

Contract for Professional Engineering Services
City of Billings W.O. 12-13
INTEGRATED WATER PLAN IMPLEMENTATION
Reuse and Reclamation Study

In consideration of the mutual promises herein, City of Billings and HDR Engineering, Inc. agree as follows. This Contract consists of:

- Part I, consisting of 15 Sections of Special Provisions;
- Part II, consisting of 11 Sections of General Provisions;
- Appendix A consisting of 10 pages (Basic Services of Consultant);
- Appendix B consisting of 1 pages (Methods and Times of Payment);
- Appendix C consisting of 1 pages (Additional Services of Consultant);
- Appendix D consisting of 1 pages (Schedule of Professional Fees);
- Appendix E consisting of 1 pages (Project Schedule);
- Appendix F consisting of 2 pages (Certificate(s) of Insurance); and

PART I
SPECIAL PROVISIONS

Section 1. Definitions.

In this Contract:

- A. "Administrator" means the City Engineer of the Engineering Division of the Public Works Department or his/her designee.
- B. "Billings" means the City of Billings.
- C. "Engineer" and/or "Contractor" means HDR Engineering, Inc.

Section 2. Scope of Services.

- A. The Contractor shall perform professional services in accordance with Appendix A, which is attached hereto and incorporated in this Section by reference.
- B. Billings shall pay the Contractor in accordance with Section 4.
- C. Billings shall not allow any claim for services other than those described in this Section. However, the Contractor may provide, at its own expense, any other services that are consistent with this Contract.

- D. The Contractor shall provide hard copy as-built drawings and in digital format, as approved by the City of Billings, to the Administrator within 30 days after the project completion date. Final payment will be withheld until the as-built drawings are received by the City of Billings.
- E. The Contractor shall provide certified construction payrolls to the Administrator stating in writing that the payrolls have been reviewed and are acceptable.

Section 3. Time for Performance.

- A. This Contract becomes effective when signed on behalf of Billings.
- B. The Contractor shall commence performance of the Work described in Section 2 on receipt of written Notice to Proceed and complete that performance in accordance with the schedule set forth in Appendix E.
- C. This Contract shall terminate at midnight on May 1, 2014.

Section 4. Compensation; Method of Payment.

- A. Subject to the Contractor's satisfactory performance, Billings shall pay the Contractor no more than Two Hundred Five Thousand Three Hundred and no/100 dollars (\$205,300) in accordance with this Section and Appendix B.
- B. Each month, or at the conclusion of each phase of the Work for which payment is due, as negotiated on a per-task basis, the Contractor shall present a bill to the Administrator describing the Work for which it seeks payment and documenting expenses and fees to the satisfaction of the Administrator. If any payment is withheld because the Contractor's performance is unsatisfactory, the Administrator must, within ten (10) days of the payment denial, notify the Contractor of the payment denial and set forth, with reasonable specificity, what was unsatisfactory and why. Billings will pay the Contractor for all services provided not under dispute in the invoice. Billings will pay Contractor within 30 days of receiving an acceptable invoice.

Section 5. Termination of the Contractor's Services.

The Contractor's services under Section 2 of this Part may be terminated:

- A. By mutual consent of the parties.
- B. For the convenience of Billings, provided that Billings notifies the Contractor in writing of its intent to terminate under this paragraph at least 10 days prior to the effective date of the termination.
- C. For cause, by either party where the other party fails in any material way to perform its obligations under this Contract. Termination under this Subsection is subject to the condition that the terminating party notifies the other party of its intent to terminate, stating with reasonable specificity the grounds therefor, and the other party fails to cure the default within 30 days after receiving the notice.

Section 6. Duties Upon Termination

- A. If Billings terminates the Contractor's services for convenience, Billings shall pay the Contractor for its actual costs reasonably incurred in performing before

termination and Billings shall pay for services rendered prior to termination. Payment under this Subsection shall never exceed the total compensation allowable under Section 4 of this Part. All finished and unfinished documents and materials prepared by the Contractor shall become the property of Billings.

- B. If the Contractor's services are terminated for cause, Billings shall pay the Contractor the reasonable value of the services satisfactorily rendered prior to termination, less any damages suffered by Billings because of the Contractor's failure to perform satisfactorily. The reasonable value of the services rendered shall never exceed ninety percent (90%) of the total compensation allowable under Section 4 of this Part. Any finished or unfinished documents or materials prepared by the Contractor under this Contract shall become the property of Billings at its option.
- C. If the Contractor receives payments exceeding the amount to which it is entitled under Subsections A or B of this Section, he shall remit the excess to the Administrator within 30 days of receiving notice to do so.
- D. The Contractor shall not be entitled to any compensation under this Section until the Contractor has delivered to the Administrator all documents, records, Work product, materials and equipment owned by Billings and any deliverables prepared by the Engineer as defined in the Scope of Services and requested by the Administrator.
- E. If the Contractor's services are terminated for whatever reason the Contractor shall not claim any compensation under this Contract, other than that allowed under this Section.
- F. If a final audit has not been performed before the Contractor's services are terminated, Billings may recover any payments for costs disallowed as a result of the final audit.
- G. Except as provided in this Section, termination of the Contractor's services under Section 5 of this Part does not affect any other right or obligation of a party under this Contract.

