

General Conditions of Contract Between Owner and Design-Builder

McCarron's Water Treatment Process
Improvements
St. Paul, MN

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Article 1 – General

1.1 Basis of General Conditions of Contract

1.1.1 These General Conditions of Contract are based upon standard DBIA (Design-Build Institute of America) contract documents. While DBIA's standard contract document has been used as the basis for compiling the contents of these General Conditions of Contract, all parties are advised that modifications to the standard contract document have been made. As such, all parties are advised to carefully review the specific text of this General Conditions of Contract document in recognition of the fact that it is not an exact match with DBIA's standard forms.

1.2 Mutual Obligations

1.2.1 *Owner and Design-Builder* commit at all times to cooperate fully with each other and proceed on the basis of trust and good faith, to permit each party to realize the benefits afforded under the Contract Documents.

1.3 Basic Definitions

Acceptance Testing refers to testing procedures required to prove that the applicable performance standards are met in full. An Acceptance Testing plan shall be developed by the Owner and the Design-Builder during Phase 1 of the project.

Agreement refers to the executed contract between Owner and Design-Builder under DBIA Document No. 545, *Progressive Design-Build Agreement for Water and Wastewater Projects*.

Application for Payment is a request for payment issued by the Design-Builder to the Owner as described in Section 6.3.

Basis of Design Documents are as follows: these General Conditions of Contract, the Agreement, any amendments or revisions to the General Conditions of Contract or the Agreement made in accordance with Article 9 of these General Conditions of Contract, and all Exhibits to the Agreement. Basis of Design Documents may also include engineering reports, pilot testing data, and other such information which serves to inform design and is compiled by the Design-Builder during Phase 1 of the Project.

Certificate of Substantial Completion is a certificate issued to the Design-Builder by the Owner certifying that the project or a portion of the project has been sufficiently completed such that the Owner may take possession of the facility for beneficial use.

Change Order is a written instrument issued after execution of the Agreement signed by Owner and Design-Builder which adjusts the scope of Work, Contract Price, and/or Contract Time. Change Orders are further defined in Section 9.1.

Construction Documents are the documents to be prepared or assembled by the Design-Builder during Phase 1 of the Project which are consistent with the Basis of Design Documents (unless a deviation from the Basis of Design Documents is specifically set forth in a Change Order executed by both the Owner and Design-Builder). The documents shall serve as the basis for the Contract Price Amendment and the Phase 2 scope of work.

Construction Work is comprised of all construction, materials staging and transportation, construction inspection, facilities testing, demolition, and other services performed during Phase 2 of the project. In general, Construction Work is equivalent to Phase 2 work.

Contract Documents are the documents which shall govern project work. The specific documents considered to be Contract Documents are listed in Article 3 of the Agreement.

Contract Price refers to the price which the Owner agrees to pay the Design-Builder in exchange for the performance of the work. The Contract Price for Phase 1 will take the form of a not-to-exceed value. The Contract Price for Phase 2 may either take the form of a Lump Sum value or a Guaranteed Maximum Price depending upon the Owner's selected implementation method.

Contract Price Amendment refers to the amendment to the contract which will be made following the Owner's acceptance of the GP Proposal. This amendment will establish the Guaranteed Price for Phase 2 of the Project.

Contract Time refers the amount of time allowed for Work on the project. Contract Time is established in the Agreement and may be revised as necessary throughout the project.

Day or Days shall mean calendar days unless otherwise specifically noted in the Contract Documents.

Design-Builder refers to the team selected to perform the Work through the Project Procurement Activities. The Design-Builder is a signatory to the General Conditions of Contract and the Agreement.

Design-Builder's Fee refers to the fee which provides for the Design-Builder's overhead and profit on the Work.

Design Consultant is a qualified, licensed design professional who is not an employee of Design-Builder, but is retained by Design-Builder, or employed or retained by anyone under contract with Design-Builder, to furnish design services required under the Contract Documents. A Design Sub-Consultant is a qualified, licensed design professional who is not an employee of the Design Consultant, but is retained by the Design Consultant or employed or retained by anyone under contract to Design Consultant, to furnish design services required under the Contract Documents.

Exhibits to the Agreement are documents which have been attached to these General Conditions of Contract and the Agreement. Such Exhibits to Contract Documents shall be considered as a fully enforceable and binding part of the Agreement and shall include the Phase 1 Scope of Services, Owner's Project Criteria, Permitting Responsibilities, and other such documents.

Final Completion is the date on which all Work is complete in accordance with the Contract Documents, including but not limited to, any items identified in the Punch List and the submission of all documents set forth in Section 6.8.2.

Force Majeure Events are those events that are beyond the control of both Design-Builder and Owner, including the events of war, floods, labor disputes, earthquakes, epidemics, adverse weather conditions not reasonably anticipated, and other acts of God.

General Conditions of Contract refer to this DBIA Document No. 535, *Standard Form of General Conditions of Contract Between Owner and Design-Builder* (2010 Edition).

Guaranteed Maximum Price refers to a potential means of implementing the Guaranteed Price for the project. Establishment of a Guaranteed Maximum Price generally means that the Design-Builder will be compensated on the basis of verifiable project costs with the addition of approved markups for overhead and profit. Under this delivery method, the Design-Builder is responsible for any cost-overruns, and any cost-underruns may be subject to a Shared Savings Provision.

Guaranteed Price means the price which is established in the Guaranteed Price Proposal and agreed to by the Owner. The Guaranteed Price may take the form of a Lump Sum or a Guaranteed Maximum Price at the Owner's discretion. The Guaranteed Price may be amended through change orders during Phase 2 work.

Guaranteed Price (GP) Proposal means that proposal developed by Design-Builder in accordance with Section 2.3 of the Agreement.

Hazardous Conditions are any materials, wastes, substances and chemicals deemed to be hazardous under applicable Legal Requirements, or the handling, storage, remediation, or disposal of which are regulated by applicable Legal Requirements. Hazardous Conditions may also refer to any substance which, if exposed to raw or treated drinking water, could compromise the safety of the water supply.

Legal Requirements are all applicable federal, state and local laws, codes, ordinances, rules, regulations, orders and decrees of any government or quasi-government entity having jurisdiction over the Project or Site, the practices involved in the Project or Site, or any Work.

Lump Sum refers to a potential means of implementing the Guaranteed Price for the project. Establishment of a Lump Sum price generally means that the Design-Builder will be compensated on the basis of completed project milestones in accordance with a pre-defined schedule of values. Compensation shall include a fixed markup for overhead and profit.

Notice to Proceed refers to a written order given by the Owner to the Design-Builder which directs the Design-Builder to proceed with a specified portion of the Work.

Owner refers to the Board of Water Commissioners doing business as Saint Paul Regional Water Services.

Owner's Permit List refers to an attachment to these Contract Documents which lists permits required for the project and associated responsibilities.

Owner's Project Criteria refers to an attachment to these Contract Documents which describes the Owner's program requirements and objectives for the Project, including use, space, price, time, site and expandability requirements, as well as submittal requirements, water quality requirements, and other requirements governing Design-Builder's performance of the Work. Owner's Project Criteria will be revised during Phase 1 through mutual collaboration between the Owner and the Design-Builder.

Phase 1 includes all work performed by the Design-Builder prior to the Contract Price Amendment as well as all design work performed on the project, regardless of timing.

Phase 2 includes all work accomplished after the establishment of a Contract Price Amendment with the exception of any outstanding design work.

Principal in Charge refers to the individuals specified as such in Article 10 of the Agreement.

Project is used interchangeably with *Work*. The Project is comprised of all Design-Builder's design, construction and other services required by the Contract Documents, including procuring and furnishing all materials, equipment, services and labor reasonably inferable from the Contract Documents.

Project Manager refers to the individuals specified as such in Article 10 of the Agreement.

Project Procurement Activities refer to formal procurement efforts undertaken by Saint Paul Regional Water Services and the City of Saint Paul in order to select the best-value Design-Builder. The Request for Qualifications and the Request for Proposal issued by the City of Saint Paul and responses submitted by the Design-Builder are part of the Project Procurement Activities

Public Facilities Authority (PFA) is the agency which administers Minnesota's Drinking Water Revolving Fund program, which is intended as the funding source for this project.

Punch List refers to a formal accounting of all outstanding work which remains to be completed before Final Acceptance. Punch List work will be identified at the time that the Certificate of Substantial Completion is issued.

Request for Proposals refers to the document issued by the Owner to solicit proposals during the Project Procurement Activities. Responses to this RFP (proposals) served as the basis for selecting the Design-Builder offering the best value to the Owner.

Self-Performed Work means any work which is performed by the Design-Builder or any affiliate specified on the submitted Statement of Qualifications during Project Procurement Activities.

Shared Savings Provision refers to a provision under which the Owner and Design-Builder agree to share the cost savings associated with any underrun of Project expenses under the Guaranteed Maximum Price delivery model.

Site is the land or premises on which the Project is located.

Statement of Qualifications refers to the document submitted by the Design-Builder in response to SPRWS's Request for Qualification during the Project Procurement Activities.

Subcontracted Work is any work which is not performed by the Design-Builder or any affiliate specified on the submitted Statement of Qualifications during Project Procurement Activities

Subcontractor is any person or entity retained by Design-Builder (or by another Subcontractor) as an independent contractor to perform a portion of the Construction Work and shall include materialmen and suppliers.

Substantial Completion or *Substantially Complete* means that the Project has been sufficiently completed and has passed all Acceptance Testing. A Certificate of Substantial Completion will be issued upon achievement of Substantial Completion.

Termination for Convenience refers to the Owner's decision to release the Design-Builder from work in accordance with Article 9 of the Agreement.

Work is comprised of all Design-Builder's design, construction and other services required by the Contract Documents, including procuring and furnishing all materials, equipment, services and labor reasonably inferable from the Contract Documents.

