specifications, at any time.

Subcontractors
Contractor shall require and verify that all subcontractors, contractors, or consultants maintain same insurance meeting all requirements stated herein. Contractor shall ensure that Laramie County is an additional insured on insurance required from subcontractors, contractors, or consultants. For CGL coverage subcontractors, contractors, or consultants shall provide coverage with a form at least as broad as CG 20 38 04 13.

Special Risks or Circumstances
Laramie County reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other circumstances.