Section 7. Insurance.

- A. The Contractor shall maintain in good standing the insurance described in Subsection B of this Section. Before rendering any services under this Contract, the Contractor shall furnish the Administrator with proof of insurance in accordance with Subsection B of this Section.
- B. The Contractor shall provide the following insurance:
 - 1. Workers' compensation and employer's liability coverage as required by Montana law.
 - 2. Commercial general liability, including contractual and personal injury coverage's -- \$1,500,000 per occurrence.
 - 3. Commercial automobile liability -- \$1,500,000 per accident.
 - 4. Professional liability in the amount of \$1,500,000 per claim.
- C. Each policy of insurance required by this Section shall provide for no less than 30 days' advance notice to Billings prior to cancellation.

- D. Billings SHALL be listed as an additional insured on all policies except Professional Liability and Worker's Compensation Policies. In addition, all policies except Professional Liability and Worker's Compensation shall contain a waiver of subrogation against Billings.

Section 8. Assignments.

Unless otherwise allowed by this Contract or in writing by the Administrator, any assignment by the Contractor of its interest in any part of this Contract or any delegation of duties under this Contract shall be void, and an attempt by the Contractor to assign any part of its interest or delegate duties under this Contract shall give Billings the right immediately to terminate this Contract without any liability for Work performed.

Section 9. Ownership; Publication, Reproduction and Use of Material.

- A. Except as otherwise provided herein, all data, documents and materials as defined as Deliverables in the Scope of Services and produced by the Contractor under this Contract shall be the property of Billings, which shall retain the non-exclusive right to publish, disclose, distribute and otherwise use, in whole or in part, any such data, documents, or other materials. Exclusive rights shall not be attributed to portions of such materials presently in the public domain or which are not subject to copyright. Contractor shall retain rights to pre-existing proprietary property including but not limited to interactive models. The Contractor shall have the right to include photographic or artistic representations of the design and construction of the Project among the Contractor's promotional and professional materials. The Contractor's materials shall not include Billings' confidential or proprietary information regardless of whether Billings has previously advised the Contractor in writing of the specific information considered by Billings to be confidential and proprietary.
- B. Equipment purchased by the Contractor with Contract funds: See Appendix A, Section 3. Scope of Work.
- C. Should Billings elect to reuse Deliverables provided under this Contract for other than the original project and/or purpose, Billings will indemnify and hold harmless the Contractor from any and all claims, demands and causes of action of any kind or character arising as a result of reusing the deliverables developed under this contract. Additionally, any reuse of design drawings or specifications provided under this Contract must be limited to conceptual or preliminary use for adaptation, and the original Contractor's or subcontractor's signature, professional seals and dates removed. Such reuse of drawings and specifications, which require professional seals and dates removed, will be signed, sealed, and dated by the professional who is in direct supervisory control and responsible for adaptation.

Section 10. Notices.

Any notice required pertaining to the subject matter of this Contract shall be either sent via facsimile (FAX), e-mail, or mailed by prepaid first class registered or certified mail, return receipt requested to the following addresses:

Billings: City Engineer, Debi Meling, P.E.
City of Billings
Public Works Engineering
2224 Montana Avenue
Billings, Montana 59101

e-mail: melingd@ci.billings.mt.us
FAX: (406) 237-6291

Contractor: Alan Towleron
HDR Engineering, Inc
2913 Millennium Circle
Billings, MT 59102

e-mail: Alan.Towleron@hdrinc.com
FAX: (406) 651-6600

Notices are effective upon the earlier of receipt, proof of good transmission (facsimiles only), or 5 days after proof of proper posting.

Section 11. Contract Budget.

In connection with its performance under this Contract, the Contractor shall not make expenditures other than as provided in line items in the Contract budget.

Section 12. Force Majeure.

- A. Any failure to perform by either party due to force majeure shall not be deemed a violation or breach hereof.
- B. As used in this Contract, force majeure is an act or event of substantial magnitude, beyond the control of the delayed party, which delays the completion of this Contract, including without limitation:
 1. Any interruption, suspension or interference resulting solely from the act of Billings or neglect of Billings not otherwise governed by the terms of this Contract.
 2. Strikes or Work stoppages.
 3. Any interruption, suspension or interference with the project caused by acts of God, or acts of a public enemy, wars, blockades, insurrections, riots, arrests or restraints of governments and people, civil disturbances or similar occurrences.
 4. Order of court, administrative agencies or governmental officers other than Billings.

Section 13. Financial Management System.

The Contractor shall establish and maintain a financial management system that:

- A. Provides accurate, current, and complete disclosure of all financial transactions relating to the Contract;
- B. Maintains separate accounts by source of funds for all revenues and expenditures and identifies the source and application of funds for the Contractor's performance under this Contract, including information pertaining to subcontracts, obligations, unobligated balances, assets, liabilities, outlays and income;
- C. Effectively controls and accounts for all municipal funds and Contract property;

- D. Compares actual expenditures with budgeted amounts and relates financial information to performance or productivity data including unit cost information where applicable;
- E. Allocates administrative costs to direct service delivery units;
- F. Minimizes the time between receipt of funds from Billings and their disbursement by the Contractor;
- G. Provides accounting records supported by source documentation; and
- H. Provides a systematic method assuring the timely and appropriate resolution of audit findings and recommendations.