Article 2 – Design-Builders Services and Responsibilities

2.1 General Services.

2.1.1 Design-Builder's Project Manager (as defined in Section 10.1 of the Agreement) shall be reasonably available to Owner and shall have the necessary expertise and experience required to supervise the Work. Design-Builder's Project Manager shall communicate regularly with Owner and shall be vested with the authority to act on behalf of Design-Builder. Design-Builder's Project Manager may be replaced only with the mutual agreement of Owner and Design-Builder.

2.1.2 Key Personnel identified in Exhibit F to the Agreement shall not be replaced without the mutual agreement of the Owner and the Design-Builder.

2.1.3 During Phase 1, Design-Builder shall provide Owner with a written monthly status report as described in the Phase 1 Scope of Services.

2.1.3 During Phase 2, Design-Builder shall provide Owner with a written monthly status report detailing the progress of the Construction Work, including (i) whether the Work is proceeding according to schedule, (ii) whether discrepancies, conflicts, or ambiguities exist in the Contract Documents that require resolution, (iii) whether health and safety issues exist in connection with the Construction Work; (iv) status of the contingency account to the extent provided for in the Agreement; and (v) other items that require resolution so as not to jeopardize Design-Builder's ability to complete the Work for the Contract Price and within the Contract Time(s).

2.1.4 During Phase 1, the Design-Builder shall coordinate bi-weekly progress meetings with the Owner's Project Manager. During Phase 2, the Design-Builder shall coordinate weekly progress meetings with the Owner's Project Manager. Such weekly meetings shall include verbal updates on the progress of the Construction Work, including each of the topics discussed in Section 2.1.3 above.

2.1.5 The parties will meet within seven (7) days after execution of the Contract Price Amendment to discuss issues affecting the administration of the Construction Work and to implement the necessary procedures, including those relating to submittals and payment, to facilitate the ability of the parties to perform their obligations under the Contract Documents.

2.1.6 Owner shall provide documents as described in Section 3.2 of these General Conditions of Contract. In the event that such documents are found insufficient for project needs, the Design-Builder shall be responsible for collecting additional information. The Owner and Design-Builder shall work together to determine the appropriate scope and compensation for additional surveying, geotechnical exploration, utility potholing, etc.

2.2 Design Professional Services.

2.2.1 Design-Builder shall, consistent with applicable state licensing laws, provide through qualified, licensed design professionals employed by Design-Builder, or procured from qualified, licensed Design Consultants, the necessary design services, including architectural, engineering and other design professional services, for the preparation of the required drawings, specifications and other design submittals to permit Design-Builder to complete the Work consistent with the Contract Documents. Nothing in the Contract Documents is intended or deemed to create any legal or contractual relationship between Owner and any Design Consultant.

2.3 Design Development Services.

2.3.1 Design-Builder and Owner shall, consistent with any applicable provision of the Contract Documents, agree upon any interim design submissions that Owner may wish to review, which interim design submissions may include design criteria, drawings, diagrams and specifications setting forth the Project requirements. Interim design submissions shall be consistent with the Basis of Design Documents. On or about the time of the scheduled submissions, Design-Builder and Owner shall meet and confer about the submissions, with Design-Builder identifying during such meetings, among other things, the evolution of the design and any changes to the Basis of Design Documents, or, if applicable, previously submitted design submissions. Changes to the Basis of Design Documents, including those that are deemed minor changes under Section 9.3.1, shall be processed in accordance with Article 9. Minutes of the meetings, including a full listing of all changes, will be maintained by Design-Builder and provided to all attendees for review. Following the design review meeting, Owner shall review the interim design submissions and meeting minutes in a time that is consistent with the turnaround times set forth in Section 3.1.2. Following Owner's review of design submissions, Design-Builder shall promptly revise and modify the submittals so as to fully address all Owner comments and shall deliver to Owner revised submittals for review.

2.3.2 Design-Builder shall submit to Owner Construction Documents setting forth in detail drawings and specifications describing the requirements for construction of the Work. The Construction Documents shall be consistent with the latest set of interim design submissions, as such submissions may have been modified in a design review meeting and recorded in the meeting minutes. The parties shall have a design review meeting to discuss, and Owner shall review, the Construction Documents in accordance with the procedures set forth in Section 2.3.1 above. Design-Builder shall proceed with construction in accordance with the Construction Documents and shall submit one set of approved Construction Documents to Owner prior to commencement of construction.

2.3.3 Owner's review or approval of interim design submissions, meeting minutes, and the Construction Documents is for the purpose of mutually establishing a conformed set of Contract Documents compatible with the requirements of the Work. Neither Owner's review nor approval of any interim design submissions, meeting minutes, and Construction Documents shall be deemed to transfer any design liability from Design-Builder to Owner.

2.3.4 To the extent not prohibited by the Contract Documents or Legal Requirements, Design-Builder may prepare interim design submissions and Construction Documents for a portion of the Construction Work to permit construction to proceed on that portion of the Construction Work prior to completion of the Construction Documents for the entire Construction Work.

2.4 Legal Requirements.

2.4.1 Design-Builder shall perform the Work in accordance with all Legal Requirements and shall provide all notices applicable to the Work as required by the Legal Requirements.

2.4.2 The Contract Price and/or Contract Time(s) shall be adjusted to compensate Design-Builder for the effects of any changes in the Legal Requirements enacted after the date of the Agreement which demonstrably and meaningfully impact the performance of the Work, or if a Guaranteed Price is established after the date of the Agreement, the date the parties agree upon the Guaranteed Price. Such effects may include, without limitation, revisions Design-Builder is required to make to the Construction Documents because of changes in Legal Requirements.

2.5 Government Approvals and Permits.

2.5.1 Except as identified in an Owner's Permit List attached as an exhibit to the Agreement, Design-Builder shall obtain and pay for all necessary permits, approvals, licenses, government charges and inspection fees required for the prosecution of the Work by any government or quasi-government entity having jurisdiction over the Project.

2.5.1.1 Any new permit requirements or revisions to permit fees enacted after the date of the Agreement shall be considered a change in Legal Requirements as described in Section 3.7.1 of these General Conditions.

2.5.1.2 In the event that the Design-Builder fails to identify any permit requirements or permit fees which were in effect at the time of the Agreement or any pending changes to permit requirements which were publicly published at the time of the Agreement, such requirements shall not be considered a change in Legal Requirements. The Design-Builder shall not be entitled to a change in Contract Price or Contract Time in such an instance.

2.5.2 Design-Builder shall provide assistance to Owner in obtaining those permits, approvals and licenses that are Owner's responsibility.

2.6 Design-Builder's Phase 2 Services.

2.6.1 Unless otherwise provided in the Contract Documents to be the responsibility of Owner or a separate contractor, Design-Builder shall provide through itself or Subcontractors the necessary supervision, labor, inspection, testing, start-up, commissioning, Acceptance Testing, material, equipment, machinery, temporary utilities and other temporary facilities to permit Design-Builder to complete construction of the Project consistent with the Contract Documents.

2.6.2 Design-Builder shall perform all construction activities efficiently and with the requisite expertise, skill and competence to satisfy the requirements of the Contract Documents. Design-Builder shall at all times exercise complete and exclusive control over the means, methods, sequences and techniques of construction. All means, methods, sequences, and techniques of construction, however, shall be consistent with Owner-accepted plans for maintenance of plant operations.

2.6.3 Design-Builder shall employ only Subcontractors who are duly licensed and qualified to perform the Work consistent with the Contract Documents. Owner may reasonably object to Design-Builder's selection of any Subcontractor, provided that the Contract Price and/or Contract Time(s) shall be adjusted to the extent that Owner's decision impacts Design-Builder's cost and/or time of performance. All subcontracted work shall comply with PFA (MN Public Facilities Authority) requirements associated with project funding and any other commitments related to the inclusion of Disadvantaged Business Enterprise (DBE) firms specified by the Design-Builder during Project Procurement Activities.

In the event that any funding requirements change during the course of the construction phase, the Owner shall compensate the Design-Builder for any demonstrable expenses resulting from the change in funding requirements.

2.6.4 Design-Builder assumes responsibility to Owner for the proper performance of the Work of Subcontractors and any acts and omissions in connection with such performance. Nothing in the Contract Documents is intended or deemed to create any legal or contractual relationship between Owner and any Subcontractor, including but not limited to any third-party beneficiary rights.

2.6.5 Design-Builder shall coordinate the activities of all Subcontractors. If Owner performs other work on the Project or at the Site with separate contractors under Owner's control, Design-Builder agrees to cooperate and coordinate its activities with those of such separate contractors so that the Project can be completed in an orderly and coordinated manner without unreasonable disruption.

2.6.6 Design-Builder shall keep the Site reasonably free from debris, trash and construction wastes to permit Design-Builder to perform its construction services efficiently, safely and without interfering regular operations of the existing water treatment facility or with the use of adjacent land areas. Upon Substantial Completion of the Work, or a portion of the Work, Design-Builder shall remove all debris, trash, construction wastes, materials, equipment, machinery and tools arising from the Work or applicable portions thereof to permit Owner to occupy the Project or a portion of the Project for its intended use.

2.7 Design-Builder's Responsibilities for Substantial Completion and Facility Testing Procedures

2.7.1 During Phase 1, the Design-Builder and Owner shall collaborate to develop preliminary testing plans for the facility and shall incorporate the preliminary plans in a revision to the Owner's Project Criteria document at the time of the Contract Price Amendment. The purpose of the preliminary testing plans shall be to establish a mutual understanding of minimum standards and guidelines for all forms of testing on the project. Such testing requirements will include, but may not be limited to, Startup and Commissioning Testing, Functional Testing, Milestone Testing, and Acceptance Testing. The Design-Builder shall be contractually obligated to meet the minimum requirements for each phase of facility testing which are described in the Owner's Project Criteria document.

2.7.2 Facility Startup. The Design-Builder shall be responsible for demonstrating that facilities have been properly designed, constructed, and powered in accordance with the Startup and Commissioning Plan. Certificates of Proper Installation, including signatures from the manufacturer, shall be provided at the time of facility startup. Further requirements for facility startup are described in the Owner's Project Criteria document.

2.7.3 Functional Testing. The Design-Builder shall be responsible for demonstrating that facilities operate in the intended manner and that no operational flaws are evident in accordance with the Startup and Commissioning Plan. Further requirements for Functional Testing are described in the Owner's Project Criteria document.

2.7.4 Milestone Testing. For any Project components which are constructed and operated prior to completion of the entire facility, the Design-Builder will be required to demonstrate that the individual Project components are capable of satisfactorily meeting pertinent water quality regulations in accordance with the Startup and Commissioning Plan. Milestone Testing may be bypassed and the Design-Builder may proceed directly to Acceptance Testing in the event that all Project components are put into operation concurrently.

If the Design-Builder's project phasing plans require that pre-existing water treatment infrastructure be demolished prior to Acceptance Testing of the facility, the Design-Builder shall demonstrate (by means of successfully Milestone Testing the newly installed, analogous infrastructure) that the pre-existing infrastructure is no longer necessary to provide acceptable water quality and water volumes.

Further requirements for Milestone Testing are described in the Owner's Project Criteria document.

2.7.5 Acceptance Testing. Following the successful Startup, Functional Testing, and (if applicable) Milestone Testing for all Project components, the Design-Builder shall be required to demonstrate that the full facility meets all requirements defined in the Owner's Project Criteria, including all Performance Criteria, in accordance with the Owner-approved Acceptance Testing Plan.

Further requirements for Milestone Testing are described in the Owner's Project Criteria document.

2.7.5.1 Design Professional Services and Acceptance Testing. The design professional services shall be performed to achieve all requirements as defined in the Owner's Project Criteria.

2.7.5.2 Acceptance Testing Timeline. The Owner and Design-Builder understand some lab results requisite for determining whether the Acceptance Test has been passed may take several weeks to obtain. Therefore, upon apparent completion of the physical Acceptance Testing process, the Owner will assume control of the facility, purchase of materials, and other such duties provided that: (i) all readily available test results indicate that the facility appears to have passed the Acceptance Test, (ii) all processes established in the Acceptance Testing Plan have been followed correctly, and (iii) the Owner's staff has been fully trained to operate the facility.

The Owner's assumption of control of the facility shall not be construed as indicating that the Acceptance Test has been officially passed. All requisite lab results must be obtained and approved in order for the facility to pass Acceptance Testing.

2.7.6 Substantial Completion. Following successful Acceptance Testing (including the receipt of all water quality analysis), the Project shall be deemed Substantially Complete, and the Owner shall prepare and issue a Certificate of Substantial Completion that will set forth (i) the date of Substantial Completion of the Work or portion thereof, (ii) the remaining items of Work that have to be completed before final payment, (iii) provisions (to the extent not already provided in the Contract Documents) establishing Owner's and Design-Builder's responsibility for the Project's security, maintenance, utilities and insurance pending final payment, and (iv) an acknowledgment that warranties commence to run on the date of Substantial Completion, except as may otherwise be noted in the Certificate of Substantial Completion.

2.8 Design-Builder's Responsibility for Project Safety.

2.8.1 Design-Builder recognizes the importance of performing the Work in a safe manner so as to prevent damage, injury or loss to (i) all individuals at the Site, whether working or visiting, (ii) the Work, including materials and equipment incorporated into the Work or stored on-Site or off-Site, and (iii) all other property at the Site or adjacent thereto. Design-Builder assumes responsibility for implementing and monitoring all safety precautions and programs related to the performance of the Work. Design-Builder shall, prior to commencing construction, designate a safety representative with the necessary qualifications and experience to supervise the implementation and monitoring of all safety precautions and programs related to the Work. Unless otherwise required by the Contract Documents, Design-Builder's safety representative shall be an individual stationed at the Site who may have responsibilities on the Project in addition to safety. The safety representative shall make documented daily inspections of the Site and shall hold documented weekly safety meetings with Design-Builder's personnel, Subcontractors and others as applicable.

2.8.2 Design-Builder and Subcontractors shall comply with all Legal Requirements relating to safety, as well as any Owner-specific safety requirements set forth in the Contract Documents, provided that such Owner-specific requirements do not violate any applicable Legal Requirement. Design-Builder will immediately report in writing any safety-related injury, loss, damage or accident arising from the Work to Owner's Project Manager and, to the extent mandated by Legal Requirements, to all government or quasi-government authorities having jurisdiction over safety-related matters involving the Project or the Work.

2.8.3 Design-Builder's responsibility for safety under this Section 2.7 is not intended in any way to relieve Subcontractors of their own contractual and legal obligations and responsibility for (i) complying with all Legal Requirements, including those related to health and safety matters, and (ii) taking all necessary measures to implement and monitor all safety precautions and programs to guard against injuries, losses, damages or accidents resulting from their performance of the Work.

2.9 Design-Builder's Responsibility for Project Security.

2.9.1 Design-Builder recognizes that the Site is deemed to be of critical importance to public health, and, as such, recognizes the importance of maintaining Site security throughout the project. Design-Builder shall limit site access to individuals authorized to be on-Site in accordance to the Site Security Exhibit attached to the Agreement.

2.10 Design-Builder's Warranty.

2.10.1 Design-Builder warrants to Owner that the construction, including all materials and equipment furnished as part of the construction, shall be new unless otherwise specified in the Contract Documents, of good quality, in conformance with the Contract Documents and free of defects in materials and workmanship. Design-Builder's warranty obligation excludes defects caused by abuse, alterations, or failure to maintain the Work in a commercially reasonable manner by the Owner. Nothing in this warranty is intended to limit any manufacturer's warranty which provides Owner with greater warranty rights than set forth in Contract Documents. Design-Builder will provide Owner with all manufacturers' warranties upon Substantial Completion.

2.11 Correction of Defective Work.

2.11.1 Except as modified by any other performance or latent defects requirements herein, Design-Builder agrees to correct any Work that is found to not be in conformance with the Contract Documents within a period of one year from the date of Substantial Completion of the Work, or within such longer period to the extent required by any specific warranty included in the Contract Documents.

2.11.2 Design-Builder shall, within seven (7) days of receipt of written notice from Owner that the Work is not in conformance with the Contract Documents, take meaningful steps to commence correction of such nonconforming Work, including the correction, removal or replacement of the nonconforming Work and any damage caused to other parts of the Work affected by the nonconforming Work. If Design-Builder fails to commence the necessary steps within such seven (7) day period, Owner, in addition to any other remedies provided under the Contract Documents, may provide Design-Builder with written notice that Owner will commence correction of such nonconforming Work with its own forces. If Owner does perform such corrective Work, Design-Builder shall be responsible for all costs incurred by Owner in performing such correction. If the nonconforming Work creates an emergency requiring an immediate response, the seven (7) day period identified herein shall be deemed inapplicable.

2.11.3 The one-year period referenced in Section 2.10.1 above applies only to Design-Builder's obligation to correct nonconforming Work and is not intended to constitute a period of limitations for any other rights or remedies Owner may have regarding Design-Builder's other obligations under the Contract Documents.

Article 3 – Owner's Services and Responsibilities

3.1 Duty to Cooperate.

3.1.1 Owner shall, throughout the performance of the Work, cooperate with Design-Builder and perform its responsibilities, obligations and services in a timely manner to facilitate Design-Builder's timely and efficient performance of the Work and so as not to delay or interfere with Design-Builder's performance of its obligations under the Contract Documents.

3.1.2 Owner shall provide timely reviews of interim design submissions and Construction Documents. For submittal milestones (i.e., 30% design, 60% design, GP Proposal, and significant alterations to design concepts), Owner shall review and provide comment on such submittals within twenty-one (21) days after receipt of the submissions. For intermediate submittals, Owner shall review and provide comment within fourteen (14) days after the receipt of the submissions. Such review timelines may be adjusted for time-sensitive critical path submittals provided that both Owner and Design Builder agree to the revised review period in advance.

Contract Note: During the Design Phase, the Design-Builder will develop a table of anticipated Construction Phase submittals. The Owner and Design-Builder will collaborate to determine the appropriate level of document review, including which types of submittals will be reviewed by the Owner. This collaborative effort will inform the development of the schedule for Phase 2 work.

3.1.3 Owner shall give Design-Builder timely notice of any Work that Owner notices to be defective or not in compliance with the Contract Documents.

3.2 Furnishing of Services and Information.

3.2.1 Owner shall furnish the Design-Builder with various types of information during Phase 1 services. The types of the information that the Owner will be required to provide and the extent to which the Design-Builder may rely upon that information is described below:

3.2.1.1 To the extent available, surveys describing the property, boundaries, topography and reference points for use during construction, including existing service and utility lines. Design-Builder may rely upon surveys for determining general locations of buried pipelines and utilities but shall be responsible for potholing during Phase 1 activities to determine precise locations of utilities.

3.2.1.2 To the extent available, geotechnical studies describing subsurface conditions, and other surveys describing other latent or concealed physical conditions at the Site. Where provided, geotechnical borings and data may be relied upon. Design-Builder shall be responsible for developing its own conclusions and engineering analysis based upon the geotechnical data provided.

3.2.1.5 To the extent available, record drawings of any existing structures at the Site. The information contained in such drawings shall be verified by the Design-Builder through inspection of the site. All information derived from provided record drawings shall be field-verified by the Design-Builder except in instances in which field-verification would require actual demolitions or damage to the facility.

3.2.1.6 To the extent available, historical studies of the property which may have a bearing on the scope of the Work or the conditions of funding. The results of such historical studies may be relied upon when interpreted in conjunction with the Owner and the Minnesota State Historic Preservation Office.

3.2.2 Owner is responsible for securing and executing all necessary agreements with adjacent land or property owners that are necessary to enable Design-Builder to perform the Work. Owner is further responsible for all costs, including attorneys' fees, incurred in securing these necessary agreements.