Section 14. Funding Requirements.

In the event that any funding source for this Contract should impose additional requirements upon Billings for the use of those funds, the Contractor agrees to abide by those additional requirements immediately upon receipt of written notice thereof from Billings.

Section 15. Subcontracts.

The Contractor may enter into subcontracts for professional services necessary for the performance of this Contract, provided:

- A. Every subcontract shall be reduced to writing and contain a precise description of the services to be provided and the nature of the consideration paid therefor.
- B. Every subcontract under which the Contractor delegates the provision of services shall be subject to review and approval by the Administrator before it is executed by the Contractor.
- C. Every subcontract in an amount exceeding \$1,000 shall require reasonable access to business records of the subcontractor relating to the purchase of goods or services pursuant to the subcontract.

PART II GENERAL CONTRACT PROVISIONS

Section 1. Relationship of Parties.

The Contractor shall perform its obligations hereunder as an independent Contractor of Billings. Billings may administer the Contract and monitor the Contractor's compliance with its obligations hereunder. Billings shall not supervise or direct the Contractor other than as provided in this Section.

Section 2. Nondiscrimination.

- A. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, ancestry, age, sex, or marital status or who is a "qualified individual with a disability" (as that phrase is defined in the Americans With Disabilities Act of 1990). The Contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, or mental or physical impairment/disability. Such action shall include, without limitation, employment, upgrading, demotion or transfer, recruitment or recruiting advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training including apprenticeship. The Contractor agrees to post, in conspicuous places available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause.
- B. The Contractor shall state, in all solicitations or advertisements for employees to Work on Contract jobs, that all qualified applicants will receive equal consideration for employment without regard to race, color, religion, national origin, ancestry, age, sex or marital status, or mental or physical impairment/disability.
- C. The Contractor shall comply with any and all reporting requirements that may apply to it which the City of Billings may establish by regulation.
- D. The Contractor shall include the provisions of Subsections A through C of this Section in every subcontract or purchase order under this Contract, so as to be binding upon every such subcontractor or vendor of the Contractor under this Contract.
- E. The Contractor shall comply with all applicable federal, state, and city laws concerning the prohibition of discrimination.

Section 3. Permits, Laws, and Taxes.

The Contractor shall acquire and maintain in good standing all permits, licenses and other entitlements necessary to its performance under this Contract. All actions taken by the Contractor under this Contract shall comply with all current and applicable statutes, ordinances, rules and regulations at the time of the execution of the Contract. The Contractor shall pay all taxes pertaining to its performance under this Contract.

Section 4. Nonwaiver.

The failure of either party at any time to enforce a provision of this Contract shall in no way constitute a waiver of the provision, nor in any way affect the validity of this Contract or any part hereof, or the right of such party thereafter to enforce each and every provision hereof.

Section 5. Amendment.

- A. This Contract shall only be amended, modified or changed in writing, executed by authorized representatives of the parties, with the same formality as this Contract was executed.
- B. For the purposes of any amendment modification or change to the terms and conditions of this Contract, the only authorized representatives of the parties are:

Consultant: Department Manager
(title of position)

Billings: City Council or Authorized Designee

- C. Any attempt to amend, modify or change this Contract by either an unauthorized representative or unauthorized means shall be void.

Section 6. Jurisdiction; Choice of Law.

Any civil action arising from this Contract shall be brought in the District Court for the Thirteenth Judicial District of the State of Montana, Billings. The law of the State of Montana shall govern the rights and obligations of the parties under this Contract.

Section 7. Severability.

Any provision of this Contract decreed invalid by a court of competent jurisdiction shall not invalidate the remaining provisions of the Contract.

Section 8. Integration.

This instrument and all appendices and amendments hereto embody the entire agreement of the parties. There are no promises, terms, conditions or obligations other than those contained herein, and this Contract shall supersede all previous communications, representations or agreements, either oral or written, between the parties hereto.

Section 9. Liability.

The Contractor shall indemnify, defend, save, and hold Billings harmless from any and all claims, causes of action, lawsuits, damages, judgments, liabilities, and litigation costs and expenses including reasonable attorneys' fees and costs, arising from any wrongful or negligent act, error or omission of the Contractor or any agent, employee or subcontractor as a result of the Contractor's or any subcontractor's performance pursuant to this Contract.

- A. The Contractor shall not indemnify, defend, save and hold Billings harmless from claims, causes of action, lawsuits, damages, judgments, liabilities, and litigation costs and expenses or attorneys' fees and costs to the extent arising from wrongful or negligent acts, error or omission solely of Billings occurring during the course of or as a result of the performance of the Contract.
- B. Where claims, lawsuits or liability, including attorneys' fees and costs to the extent arise from wrongful or negligent act of both Billings and the Contractor, the Contractor shall indemnify, defend, save, and hold Billings harmless from only that portion of claims, causes of action, lawsuits, damages, judgments, liabilities, and litigation costs and expenses including attorneys' fees and costs, which to the extent result from the Contractor's or any subcontractor's wrongful or negligent acts occurring as a result from the Contractor's performance pursuant to this Contract.