3.3 Financial Information.

3.3.1 At Design-Builder's request, Owner shall promptly furnish reasonable evidence satisfactory to Design-Builder that Owner has adequate funds available and committed to fulfill all of Owner's contractual obligations under the Contract Documents. If Owner fails to furnish such financial information in a timely manner, Design-Builder may stop Work under Section 11.3 hereof or exercise any other right permitted under the Contract Documents.

3.3.2 Design-Builder shall cooperate with the requirements of Owner's lenders or other financial sources. Design-Builder shall be responsible for meeting any adjustments to the requirements of the Owner's lenders or other financial sources made after the execution of the Agreement. In the event that funding requirements change during the course of the Project and meaningfully alter the obligations and responsibilities of the Design-Builder, a Change Order may be utilized to ensure that Design-Builder is appropriately compensated for such adjustments.

3.4 Owner's Project Manager.

3.4.1 Owner's Project Manager (as identified in Section 10.1 of the Agreement) shall be responsible for providing Owner-supplied information and approvals in a timely manner to permit Design-Builder to fulfill its obligations under the Contract Documents. Owner's Project Manager shall also provide Design-Builder with notice if it observes any failure on the part of Design-Builder to fulfill its contractual obligations, including any errors, omissions or defects in the performance of the Work. Owner's failure to provide notice shall not relieve Design-Builder of its responsibility to perform work in accordance with the Contract Documents. Owner's Project Manager shall communicate regularly with Design-Builder and shall be vested with the authority to act on behalf of Owner with respect to routine project management.

3.5 Government Approvals and Permits.

3.5.1 Owner shall obtain and pay for all necessary permits, approvals, licenses, government charges and inspection fees set forth in the Owner's Permit List attached as an exhibit to the Agreement.

Contract Note: Owner's Permit List will be modified during Phase 1 and finalized at the Contract Price Amendment.

3.5.2 Owner shall provide reasonable assistance to Design-Builder in obtaining those permits, approvals and licenses that are Design-Builder's responsibility.

3.6 Owner's Separate Contractors.

3.6.1 Owner is responsible for all work performed on the Project or at the Site by separate contractors under Owner's control. Owner shall require its separate contractors to coordinate their activities so as not to interfere with, Design-Builder in order to enable Design-Builder to timely complete the Work consistent with the Contract Documents.

3.7 Legal Requirements.

3.7.1 The Contract Price and/or Contract Time(s) will be adjusted to compensate the Owner for the effects of any changes in Legal Requirements enacted after the date of the Agreement which demonstrably and meaningfully impact the performance of the Work, or if a Contract Price Amendment is established after the date of the Agreement, the date the parties agree upon the Guaranteed Price. Such effects may include, without limitation, revisions to existing laws, tariffs, and other regulatory requirements that allow for faster and/or less-costly design and construction of the facility.

Article 4 – Hazardous Conditions and Differing Site Conditions

4.1 Hazardous Conditions.

4.1.1 Unless otherwise expressly provided in the Contract Documents to be part of the Work, Design-Builder is not responsible for any Hazardous Conditions encountered at the Site. Upon encountering any Hazardous Conditions, Design-Builder will stop Work immediately in the affected area and duly notify Owner and, if required by Legal Requirements, all government or quasi-government entities with jurisdiction over the Project or Site. Design-Builder may resume work or a specified portion of the work if both Owner and Design-Builder mutually agree that such work can be safely resumed.

4.1.2 Upon receiving notice of the presence of suspected Hazardous Conditions, Owner shall take the necessary measures required to ensure that the Hazardous Conditions are remediated or rendered harmless. Such necessary measures shall include Owner retaining qualified independent experts to (i) ascertain whether Hazardous Conditions have actually been encountered, and, if they have been encountered, (ii) prescribe the remedial measures that Owner must take either to remove the Hazardous Conditions or render the Hazardous Conditions harmless.

4.1.3 In lieu of the Owner retaining a qualified independent expert, the Owner and Design-Builder may mutually agree that the Design-Builder will self-perform assessment and mitigation work. Alternatively, the Owner and Design-Builder may mutually agree that the Design-Builder will be responsible for obtaining a subcontract with an independent expert. In either instance, the Design-Builder would be fairly compensated for their work in accordance with the rates specified for self-performed work or subcontracted work.

4.1.4 Design-Builder shall be obligated to resume Work at the affected area of the Project only after the independent expert provides it with written certification that (i) the Hazardous Conditions have been removed or rendered harmless and (ii) all necessary approvals have been obtained from all government and quasi-government entities having jurisdiction over the Project or Site.

4.1.5 To the fullest extent permitted by law, Owner shall indemnify, defend and hold harmless Design-Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them, and their officers, directors, employees and agents, from and against any and all claims, losses, damages, liabilities and expenses, including attorneys' fees and expenses, arising out of or resulting from the presence, removal or remediation of Hazardous Conditions at the Site.

4.1.6 Design-Builder will be entitled, in accordance with these General Conditions of Contract, to an adjustment in its Contract Price and/or Contract Time(s) to the extent Design-Builder's cost and/or time of performance have been adversely impacted by the presence of Hazardous Conditions.

4.1.7 Owner acknowledges that, except to the extent included in the Work or resulting from the Design-Builder's negligence, Design-Builder has had no role in generating, treating, storing or disposing of Hazardous Conditions which may be present at the Project Site and Design-Builder has not benefited from the processes that produced such Hazardous Conditions. No Hazardous Conditions encountered by Design-Builder in performing, or associated with, the Work shall at any time be or become the property of Design-Builder. Any arrangements made by Design-Builder for the treatment, storage, transport or disposal of any Hazardous Conditions are made solely and exclusively for the benefit of Owner using Owner's EPA generator identification number(s) when required and shall not result in any liability of Design-Builder under this Agreement or with respect to the Hazardous Condition. Owner shall handle all Hazardous Conditions in compliance with applicable Laws and Regulations and shall sign manifests and obtain generator identification numbers when required by Laws and Regulations. If required by the Contract Documents, Design-Builder shall furnish the names of facilities currently licensed to accept Hazardous Waste, but it shall be Owner's sole responsibility to select those to be engaged. Nothing contained in this Agreement shall confer on Design-Builder the status of (a) a generator, storer, disposer or treater of Hazardous Conditions, (b) the party who arranged for the disposal of Hazardous Conditions, or (c) a Hazardous Condition disposal facility, as provided in any Law or Regulation.

4.1.8 Notwithstanding the preceding provisions of this Section 4.1, Owner is not responsible for Hazardous Conditions introduced to the Site by Design-Builder, Subcontractors or anyone for whose acts they may be liable. To the fullest extent permitted by law, Design-Builder shall indemnify, defend and hold harmless Owner and Owner's officers, directors, employees and agents from and against all claims, losses, damages, liabilities and expenses, including attorneys' fees and expenses, arising out of or resulting from those Hazardous Conditions introduced to the Site by Design-Builder, Subcontractors or anyone for whose acts they may be liable.

Likewise, Owner is not responsible for any Hazardous Conditions resulting from the negligence of the Design-Builder, Subcontractors or anyone for whose acts they may be liable. To the fullest extent permitted by law, Design-Builder shall indemnify, defend and hold harmless Owner and Owner's officers, directors, employees and agents from and against all claims, losses, damages, liabilities and expenses, including attorneys' fees and expenses, arising out of or resulting from negligence by the Design-Builder, Subcontractors or anyone for whose acts they may be liable.

4.2 Differing Site Conditions.

4.2.1 Concealed or latent physical conditions or subsurface conditions at the Site that (i) materially differ from the conditions indicated in the Contract Documents or (ii) are of an unusual nature, differing materially from the conditions ordinarily encountered and generally recognized as inherent in the Work are collectively referred to herein as "Differing Site Conditions." If Design-Builder encounters a Differing Site Condition, Design-Builder will be entitled to an adjustment in the Contract Price and/or Contract Time(s) to the extent Design-Builder's cost and/or time of performance are adversely impacted by the Differing Site Condition.

Contract Note: Owner and Design-Builder will determine whether additional site-specific language is needed prior to the Contract Price Amendment. Any additions would be added to that contract update.

4.2.2 Upon encountering a Differing Site Condition, Design-Builder shall provide prompt written notice to Owner of such condition, which notice shall not be later than fourteen (14) days after such condition has been encountered. Design-Builder shall provide such notice before the Differing Site Condition has been substantially disturbed or altered.

Article 5 – Insurance and Bonds

5.1 Design-Builder's Insurance Requirements.

5.1.1 Prior to commencing work, Design-Builder is responsible for procuring and maintaining the insurance for the coverage amounts all as set forth in the Insurance Exhibit to the Agreement. Coverage shall be secured from insurance companies authorized to do business in the state of Minnesota and with a minimum rating of A.

5.1.2 Design-Builder's insurance shall specifically delete any design-build or similar exclusions that could compromise coverages because of the design-build delivery of the Project.

5.1.3 Prior to commencing design work, Design-Builder shall procure and maintain the following insurance coverages: General Liability, Auto Liability, Professional Liability (Including Errors and Omissions), Worker's Compensation, and Property Insurance. The limit of the Property Insurance policy must be commensurate with the value of any property owned by the Design-Builder and kept on the Site during the Design phase of the project. The limits of all other policies shall be as specified in the Insurance Exhibit to the Agreement.

5.1.4 Prior to commencing any construction services hereunder, and annually thereafter, Design-Builder shall provide Owner with certificates documenting any exclusions and evidencing that (i) all insurance coverages listed in the Insurance Exhibit to the Agreement have been fulfilled as required by the Contract Documents and are in full force and in effect and will remain in effect for the duration required by the Contract Documents and (ii) no insurance coverage will be canceled, renewal refused, or materially changed unless at least thirty (30) days prior written notice is given to Owner. If any of the foregoing insurance coverages are required to remain in force after final payment are reasonably available, an additional certificate evidencing continuation of such coverage shall be submitted with the final Application for Payment. If any information concerning reduction of coverage is not furnished by the insurer, it shall be furnished by the Design-Builder with reasonable promptness according to the Design-Builder's information and belief.

5.2 Owner's Liability Insurance.

5.2.1 The City is self-insured for all claims arising from its operation as a political subdivision of the State of Minnesota for which it is legally liable by Minnesota Statute 466.04.

5.3 Owner's Property Insurance.

5.3.1 Owner agrees to carry and maintain property insurance, including boiler and machinery coverage, against all risk of physical loss or damage to the existing facilities at the site with a carrier licensed to do business in the state of Minnesota.

5.3.2 Prior to Design-Builder commencing any Work, Owner shall provide Design-Builder with certificates evidencing that (i) all Owner's insurance obligations required by the Contract Documents are in full force and in effect and will remain in effect until Design-Builder has completed all of the Work and has received final payment from Owner and (ii) no insurance coverage will be canceled, renewal refused, or materially changed unless at least thirty (30) days prior written notice is given to Design-Builder. Owner shall provide Design-Builder with the necessary endorsements from the insurance company prior to occupying a portion of the Work.

5.3.3 Owner and Design-Builder waive against each other and Owner's separate contractors, Design Consultants, Subcontractors, agents and employees of each and all of them, all damages covered by property insurance provided herein, except such rights as they may have to the proceeds of such insurance. Design-Builder and Owner shall, where appropriate, require similar waivers of subrogation from Owner's separate contractors, Design Consultants and Subcontractors and shall require each of them to include similar waivers in their contracts. These waivers of subrogation shall not contain any restriction or limitation that will impair the full and complete extent of its applicability to any person or entity unless agreed to in writing prior to the execution of this Agreement.

5.4 Bonds and Other Performance Security.

5.4.1 If Owner requires Design-Builder to obtain performance and labor and material payment bonds, or other forms of performance security, the amount, form and other conditions of such security shall be as set forth in the Agreement.

5.4.2 All bonds furnished by Design-Builder shall be in a form satisfactory to Owner. The surety shall be a company qualified and registered to conduct business in Minnesota.

Article 6 – Payment

6.1 Phase 1 Payments

6.1.1 All Phase 1 Work will be compensated in accordance with Section 7.1 of the Agreement.

6.2 Phase 2 Payments

6.2.1 All Phase 2 Work will be compensated in accordance with the applicable portions of Article 7 of the Agreement.

6.3 Monthly Progress Payments.

6.3.1 On or before the date established in the Agreement, Design-Builder shall submit for Owner's review and approval its Application for Payment requesting payment for all Work performed as of the date of the Application for Payment. The Application for Payment shall be accompanied by all supporting documentation required by the Contract Documents and/or established at the meeting required by Section 2.1.6 hereof.

6.3.2 The Application for Payment may request payment for equipment and materials not yet incorporated into the Project, provided that (i) Owner is satisfied that the equipment and materials are suitably stored at either the Site or another acceptable location, (ii) the equipment and materials are protected by suitable insurance, (iii) Owner will receive the equipment and materials free and clear of all liens and encumbrances at the appropriate time, and (iv) Owner is satisfied that the early purchase of equipment and materials offers significant benefits to the Construction Work.

Contract Note: The Owner and the Design-Builder agree to revisit this topic during the negotiations for the Contract Price Amendment to determine if this arrangement (specifically whether Owner-approval is required) is the optimal arrangement for the project.

6.3.3 The Application for Payment shall constitute Design-Builder's representation that the Work described herein has been performed consistent with the Contract Documents, has progressed to the point indicated in the Application for Payment, and that title to all Work will pass to Owner free and clear of all claims, liens, encumbrances, and security interests upon Substantial Completion.

6.4 Withholding of Payments.

6.4.1 On or before the date established in the Agreement, Owner shall pay Design-Builder all amounts properly due. If Owner determines that Design-Builder is not entitled to all or part of an Application for Payment as a result of Design-Builder's failure to meet its obligations hereunder, it will notify Design-Builder in writing at least five (5) days prior to the date payment is due. The notice shall indicate the specific amounts Owner intends to withhold and the reasons and contractual basis for the withholding. Design-Builder and Owner will attempt to resolve Owner's concerns prior to the date payment is due. If the parties cannot resolve such concerns, Design-Builder may pursue its rights under the Contract Documents.

6.4.2 Notwithstanding anything to the contrary in the Contract Documents, Owner shall pay Design-Builder all undisputed amounts in an Application for Payment within the times required by the Agreement.

6.5 Right to Stop Work and Interest.

6.5.1 If Owner fails to pay Design-Builder any amount that becomes due, Design-Builder, in addition to all other remedies provided in the Contract Documents, may stop Work pursuant to Section 11.3 hereof. All payments due and unpaid shall bear interest at the rate set forth in the Agreement.

6.6 Design-Builder's Payment Obligations.

6.6.1 Design-Builder will pay Design Consultants and Subcontractors, in accordance with its contractual obligations to such parties, all the amounts Design-Builder has received from Owner on account of their work. Design-Builder will impose similar requirements on Design Consultants and Subcontractors to pay those parties with whom they have contracted. Design-Builder will indemnify and defend Owner against any claims for payment and mechanic's liens as set forth in Section 7.3 hereof.

6.7 Final Payment.

6.7.1 After receipt of a final Application for Payment from Design-Builder, Owner shall make final payment by the time required in the Agreement, provided that Design-Builder has achieved Final Completion.

6.7.2 At or before the time of submission of its final Application for Payment, Design-Builder shall provide all deliverables required by the Agreement in addition to the following:

6.7.2.1 An affidavit that there are no claims, obligations or liens outstanding or unsatisfied for labor, services, material, equipment, taxes or other items performed, furnished or incurred for or in connection with the Work which will in any way affect Owner's interests;

6.7.2.2 A general release executed by Design-Builder waiving, upon receipt of final payment by Design-Builder, all claims, except those claims previously made in writing to Owner and remaining unsettled at the time of final payment;

6.7.2.3 Consent of Design-Builder's surety, if any, to final payment;

6.7.2.4 All operating manuals, warranties and other deliverables required by the Contract Documents; and

6.7.2.5 Certificates of insurance confirming that required coverages will remain in effect consistent with the requirements of the Contract Documents.

6.7.2.6 All documentation demonstrating that Acceptance Testing and Punch List items have been fully completed.

6.7.3 Upon making final payment, Owner waives all claims against Design-Builder except claims relating to (i) Design-Builder's failure to satisfy its payment obligations, if such failure affects Owner's interests, (ii) Design-Builder's failure to complete the Work consistent with the Contract Documents, including defects appearing after Substantial Completion and (iii) the terms of any special warranties required by the Contract Documents.

6.7.4 Deficiencies in the Work discovered after Substantial Completion, whether or not such deficiencies would have been included on the Punch List (as defined in the Certificate of Substantial Completion) if discovered earlier, shall be deemed warranty Work. Such deficiencies shall be corrected by Design-Builder in accordance with Sections 2.9 and 2.10 herein, and shall not be a reason to withhold final payment from Design-Builder, provided, however, that Owner shall be entitled to withhold from the final payment the reasonable value (as determined by the Owner) of completion of such deficient work until such work is completed.

Contract Note: During the Design Phase, the Owner and Design-Builder will consider whether the Owner's sole determination of the reasonable value of this work is most appropriate. If a mutually agreeable alternative is found, this section may be revised at the Contract Price Amendment.

Article 7 – Indemnification

7.1 Patent and Copyright Infringement.

7.1.1 Design-Builder shall defend any action or proceeding brought against Owner based on any claim that the Work, or any part thereof, or the operation or use of the Work or any part thereof, constitutes infringement of any United States patent or copyright, now or hereafter issued. Owner shall give prompt written notice to Design-Builder of any such action or proceeding and will reasonably provide authority, information and assistance in the defense of same. Design-Builder shall indemnify and hold harmless Owner from and against all damages and costs, including but not limited to attorneys' fees and expenses awarded against Owner or Design-Builder in any such action or proceeding. Design-Builder agrees to keep Owner informed of all developments in the defense of such actions.

7.1.2 If Owner is enjoined from the operation or use of the Work, or any part thereof, as the result of any patent or copyright suit, claim, or proceeding, Design-Builder shall at its sole expense take reasonable steps to procure the right to operate or use the Work. If Design-Builder cannot so procure such right within a reasonable time, Design-Builder shall promptly, at Owner's option and at Design-Builder's expense, (i) modify the Work so as to avoid infringement of any such patent or copyright or (ii) replace said Work with Work that does not infringe or violate any such patent or copyright.

7.1.3 Sections 7.1.1 and 7.1.2 above shall not be applicable to any suit, claim or proceeding based on infringement or violation of a patent or copyright (i) relating solely to a particular process or product of a particular manufacturer specified by Owner and not offered or recommended by Design-Builder to Owner or (ii) arising from modifications to the Work by Owner or its agents after acceptance of the Work. If the suit, claim or proceeding is based upon events set forth in sub. (ii) of the preceding sentence, Owner shall defend, indemnify and hold harmless Design-Builder to the same extent Design-Builder is obligated to defend, indemnify and hold harmless Owner in Section 7.1.1 above.

7.1.4 The obligations set forth in this Section 7.1 shall constitute the sole agreement between the parties relating to liability for infringement or violation of any patent or copyright.

7.2 Tax Claim Indemnification.

7.2.1 If, in accordance with Owner's direction, an exemption for all or part of the Work is claimed for taxes, Owner shall indemnify, defend and hold harmless Design-Builder from and against any liability, penalty, interest, fine, tax assessment, attorneys' fees or other expenses or costs incurred by Design-Builder as a result of any action taken by Design-Builder in accordance with Owner's directive. Owner shall furnish Design-Builder with any applicable tax exemption certificates necessary to obtain such exemption, upon which Design-Builder may rely.