Section 10. Inspection and Retention of Records.

The Contractor shall, at any time during normal business hours and as often as Billings may deem necessary, make available to Billings, for examination, all of its records with respect to all matters covered by this Contract for a period ending three years after the date the Contractor is to complete performance in accordance with Section 2 of the Special Provisions. Upon request, and within a reasonable time, the Contractor shall submit such other information and reports relating to its activities under this Contract, to Billings, in such form and at such times as Billings may reasonably require. The Contractor shall permit Billings to audit, examine and make copies of such records, and to make audits of all invoices, materials, payrolls, records of personnel, and other data relating to all matters covered by this Contract. Billings may, at its option, permit the Contractor to submit its records to Billings in lieu of the retention requirements of this Section.

Section 11. Availability of Funds.

Payments under this Contract may require funds from future appropriations. If sufficient funds are not appropriated for payments required under this Contract, this Contract shall terminate without penalty to Billings; and Billings shall not be obligated to make payments under this Contract beyond those which have previously been appropriated.

Appendix A

Basic Services of Engineer W.O. 12-13 IWIP--Reuse and Reclamation Study

Section 1. Engineer's Rights and Duties.

- A. To furnish all labor, materials, equipment, supplies, and incidentals necessary to conduct and complete the Engineer's portion of the project as defined in the scope of work and to prepare and deliver to Billings all plans, specifications, bid documents, and other material as designated herein.
- B. Ascertain such information as may have a bearing on the work from local units of government, utility companies, and private organizations and shall be authorized to procure information from other authorities besides Billings, but shall keep Billings advised as to the extent of these contacts and the results thereof.
- C. Prepare and present such information as may be pertinent and necessary in order for Billings to pass critical judgment on the features of the work. The Engineer shall make changes, amendments or revisions in the detail of the work as may be required by Billings. When alternates are being considered, Billings shall have the right of selection.
- D. Engineer's work shall be in accordance with the standards of sound engineering and present City, State, and National standards and policies currently in use.
- E. Conform to the requirements of the Montana Code Annotated Title 18 "Public Contracts" and more particularly Sections 18-2-121 and 18-2-122, and all other codes of the State of Montana applicable to providing professional services including codes and standards nationally recognized.
- F. The Engineer shall certify with the submission of final plans that the plans are in conformance with applicable sections of Title 69, Chapter 4, Part 5, of the Montana Code Annotated as pertaining to existing utilities.
- G. To perform professional services in connection with the project and will serve as Billings' representative in those phases of the project to which this agreement applies.
- H. Where Federal funds are involved, the necessary provisions to meet all requirements will be complied with and documents secured and placed in the bidding documents.
- I. Submit an estimated progress schedule as to time and costs at the beginning of the work, and monthly progress reports thereafter until complete. The reports will include any problems, potential problems, and delays as foreseen by the Engineer. Reports will be submitted in a timely manner to permit prompt resolution of problems.

- J. Contract administration duties will include review of contractor certified payrolls for wage rate compliance. Discrepancies in certified payrolls will be resolved with the Contractor. A signed Engineer's Payroll Check Sheet (included in the Standard Modifications to MPWSS) will be submitted as proof of this review with one copy of each payroll.
- K. Name a Task Director who shall be the liaison between Billings and the Engineer. For this project the Task Director designated for the Engineer is Alan Towleron working under the Principal-in-Charge, Amanda McInnis.

Section 2. Billings Rights and Duties.

- A. To furnish all labor, materials, equipment, supplies, and incidentals necessary to conduct and complete Billings' portion of the project as designated in the scope of work.
- B. Name a Task Director who shall be the liaison between the Engineer and Billings. For this project, the Task Director designated is Randy Straus, P.E., working under the City Engineer, Debi Meling, P.E.

Section 3. Scope of Work.

The City of Billings previously completed an Integrated Water Plan (IWP) that identified various alternatives to the current mode of operation for the wastewater, potable water, and stormwater systems. The alternatives included water conservation, wastewater and stormwater reuse, and alternative sources of supply. The IWP included a public input component whereby stakeholders indicated support for incorporating feasible alternatives into existing operations. The IWP also proposed an implementation program for further evaluation and development of the identified alternatives. The Water Reclamation and Reuse Study (Study) will aid the City in further examining the potential for reuse within the City service area. The Study, in conjunction with the Wastewater Treatment Facility Plan being conducted under separate contract, will help the City take steps toward a sustainable and cost-effective supply and treatment plan for the citizens of Billings. We understand that flows and loads will be developed under other contracts and provided to us for this work. The objectives of this Study are to examine in more detail the reclamation of wastewater and stormwater for reuse by select industrial customers and for irrigation use by:

- Identifying potential industrial customers for water reuse opportunities and related service requirements;
- Evaluating potential irrigation water reuse opportunities;
- Evaluating potential wastewater and stormwater sources for water reclamation opportunities;
- Conducting the initial phases of investigation of the feasibility of utilizing the processes of Aquifer Storage and Recovery (ASR) and shallow groundwater infiltration as means of storage and disposal, respectively; and
- Matching opportunities with sources utilizing agreed upon criteria.

DETAIL SCOPE OF SERVICES

The work effort is outlined in the identified Tasks 100 – 800 and described in more detail below.

Tasks	
100	Industrial Water Reuse Opportunities
200	Irrigation Water Reuse Opportunities
300	Reclaimed Water Sources
400	Phase I - Aquifer Storage and Recovery (ASR) Evaluation
500	Phase I - Groundwater Infiltration Evaluation
600	Wastewater /Stormwater Alternative Discharge Evaluation
700	Project Management
800	Prepare Water Reclamation and Reuse Study

Task 100 Industrial Water Reuse Opportunities

Objective:

Evaluate the opportunities for providing reclaimed water to industrial customers to replace water from other sources. Develop information in sufficient detail to reasonably assess the potential of the opportunities.

Subtask 101 – Review Water Use Records

Review city water records to identify large industrial water users that present opportunities for reclaimed water use.

Subtask 102 – Identify Potential Reuse Customers

Identify up to three prospective industrial customers for reclaimed water. Discuss with City to obtain their concurrence in pursuing the identified customers.

Subtask 103 – Develop Survey/Questionnaire

Develop a survey/questionnaire to aid in developing pertinent water use and service requirements for each of the prospective customers. Such information will include, but not be limited to, customer interest; specific potential uses of the reclaimed water; quantity, quality, and pressure requirements; seasonal fluctuations; constraints; reliability; on-site retrofits required; terms and conditions of use.

Subtask 104 – Visit Prospective Customers

Schedule and attend meetings with up to three prospective customers to further gather and confirm pertinent information outlined in Task 103.

Subtask 105 – Compile/Review Customer Information

Compile and summarize the information gathered for each customer.

Determine applicable engineering considerations as they relate to delivery, including consideration, as applicable, of the draft DEQ reuse requirements that may impact the use,

such as land use, reclaimed water treatment required, uptake rates, buffer zones, access, and monitoring requirements.

Subtask 106 – Develop Water Balance

Using the applicable information compiled in Tasks 101-105 develop an estimated daily, monthly, or seasonal water balance, as applicable, reflecting the prospective customers. The water balance will consider reclaimed water production, precipitation, reuse demands, and reclaimed water storage requirements. The water balances will be developed in an Excel spreadsheet format to allow evaluation of incremental reuse volumes.

Subtask 107 – Categorize/Rank Customers

Categorize and rank the customers with consideration of the relative importance of the various service-related aspects.

With the City's input, develop a ranking system considering the relative weight/importance of the various aspects and use these criteria to perform the ranking.

Deliverables:

- Industrial Water Reuse Opportunities Technical Memorandum.

City Involvement:

- Provide water use records and clarify any questions regarding records;
- Provide input on ranking criteria to be developed in Task 107; and
- Provide timely review and input on deliverables.

Task 200 Irrigation Water Reuse Opportunities

Objective:

Evaluate the opportunities for irrigation reuse of reclaimed water. Develop information in sufficient detail to reasonably assess the potential of the opportunities.

Subtask 201– Compile Information

Compile applicable information to quantify aspects of reuse for turf irrigation and agricultural irrigation. Examples of information to be compiled are monthly precipitation, monthly irrigation demands, review of likely crop type for agricultural irrigation, and DEQ reuse requirements based on draft version of regulations.

Subtask 202– Develop Water Balance

Using the information compiled in Task 201 develop an estimated monthly water balance for lawn turf irrigation and for two crop types for agricultural irrigation. The water balance will consider reclaimed water production, precipitation, irrigation demands, and reclaimed water storage requirements. The water balances will be developed in an Excel spreadsheet format to allow evaluation of incremental reuse volumes.

Subtask 203– Compile Site Information

Using GIS-based information, identify larger acreages, such as parks/public spaces and golf courses that may be suitable candidates for lawn turf irrigation. In addition, based on results of water balance in Task 202, evaluate and determine acreage and two crop type scenarios for agricultural irrigation that may be reasonable for City to consider.

Subtask 204– Categorize/Rank Customers

Categorize and rank the sites with consideration of the relative importance of the various service-related aspects. With the City's input, develop a ranking system considering the

relative weight/importance of the various aspects and use these criteria to perform the ranking.

Consider the draft DEQ reuse requirements in evaluation of sites taking into account such aspects as land use, reclaimed water treatment required, buffer zones, access, and monitoring requirements.

Deliverables:

- Irrigation Water Reuse Opportunities Technical Memorandum.

City Involvement:

- Provide input on ranking criteria to be developed in Task 204; and
- Provide timely review and input on deliverables prepared.

TASK 300 Reclaimed Water Sources

Objective:

Evaluate the sources of stormwater and wastewater from which reclaimed water will be generated and match these sources with potential reclaimed water customers/sites.

Subtask 301– Identify Sources

Examine up to two potential stormwater and a similar number of wastewater sources from which reclaimed water can be generated considering such things as available volumes, reliability, and location relative to points of use. Estimated stormwater volumes will be based on information from existing City of Billings stormwater studies.

Consider satellite wastewater reclamation and reclaimed water production at the existing wastewater treatment facility.