7.3 Payment Claim Indemnification.

7.3.1 Design-Builder shall indemnify, defend and hold harmless Owner from any claims or mechanic's liens brought against Owner or against the Project as a result of the failure of Design-Builder, or those for whose acts it is responsible, to pay for any services, materials, labor, equipment, taxes or other items or obligations furnished or incurred for or in connection with the Work. Within three (3) days of receiving written notice from Owner that such a claim or mechanic's lien has been filed, Design-Builder shall commence to take the steps necessary to discharge said claim or lien, including, if necessary, the furnishing of a mechanic's lien bond. If Design-Builder fails to do so, Owner will have the right to discharge the claim or lien and hold Design-Builder liable for costs and expenses incurred, including attorneys' fees.

7.4 Design-Builder's General Indemnification.

7.4.1 Design-Builder, to the fullest extent permitted by law, shall indemnify, hold harmless and defend Owner, its officers, directors, and employees from and against claims, losses, damages, liabilities, including attorneys' fees and expenses, for bodily injury, sickness or death, and property damage or destruction to the extent resulting from the negligent acts or omissions of Design-Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable.

7.4.2 If an employee of Design-Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable has a claim against Owner, its officers, directors, employees, or agents, Design-Builder's indemnity obligation set forth in Section 7.4.1 above shall not be limited by any limitation on the amount of damages, compensation or benefits payable by or for Design-Builder, Design Consultants, Subcontractors, or other entity under any employee benefit acts, including workers' compensation or disability acts.

7.5 Owner's General Indemnification.

7.5.1 Owner, to the fullest extent permitted by law, shall indemnify, hold harmless and defend Design-Builder, from and against claims, losses, damages, liabilities, for bodily injury, sickness or death, and property damage or destruction (other than to the Work itself) to the extent resulting from the negligent acts or omissions of Owner's separate contractors or anyone for whose acts any of them may be liable.

Article 8 – Time

8.1 Obligation to Achieve the Contract Times.

8.1.1 Design-Builder agrees that it will commence performance of the Work and achieve the Contract Time(s) in accordance with Article 6 of the Agreement.

8.2 Delays to the Work.

8.2.1 If Design-Builder is delayed in the performance of the Work due to acts, omissions, conditions, events, or circumstances beyond its control and due to no fault of its own or those for whom Design-Builder is responsible, the Contract Time(s) for performance shall be reasonably extended by Change Order. By way of example, events that will entitle Design-Builder to an extension of the Contract Time(s) include acts or omissions of Owner or anyone under Owner's control (including separate contractors), changes in the Work, Differing Site Conditions (as defined in Section 4.2), Hazardous Conditions, and Force Majeure Events.

8.2.2 In addition to Design-Builder's right to a time extension for those events set forth in Section 8.2.1 above, Design-Builder may also be entitled to an appropriate adjustment of the Contract Price provided, however, that the Contract Price shall not be adjusted for Force Majeure Events unless such events meet the criteria defined in Section 8.2.3 below. Design-Builder shall demonstrate that delays in the Work directly caused additional and meaningful costs to the Design-Builder in order to obtain an adjustment to contract price.

8.2.3 For Force Majeure Events, Design-Builder shall be entitled to an increase in the Contract Price providing that: (i) said events must exceed forty five (45) cumulative days before Design-Builder is entitled to additional compensation; and (ii) said additional compensation shall be limited to the direct costs and expenses Design-Builder can demonstrate it has reasonably actually incurred as a result of such event.

Article 9 – Changes to the Contract Price and Time

9.1 Change Orders.

9.1.1 A Change Order is a written instrument issued after execution of the Agreement signed by Owner and Design-Builder, stating their agreement upon all of the following:

9.1.1.1 The scope of the change in the Work;

9.1.1.2 The amount of the adjustment to the Contract Price; and

9.1.1.3 The extent of the adjustment to the Contract Time(s).

9.1.2 All changes in the Work authorized by applicable Change Order shall be performed under the applicable conditions of the Contract Documents. Owner and Design-Builder shall negotiate in good faith and as expeditiously as possible the appropriate adjustments for such changes.

9.1.3 If Owner requests a proposal for a change in the Work from Design-Builder and subsequently elects not to proceed with the change, a Change Order shall be issued to reimburse Design-Builder for reasonable costs incurred for estimating services, design services and services involved in the preparation of proposed revisions to the Contract Documents. Change Orders shall not be issued for such design services, estimating services, etc. if the value of the associated work does not exceed \$5,000. If the Design-Builder anticipates that the value of such work may exceed \$5,000, the Design-Builder shall provide the Owner with written notice prior to the commencement of the work, indicating (i) that a Change Order may be necessary to compensate the Design-Builder for the compilation of the proposal, and (ii) the estimated value of the work associated with completing the requested proposal.

Contract Note: The Owner and the Design-Builder have agreed to revisit section 9.1.3 prior to the Contract Price Amendment to determine if an alternative arrangement is preferable. Any revisions (if applicable) would be incorporated into the Contract Price Amendment.

9.2 Work Change Directives.

9.2.1 A Work Change Directive is a written order prepared and signed by Owner directing a change in the Work prior to agreement on an adjustment in the Contract Price and/or the Contract Time(s).

9.2.2 Owner and Design-Builder shall negotiate in good faith and as expeditiously as possible the appropriate adjustments for the Work Change Directive. Upon reaching an agreement, the parties shall prepare and execute an appropriate Change Order reflecting the terms of the agreement.

9.3 Minor Changes in the Work.

9.3.1 Minor changes in the Work do not involve an adjustment in the Contract Price and/or Contract Time(s) and do not materially and adversely affect the Work, including the design, quality, performance and workmanship required by the Contract Documents. Design-Builder may make minor changes in the Work consistent with the intent of the Contract Documents, provided, however, that Design-Builder shall promptly inform Owner, in advance and in writing, of any such changes and record such changes on the documents maintained by Design-Builder.

9.4 Contract Price Adjustments.

9.4.1 The increase or decrease in Contract Price resulting from a change in the Work shall be determined by one or more of the following methods:

9.4.1.1 Unit prices set forth in the Agreement or as subsequently agreed to between the parties;

9.4.1.2 A mutually accepted Lump Sum, properly itemized and supported by sufficient substantiating data to permit evaluation by Owner;

9.4.1.3 Costs, fees and any other markups set forth in the Agreement; or

9.4.1.4 If an increase or decrease cannot be agreed to as set forth in items 9.4.1.1 through 9.4.1.3 above and Owner issues a Work Change Directive, the cost of the change of the Work shall be determined by the reasonable expense and savings in the performance of the Work resulting from the change, including overhead and profit, as set forth in the Agreement.

9.4.2 If unit prices are set forth in the Contract Documents or are subsequently agreed to by the parties, but application of such unit prices will cause substantial inequity to Owner or Design-Builder because of differences in the character or quantity of such unit items as originally contemplated, such unit prices shall be equitably adjusted.

9.4.3 If Owner and Design-Builder disagree upon whether Design-Builder is entitled to be paid for any services required by Owner, or if there are any other disagreements over the scope of Work or proposed changes to the Work, Owner and Design-Builder shall resolve the disagreement pursuant to Article 10 hereof. As part of the negotiation process, Design-Builder shall furnish Owner with a good faith estimate of the costs to perform the disputed services in accordance with Owner's interpretations. If the parties are unable to agree and Owner expects Design-Builder to perform the services in accordance with Owner's interpretations, Design-Builder shall proceed to perform the disputed services, conditioned upon Owner issuing a written order to Design-Builder (i) directing Design-Builder to proceed and (ii) specifying Owner's interpretation of the services that are to be performed. If this occurs, Design-Builder shall be entitled to submit in its Applications for Payment an amount equal to fifty percent (50%) of its reasonable estimated direct cost to perform the services, and Owner agrees to pay such amounts, with the express understanding that (i) such payment by Owner does not prejudice Owner's right to argue that it has no responsibility to pay for such services and (ii) receipt of such payment by Design-Builder does not prejudice Design-Builder's right to seek full payment of the disputed services if Owner's order is deemed to be a change to the Work.

9.5 Emergencies.

9.5.1 In any emergency affecting the safety of persons and/or property, Design-Builder shall act, at its discretion, to prevent threatened damage, injury or loss. Any change in the Contract Price and/or Contract Time(s) on account of emergency work shall be determined as provided in this Article 9.

Article 10 – Contract Adjustments and Disputes

10.1 Requests for Contract Adjustments and Relief.

10.1.1 If either Design-Builder or Owner believes that it is entitled to relief against the other for any event arising out of or related to the Work or Project, such party shall provide written notice to the other party of the basis for its claim for relief. Such notice shall, if possible, be made prior to incurring any cost or expense and in accordance with any specific notice requirements contained in applicable sections of these General Conditions of Contract. In the absence of any specific notice requirement, written notice shall be given within a reasonable time, not to exceed twenty-one (21) days, after the occurrence giving rise to the claim for relief or after the claiming party reasonably should have recognized the event or condition giving rise to the request, whichever is later. Such notice shall include sufficient information to advise the other party of the circumstances giving rise to the claim for relief, the specific contractual adjustment or relief requested and the basis of such request.

10.2 Dispute Avoidance and Resolution.

10.2.1 The parties are fully committed to working with each other throughout the Project and agree to communicate regularly with each other at all times so as to avoid or minimize disputes or disagreements. If disputes or disagreements do arise, Design-Builder and Owner each commit to resolving such disputes or disagreements in an amicable, professional and expeditious manner so as to avoid unnecessary losses, delays and disruptions to the Work.

10.2.2 Design-Builder and Owner will first attempt to resolve disputes or disagreements at the field level through discussions between Design-Builder's Project Manager and Owner's Project Manager which shall conclude within fourteen (14) days of the written notice provided for in Section 10.1.1 unless the Owner and Design-Builder mutually agree otherwise.

10.2.3 If a dispute or disagreement cannot be resolved through Design-Builder's Project Manager and Owner's Project Manager, Design-Builder's Principal in Charge and Owner's Principal in Charge, upon the request of either party, shall meet as soon as conveniently possible, but in no case later than thirty (30) days after such a request is made, to attempt to resolve such dispute or disagreement. Five (5) days prior to any meetings between the Principals in Charge, the parties will exchange relevant information that will assist the parties in resolving their dispute or disagreement.

10.2.4 If after meeting the Principals in Charge determine that the dispute or disagreement cannot be resolved on terms satisfactory to both parties, the parties shall submit within thirty (30) days of the conclusion of the meeting of Principals in Charge the dispute or disagreement to non-binding mediation. The mediation shall be conducted by a mutually agreeable impartial mediator, or if the parties cannot so agree, a mediator designated by the American Arbitration Association ("AAA") pursuant to its Construction Industry Mediation Rules. The mediation will be governed by and conducted pursuant to a mediation agreement negotiated by the parties or, if the parties cannot so agree, by procedures established by the mediator. Unless otherwise mutually agreed by the Owner and Design-Builder and consistent with the mediator's schedule, the mediation shall commence within ninety (90) days of the submission of the dispute to mediation.

10.3 Interpretation and Venue.

10.3.1 This Agreement will be interpreted and construed according to the laws of the State of Minnesota. All litigation related to this Agreement must be venued in the District Court of the County of Ramsey, Second Judicial District, State of Minnesota.

10.4 Duty to Continue Performance.

10.4.1 Unless provided to the contrary in the Contract Documents, Design-Builder shall continue to perform the Work and Owner shall continue to satisfy its payment obligations to Design-Builder, pending the final resolution of any dispute or disagreement between Design-Builder and Owner.

10.5 Consequential Damages.

10.5.1 Notwithstanding anything herein to the contrary (except as set forth in Section 10.5.2 below), neither Design-Builder nor Owner shall be liable to the other for any consequential damages, whether arising in contract, warranty, tort (excluding gross negligence), strict liability, or otherwise, including but not limited to losses of use, profits, business, reputation, or financing.

10.5.2 The consequential damages limitation set forth in Section 10.5.1 above is not intended to affect the payment of liquidated damages or lost early completion bonus, if any, set forth in Article 6 of the Agreement, which both parties recognize has been established, in part, to reimburse Owner or reward Design-Builder for some damages that might otherwise be deemed to be consequential.

Article 11 – Stop Work and Termination for Cause

11.1 Owner's Right to Stop Work.

11.1.1 Owner may, without cause and for its convenience, order Design-Builder in writing to stop and suspend the Work. Such suspension shall not exceed ninety (90) consecutive days or aggregate more than one hundred eighty (180) days during the duration of the Project.

11.1.2 Design-Builder is entitled to seek an adjustment of the Contract Price and/or Contract Time(s) if its cost or time to perform the Work has been adversely impacted by any suspension or stoppage of the Work by Owner.

11.2 Owner's Right to Perform and Terminate for Cause.

11.2.1 If Design-Builder persistently fails to (i) provide a sufficient number of skilled workers, (ii) supply the materials required by the Contract Documents, (iii) comply with applicable Legal Requirements, (iv) timely pay, without cause, Design Consultants or Subcontractors, (v) prosecute the Work with promptness and diligence to ensure that the Work is completed by the Contract Time(s), as such times may be adjusted, or (vi) perform material obligations under the Contract Documents, then Owner, in addition to any other rights and remedies provided in the Contract Documents or by law, shall have the rights set forth in Sections 11.2.2 and 11.2.3 below.

11.2.2 Upon the occurrence of an event set forth in Section 11.2.1 above, Owner may provide written notice to Design-Builder that it intends to terminate the Agreement unless the problem cited is cured, or commenced to be cured, within seven (7) days of Design-Builder's receipt of such notice. If, in the Owner's judgement, Design-Builder fails to cure, or reasonably commence to cure, such problem, then Owner may give a second written notice to Design-Builder of its intent to terminate within an additional seven (7) day period. If, in the Owner's judgement, Design-Builder, within such second seven (7) day period, fails to cure, or reasonably commence to cure, such problem, then Owner may declare the Agreement terminated for default by providing written notice to Design-Builder of such declaration.

11.2.3 Upon declaring the Agreement terminated pursuant to Section 11.2.2 above, Owner may enter upon the premises and take possession, for the purpose of completing the Work, of all materials, equipment, scaffolds, tools, appliances and other items thereon, which have been purchased or provided for the performance of the Work, all of which Design-Builder hereby transfers, assigns and sets over to Owner for such purpose, and to employ any person or persons to complete the Work and provide all of the required labor, services, materials, equipment and other items. In the event of such termination, Design-Builder shall not be entitled to receive any further payments under the Contract Documents until the Work shall be finally completed in accordance with the Contract Documents. If the Agreement establishes a Guaranteed Price, Design-Builder will only be entitled to be paid for Work performed prior to its default. If Owner's cost and expense of completing the Work exceeds the unpaid balance of the Contract Price, then Design-Builder shall be obligated to pay the difference to Owner. Such costs and expense shall include not only the cost of completing the Work, but also losses, damages, costs and expense, including attorneys' fees and expenses, incurred by Owner in connection with the procurement and defense of claims arising from Design-Builder's default, subject to the waiver of consequential damages set forth in Section 10.5 hereof.

11.2.4 If Owner improperly terminates the Agreement for cause, the termination for cause will be converted to a termination for convenience in accordance with the provisions of Article 9 of the Agreement. In such instance, the Owner and Design-Builder may mutually agree to amend the provisions of Article 9 of the agreement to reach a mutually agreeable resolution.

11.3 Design-Builder's Right to Stop Work.

11.3.1 Design-Builder may, in addition to any other rights afforded under the Contract Documents or at law, stop the Work for the following reasons:

11.3.1.1 Owner's failure to provide financial assurances as required under Section 3.3 hereof; or

11.3.1.2 Owner's failure to pay amounts properly due under Design-Builder's Application for Payment.

11.3.2 Should any of the events set forth in Section 11.3.1 above occur, Design-Builder has the right to provide Owner with written notice that Design-Builder will stop the Work unless said event is cured within fourteen (14) days from Owner's receipt of Design-Builder's notice. If Owner does not cure the problem within such fourteen (14) day period, Design-Builder may stop the Work. In such case, Design-Builder shall be entitled to make a claim for adjustment to the Contract Price and Contract Time(s) to the extent it has been adversely impacted by such stoppage.

11.4 Design-Builder's Right to Terminate for Cause.

11.4.1 Design-Builder, in addition to any other rights and remedies provided in the Contract Documents or by law, may terminate the Agreement for cause for the following reasons:

11.4.1.1 The Work has been stopped for ninety (90) consecutive days, or more than one hundred eighty (180) days during the duration of the Project, because of orders by Owner under Section 11.1.1 hereof, provided that such stoppages are not due to the acts or omissions of Design-Builder or anyone for whose acts Design-Builder may be responsible.

11.4.1.2 Owner's failure to provide Design-Builder with any information, permits or approvals that are Owner's responsibility under the Contract Documents which result in the Work being stopped for ninety (90) consecutive days, or more than one hundred eighty (180) days during the duration of the Project, even though Owner has not ordered Design-Builder in writing to stop and suspend the Work pursuant to Section 11.1.1 hereof.

11.4.1.3 Owner's failure to cure the problems set forth in Section 11.3.1 above after Design-Builder has stopped the Work.

11.4.2 Upon the occurrence of an event set forth in Section 11.4.1 above, Design-Builder may provide written notice to Owner that it intends to terminate the Agreement unless the problem cited is cured, or commenced to be cured, within seven (7) days of Owner's receipt of such notice. If Owner fails to cure, or reasonably commence to cure, such problem, then Design-Builder may give a second written notice to Owner of its intent to terminate within an additional seven (7) day period. If Owner, within such second seven (7) day period, fails to cure, or reasonably commence to cure, such problem, then Design-Builder may declare the Agreement terminated for default by providing written notice to Owner of such declaration. In such case, Design-Builder shall be entitled to recover in the same manner as if Owner had terminated the Agreement for its convenience under Article 9 of the Agreement.

11.5 Bankruptcy of Owner or Design-Builder.

11.5.1 If either Owner or Design-Builder institutes or has instituted against it a case under the United States Bankruptcy Code (such party being referred to as the "Bankrupt Party"), such event may impair or frustrate the Bankrupt Party's ability to perform its obligations under the Contract Documents. Accordingly, should such event occur:

11.5.1.1 The Bankrupt Party, its trustee or other successor, shall furnish, upon request of the non-Bankrupt Party, adequate assurance of the ability of the Bankrupt Party to perform all future material obligations under the Contract Documents, which assurances shall be provided within ten (10) days after receiving notice of the request; and

11.5.1.2 The Bankrupt Party shall file an appropriate action within the bankruptcy court to seek assumption or rejection of the Agreement within sixty (60) days of the institution of the bankruptcy filing and shall diligently prosecute such action.

If the Bankrupt Party fails to comply with its foregoing obligations, the non-Bankrupt Party shall be entitled to request the bankruptcy court to reject the Agreement, declare the Agreement terminated and pursue any other recourse available to the non-Bankrupt Party under this Article 11.

11.5.2 The rights and remedies under Section 11.5.1 above shall not be deemed to limit the ability of the non-Bankrupt Party to seek any other rights and remedies provided by the Contract Documents or by law, including its ability to seek relief from any automatic stays under the United States Bankruptcy Code or the right of Design-Builder to stop Work under any applicable provision of these General Conditions of Contract.

Article 12 – Electronic Data

12.1 Electronic Data.

12.1.1 The parties recognize that Contract Documents, including drawings, specifications, three-dimensional modeling, and other Work may be transmitted among Owner, Design-Builder and others in electronic media as an alternative to paper hard copies (collectively “Electronic Data”).