Subtask 302– Match Sources with Customers/Opportunities

Review the sources identified in Task 301 relative to the opportunities for reclaimed water use.

Develop a matrix of source and opportunities.

Subtask 303– Determine Service Requirements

Identify the geographic location of the potential customers identified in the previous work tasks.

Estimate the amount, pressure, and quality of water desired by each customer based on service requirements identified during customer interviews/meetings and surveys. In the event necessary information is not readily or reliably available, estimates will be made if such estimates can be reliably determined. Determine daily, monthly, or seasonal storage requirements, as applicable, based on service requirements identified during customer interviews/meetings and surveys. In the event necessary information is not readily or reliably available, estimates will be made if such estimates can be reliably determined.

Consider the draft DEQ reuse requirements in evaluation of sites taking into account such aspects as land use, reclaimed water treatment required, buffer zones, access, and monitoring requirements.

Subtask 304– Categorize/Rank Sources and Opportunities

Categorize and rank the sources and uses developed in Task 302 with consideration of the relative importance of the various service-related aspects using the ranking criteria developed jointly with city staff in Tasks 100 and 200.

Subtask 305– Summarize Options

Summarize the identified and ranked source/use options for presentation to the City.

Subtask 306– Evaluate Water Rights Implications

Evaluate the potential implications that the various alternatives may have on water rights for the City or others. The evaluation will not include a legal review but will highlight potential areas of concern based on HDR's experience with water rights and reuse in similar situations. The evaluation will include discussions with the Montana Department of Natural Resources (DNRC) and other agencies as necessary.

Deliverables:

- Reclaimed Water Sources Technical Memorandum

City Involvement:

- Provide copies of past city stormwater plans/studies; and
- Provide timely review and input on deliverables.

TASK 400 Phase I - Aquifer Storage and Recovery (ASR) Evaluation

Objective:

Conduct a preliminary evaluation of the feasibility of using aquifer storage and recovery in an area north of Billings as an alternative to above-ground storage and as a means to increase water storage capacity and reliability. The tasks outlined herein comprise the initial phase of investigation. The intent is that should the City wish to proceed further in the evaluation, this work scope and contract will be amended to authorize further work phases.

Subtask 401– Compile & Review Existing Data

Review existing information for areas north of Billings consisting of well logs, aquifer test data, and regional geologic reports to gather information pertinent to assessing the suitability of the areas for ASR.

Subtask 402– Hydrogeologic Evaluation

Conduct a physical walkover to examine outcrops and other physical features. In combination with the information from Task 401, we will evaluate the transmissivity and storage of the aquifer and identify up to two potential sites showing promise for the use of ASR.

Subtask 403– Preliminary Engineering Evaluation and Cost Estimate

Conduct a preliminary engineering evaluation to determine the infrastructure needed to convey water to and from the prospective sites and develop a planning-level opinion of cost of the infrastructure.

Subtask 404 – Identify Regulatory Permitting Requirements

Conduct discussions with DEQ to determine data and permitting requirements as well as other pertinent requirements.

Conduct discussions with DNRC and highlight water rights issues that may need to be addressed by the City. The water rights discussion will not include any legal opinions or review.

Subtask 405– Report Preparation

Summarize the results of the evaluation in a brief (3-5 pages) report to be presented to and discussed with city staff.

Deliverables:

- Technical Memorandum outlining the details of the various task work items with recommendations.

City Involvement:

- Legal review of identified water rights issues; and
- Develop direction and advise HDR regarding future work tasks.

TASK 500 Phase I - Groundwater Infiltration Evaluation

Objective:

Conduct a preliminary evaluation of the feasibility of disposing of reclaimed wastewater through infiltration into the shallow groundwater. The tasks outlined herein comprise the initial phase of investigation. The intent is that should the City wish to proceed further in the evaluation, this work scope and contract will be amended to authorize further work phases.

Subtask 501– Compile & Review Existing Data

Review hydrogeologic and geologic reports and maps as well as domestic and irrigation well logs for the area. Compile ground water level data from drillers, well logs and any regional reports available. Obtain available regional hydrogeologic reports to identify information on ground water quality. Consult soil surveys to identify the soil types and infiltration rates. Consult with drillers to discuss the potential well yields and water quality in the area. Conduct a site reconnaissance of the project area.

Subtask 502– Hydrogeologic Evaluation

Summarize information from Task 501 to identify the hydrogeology of the project area. Map wells on a 1:24,000-scale USGS map. Compile the well log information into summary tables describing well yields, ground water levels, aquifer hydraulic characteristics, water quality and other parameters. Develop cross-sections to display the hydrogeologic conditions. Prepare cross-sections, tables and maps and other figures to convey the results of the hydrogeologic information.

Subtask 503– Identify Regulatory Permitting Requirements

Identify and summarize the regulatory permitting requirements, including detailed hydrogeologic investigations, ground water monitoring and reporting requirements. List and describe the regulatory approvals and permits needed for the project.

Subtask 504– Report Preparation

Summarize evaluation results in a brief (3-5 pages) technical report with recommendations for next steps. Tables, maps and figures will be included in the technical memorandum. Submit a draft report for City review and prepare a final report that considers city comments.

Deliverables:

- Technical Memorandum outlining the details of the various task work items with recommendations.

City Involvement:

- Develop direction and advise HDR regarding future work tasks.

TASK 600 Wastewater/Stormwater Alternative Discharge Evaluation

Objective:

Summarize various options considered and recommend those deemed to be feasible alternatives to the existing mode of wastewater discharge from the existing wastewater treatment facility and stormwater system discharge.

Subtask 601– Review/Recommend Alternative Wastewater/Stormwater Discharge Options

Review and summarize the various options evaluated in the preceding work tasks.

Discuss applicable aspects of the options with consideration of the criteria jointly developed with the City in prior tasks.

Provide recommendations to the City regarding the option(s) deemed feasible for the City to pursue.

Deliverables:

- Technical Memorandum discussing the review, summary, and recommendations regarding feasible alternatives.

City Involvement:

- Provide timely review and input on deliverables.

Task 700 Project Management

Objective:

Plan and execute the Water Reclamation and Reuse Study in accordance with an established schedule and budget to include:

Subtask 701– Project Initiation Workshop

Prepare for and attend a kickoff meeting with city staff and one HDR team member to review project goals and related work tasks. Develop summary notes of the meeting.

Subtask 702– Meetings with Staff

Meet with City staff on a periodic basis to review project progress and coordinate information needed from the City. This subtask does not include any meetings noted in other individual work tasks.

Attend up to nine monthly 1-hour meetings with city staff and other consultants (operating under separate contracts) to coordinate work on ongoing studies as they relate to the Water Reclamation and Reuse Study.

Subtask 703– Meetings with City Council

Prepare information and attend one meeting with the City Council.

Subtask 704– Project Controls

Monitor project progress, including work completed, work remaining, budget expended, schedule and estimated cost of work remaining and estimated cost at completion.

Manage activities within task budgets.

Prepare monthly progress reports and invoices that summarize the work progress to date, the budget expenditures to date, and identify any information requirements or decisions that need to be made by the City.

Monitor project activities for potential changes, anticipate changes whenever possible, and modify project tasks and approach through contract amendment to keep the overall project within budget and on schedule.

Provide review of the concepts and criteria being applied to the delivery of this scope of services and provide quality control review of project deliverables.

Deliverables:

- Memoranda and meeting notes; and
- Monthly project status memoranda and invoices.

City Involvement:

- Coordinate between HDR and other consultants who are under contract with the City on companion studies;
- Participate in telephone calls and meetings;
- Participate in project meetings;
- Review project status reports and approve invoices; and
- Timely review and approve modifications to approach, schedule and deliverables.

TASK 800 Prepare Water Reclamation and Reuse Study

Subtask 801– Prepare Draft Study Report

Compile all technical memorandums into a draft study report comprised of chapters reflecting the tasks outlined above including:

- Executive Summary;
- Industrial Water Reuse Opportunities;
- Irrigation Water Reuse Opportunities;
- Reclaimed Water Sources;
- Aquifer Storage and Recovery (ASR) Evaluation;
- Groundwater Infiltration Evaluation;
- Wastewater /Stormwater Alternative Discharge Evaluation; and
- Provide five hard copies for city staff review.

Subtask 802– Prepare Final Study Report

Prepare a final study report incorporating a single set of review comments from the draft study. Provide the City five hard copies and one .pdf version.

Deliverables:

- Water Reclamation and Reuse Study.

City Involvement:

- Review the draft Water Reclamation and Reuse Study; and
- Provide a single set of reconciled comments from all City reviewers.

POTENTIAL FUTURE TASKS

The City may choose, as part of a future contract amendment, to pursue further detailed evaluation of various aspects of the water reuse opportunities included in Tasks 100-700 above. Such evaluations may include, but not be limited to, the following tasks:

- Development of additional specific site details, property owner input, and consideration of aspects affecting the site(s) as well as consideration of additional sites, including evaluation of discharge of reclaimed wastewater to the BBWA Canal and meeting with DEQ to discuss BBWA permitting issues.
- Additional evaluation and details related to the use of ASR and groundwater infiltration as feasible and desirable options for water reuse.
- Identification of infrastructure improvements needed to convey and store reclaimed water and potential locations for same; and
- Estimated costs of identified infrastructure improvements.

DRAFT

Appendix B

Methods and Times of Payment W.O. 12-13 IWIP--Reuse and Reclamation Study

Section 1. Payments for Basic Services.

Billings shall authorize payment to the Engineer for services performed under Appendix A of this Agreement. Partial payment shall be due the Engineer upon receipt of the Engineer's pay estimate, said estimate being proportioned to the work completed by the Engineer.

Partial payment shall be made to the Engineer upon receipt of the Engineer's pay estimate, said estimate being proportioned to the work completed by the Engineer. Billings shall deduct five percent (5%) from each monthly pay estimate to be held until the completion of the final scope of work. The final payment shall be made only after acceptance of final documents by Billings, and determination that the scope of work has been satisfactorily completed.

- A. The Engineer shall be paid based upon actual time accrued, but not to exceed the amount specified in Part I, Section 4.
- B. Final payment shall be the above stated basic fee less all previous payments.

Section 2. Payments for Extra Services when Authorized by Billings.

Requests made or conditions identified by interested groups at the agency or public meetings, which are beyond the scope and intent of this study shall be paid for based on a negotiated fee.

Section 3. Corrections.

Costs of Billings work that is required for corrections to the Engineer's work which requires redoing by Billings shall be deducted from any payments due the Engineer, if the Engineer fails to make the required corrections.

Section 4. Fee Increases

For contracts and services that are expected to require more than one (1) year to complete, the above stated basic services payments may be reviewed and adjusted annually by mutual agreement of the parties, based upon documented evidence that the Engineer's costs have increased for all comparable clients.

Appendix C

Additional Services of Engineer W.O. 12-13 IWIP--Reuse and Reclamation Study

Extra Services of the Engineer will be paid only with written prior authorization by Billings.

- A. Field and laboratory testing of materials and reports.
- B. Requests made or conditions identified by interested groups at the agency or public meetings, which are beyond the scope and intent of this study.

DRAFT

Appendix D

Schedule of Professional Fees W.O. 12-13 IWIP--Reuse and Reclamation Study

Not Used

DRAFT

Appendix E

Project Schedule W.O. 12-13 IWIP--Reuse and Reclamation Study

Based on a notice to proceed by Billings dated no later than July 24, 2012, the completion date for the Engineer's work shall be:

A. Submittals

1. Final Study Report – June 28, 2013

Delays affecting the completion of the work within the time specified of more than ninety (90) days, not attributable to or caused by the Parties hereto, may be considered as cause for the renegotiation or termination of this Contract.

If the Engineer is behind on this Contract due to no fault of Billings, then the Engineer hereby acknowledges the right of Billings to withhold future Contracts to the Engineer in addition to any other remedy until this Contract is brought back on schedule or otherwise resolved.

DRAFT

Appendix F

**Certificate(s) of Insurance
W.O. 12-13 IWIP--Reuse and Reclamation Study**

(Attach Certificate(s) of Insurance)

DRAFT



CERTIFICATE OF LIABILITY INSURANCE

6/1/2013

DATE (MM/DD/YYYY)

5/22/2012

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

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

PRODUCER Lockton Companies, LLC-1 Kansas City 444 W. 47th Street, Suite 900 Kansas City 64112-1906 (816) 960-9000	CONTACT NAME:	
	PHONE (A/C, No., Ext):	FAX (A/C, No.):
	E-MAIL ADDRESS:	
INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A : Hartford Fire Insurance Company		19682
INSURER B : St. Paul Fire and Marine Insurance Company		24767
INSURER C : Sentinel Insurance Company, Ltd.		11000
INSURER D : Zurich American Insurance Company		16535
INSURER E :		
INSURER F :		

INSURED
13147 HDR ENGINEERING, INC.
ATTN: LOUIS J. PACHMAN
8404 INDIAN HILLS DRIVE
OMAHA, NE 68114-4049
BELLEVUE/KATIE WARD

COVERAGES HDRIN01 SA CERTIFICATE NUMBER: 2824447 REVISION NUMBER: XXXXXXXX

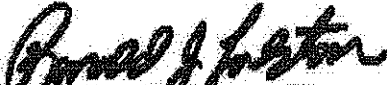
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE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

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> CONTRACTUAL LIAB GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input checked="" type="checkbox"/> LOC	N	N	37CSEQU0950	6/1/2012	6/1/2013	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000
A A A	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS	N	N	37CSEQU0951 (AOS) 37CSEQU0952 (HI) 37MCPQU1160 (MA)	6/1/2012 6/1/2012 6/1/2012	6/1/2013 6/1/2013 6/1/2013	COMBINED SINGLE LIMIT (Ea accident) \$ 2,000,000 BODILY INJURY (Per person) \$ XXXXXXXX BODILY INJURY (Per accident) \$ XXXXXXXX PROPERTY DAMAGE (Per accident) \$ XXXXXXXX
B	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input type="checkbox"/> RETENTION \$	N	N	ZUP-10R64084-12-NF (EXCLUDES PROF. LIAB)	6/1/2012	6/1/2013	EACH OCCURRENCE \$ 2,000,000 AGGREGATE \$ 2,000,000 \$ XXXXXXXX
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	N	91WEOH1000	7/1/2012	7/1/2013	<input checked="" type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
D	ARCHS & ENGS PROFESSIONAL LIABILITY	N	N	EOC9260026-05	6/1/2012	6/1/2013	PER CLAIM: \$2,000,000. AGG: \$2,000,000.

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)
 RE: CLIENT #000194: ALL PROJECTS. CITY OF BILLINGS, ITS OFFICIALS, OFFICERS, EMPLOYEES & AGENTS ARE NAMED AS ADDITIONAL INSURED AS RESPECTS GENERAL & AUTOMOBILE LIABILITY, AS PER WRITTEN CONTRACT. WAIVER OF SUBROGATION APPLIES.

CERTIFICATE HOLDER

CANCELLATION

2824447 CITY OF BILLINGS PUBLIC WORKS DEPARTMENT ATTN: DAVE MUMFORD 2224 MONTANA AVE 2ND FLOOR BILLINGS MT 59101	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE 
---	---