12.2 Transmission of Electronic Data.

12.2.1 Owner and Design-Builder shall agree upon the software and the format for the transmission of Electronic Data. Each party shall be responsible for securing the legal rights to access the agreed-upon format, including, if necessary, obtaining appropriately licensed copies of the applicable software or electronic program to display, interpret and/or generate the Electronic Data.

12.2.2 Neither party makes any representations or warranties to the other with respect to the functionality of the software or computer program associated with the electronic transmission of Work. Unless specifically set forth in the Agreement, ownership of the Electronic Data does not include ownership of the software or computer program with which it is associated, transmitted, generated or interpreted.

12.2.3 By transmitting Work in electronic form, the transmitting party does not transfer or assign its rights in the Work. The rights in the Electronic Data shall be as set forth in Article 5 of the Agreement. Under no circumstances shall the transfer of ownership of Electronic Data be deemed to be a sale by the transmitting party of tangible goods.

12.3 Electronic Data Protocol.

12.3.1 The parties acknowledge that Electronic Data may be altered or corrupted, intentionally or otherwise, due to occurrences beyond their reasonable control or knowledge, including but not limited to compatibility issues with user software, manipulation by the recipient, errors in transcription or transmission, machine error, environmental factors, and operator error. Consequently, the parties understand that there is some level of increased risk in the use of Electronic Data for the communication of design and construction information and, in consideration of this, agree, and shall require their independent contractors, Subcontractors and Design Consultants to agree, to the following protocols, terms and conditions set forth in this Section 12.3.

12.3.2 Electronic Data will be transmitted in the format agreed upon in accordance with Section 12.2.1 above, including file conventions and document properties, unless prior arrangements are made in advance in writing.

12.3.3 The Electronic Data represents the information at a particular point in time and is subject to change. Therefore, the parties shall agree upon protocols for notification by the author to the recipient of any changes which may thereafter be made to the Electronic Data, which protocol shall also address the duty, if any, to update such information, data or other information contained in the electronic media if such information changes prior to Final Completion of the Project.

12.3.4 The transmitting party specifically disclaims all warranties, expressed or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose, with respect to the media transmitting the Electronic Data. However, transmission of the Electronic Data via electronic means shall not invalidate or negate any duties pursuant to the applicable standard of care with respect to the creation of the Electronic Data, unless such data is materially changed or altered after it is transmitted to the receiving party, and the transmitting party did not participate in such change or alteration.

Article 13 -- Miscellaneous

13.1 Confidential Information.

13.1.1 Confidential Information is defined as information which is determined by the transmitting party to be of a confidential or proprietary nature and: (i) the transmitting party identifies as either confidential or proprietary; (ii) the transmitting party takes steps to maintain the confidential or proprietary nature of the information; and (iii) the document is not otherwise available in or considered to be in the public domain. The receiving party agrees to maintain the confidentiality of the Confidential Information and agrees to use the Confidential Information solely in connection with the Project.

13.2 Assignment.

13.2.1 Neither Design-Builder nor Owner shall, without the written consent of the other assign, transfer or sublet any portion or part of the Work or the obligations required by the Contract Documents.

13.3 Successorship.

13.3.1 Design-Builder and Owner intend that the provisions of the Contract Documents are binding upon the parties, their employees, agents, heirs, successors and assigns.

13.4 Governing Law.

13.4.1 The Agreement and all Contract Documents shall be governed by applicable Federal law and by applicable laws of the state of Minnesota.

13.5 Severability.

13.5.1 If any provision or any part of a provision of the Contract Documents shall be finally determined to be superseded, invalid, illegal, or otherwise unenforceable pursuant to any applicable Legal Requirements, such determination shall not impair or otherwise affect the validity, legality, or enforceability of the remaining provision or parts of the provision of the Contract Documents, which shall remain in full force and effect as if the unenforceable provision or part were deleted.

13.6 No Waiver.

13.6.1 The failure of either Design-Builder or Owner to insist, in any one or more instances, on the performance of any of the obligations required by the other under the Contract Documents shall not be construed as a waiver or relinquishment of such obligation or right with respect to future performance.

13.7 Headings.

13.7.1 The headings used in these General Conditions of Contract, or any other Contract Document, are for ease of reference only and shall not in any way be construed to limit or alter the meaning of any provision.

13.8 Notice.

13.8.1 Whenever the Contract Documents require that notice be provided to the other party, notice will be deemed to have been validly given (i) if delivered in person to the individual intended to receive such notice, (ii) four (4) days after being sent by registered or certified mail, postage prepaid to the address indicated in the Agreement, or (iii) if transmitted via email to the proper receiving party and subsequently confirmed as received by the receiving party. Any notice provided via email shall be considered valid only when the receiving party has confirmed the receipt of the notice via return email. If no return email confirmation is provided, the transmitting party shall communicate with the receiving party to determine if the transmittal was unsuccessful. Upon confirmation of the receipt, the notice shall be considered to have been validly given at the time that the email was sent.

13.9 Amendments.

13.9.1 The Contract Documents may not be changed, altered, or amended in any way except in writing signed by a duly authorized representative of each party.

Progressive Design-Build Agreement

McCarron's Water Treatment Process
Improvements
St. Paul, MN 2020

*This Progressive Design-Build Agreement has been developed in conjunction with
and endorsed by the Water Design-Build Council.*



WATER DESIGN-BUILD COUNCIL
AN ASSOCIATION OF LEADING DESIGN BUILDERS

Document No. 545

First Edition, 2016 with Project-Specific Edits

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Washington, D.C.





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Progressive Design-Build Agreement for Water and Wastewater Projects

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

This **AGREEMENT** is made as of the 13th day of January in the year of 2021 by and between the following parties, for services in connection with the Project identified below:

OWNER:

Board of Water Commissioners
(doing business as Saint Paul Regional Water Services)
1900 Rice Street,
Saint Paul, MN, 55113

DESIGN-BUILDER:

CH2M Hill Engineers Inc.
1295 Northland Dr. #200
Mendota Heights, MN 55120

PROJECT:

Project Name: McCarron's Treatment Process Improvements
(Also referred to as McCarron's Treatment Plant Improvements)
Project Location: 1900 Rice Street, Saint Paul, MN 55106

In consideration of the mutual covenants and obligations contained herein, Owner and Design-Builder agree as set forth herein.

Article 1 – General

1.1 Basis of the Document.

1.1.1 This Agreement is based upon standard DBIA (Design Build Institute of America) contract documents. While DBIA's standard contract document has been used as the basis for compiling the contents of this Agreement, all parties are advised that modifications to the standard contract document have been made. As such, all parties are advised to carefully review the specific text of this Agreement in recognition of the fact that it is not an exact match with DBIA's standard forms.

1.2 Duty to Cooperate.

1.1.2 Owner and Design-Builder commit at all times to cooperate fully with each other, and proceed on the basis of trust and good faith to permit each party to realize the benefits afforded under this Agreement.

1.3 Definitions.

1.1.3 Terms, words and phrases used in this Agreement shall have the meanings given them in the General Conditions of Contract.

1.4 Design Services.

1.1.4 Design-Builder shall, consistent with applicable state licensing laws, provide design services, including architectural, engineering, and other design professional services required by this Agreement. Such design services shall be provided through qualified, licensed design professionals who are either (i) employed by Design-Builder, or (ii) procured by Design-Builder from independent sources. Nothing in this Agreement is intended to create any legal or contractual relationship between Owner and any independent design professional.

Article 2 – Design-Builder's Services and Responsibilities

2.1 General Services.

2.1.1 During the Project Procurement Activities, Owner shall provide Design-Builder with draft Owner's Project Criteria describing Owner's program requirements and objectives for the Project as set forth in Exhibit A. Owner's Project Criteria shall include Owner's use, space, price, time, site, performance, and expandability requirements. Owner's Project Criteria may include conceptual documents, design specifications, design performance specifications, and other technical materials and requirements prepared by or for Owner.

2.1.2 During Phase 1, Design-Builder will assist Owner in fully developing Owner's Project Criteria. The work involved in progressing from draft Owner's Project Criteria to final Owner's Project Criteria shall be compensated as part of the Design-Builder's Phase 1 services.

2.2 Phased Services.

2.2.1 Phase 1 Services (Design and Preconstruction) - Design-Builder shall perform the services of design, pricing, piloting, site inspection, and other services for the Project based on Owner's Project Criteria, as may be revised in accordance with Section 2.1 hereof, as set forth in Exhibit B, Scope of Services. Design-Builder shall perform such services to the level of completion required for Design-Builder and Owner to establish the Contract Price Amendment for Phase 2, as set forth in Section 2.3 below. Design work following the establishment of the Contract Price Amendment shall also be considered Phase 1 work. Further, if the Design-Builder's Guaranteed Price Proposal is rejected in accordance with Section 2.3.2.4 (iii) below, any design work required to complete the design shall be considered Phase 1 work. The Contract Price Amendment for Phase 2 shall be developed during Phase 1 on an "open-book" basis. Design-Builder's compensation for Phase 1 services is set forth in Article 7 herein.

2.2.2 Phase 2 (Construction) Services - Design-Builder's Phase 2 services shall consist of the procurement of all materials and equipment for the Project; the performance of construction services for the Project; the start-up, testing, commissioning, and acceptance of the Project; training of Owner's staff; the provision of warranty services; and all other such work as described in the Contract Price Amendment.

2.3 Guaranteed Price Proposal.

2.3.1 At the time specified in Section 7.2.1, Design-Builder shall submit a proposal to Owner (the "Guaranteed Price Proposal") for the construction of the Project for a Guaranteed Price (GP). Owner shall have the sole authority to determine whether to proceed with converting the Guaranteed Price into a Lump Sum or a Guaranteed Maximum Price implementation. The Guaranteed Price Proposal shall include the following unless the parties mutually agree otherwise:

2.3.1.1 The estimated Cost of the Work, inclusive of any Design-Builder's Contingency and all other costs defined in Article 7 hereof. The Cost of Work estimate shall be consistent with the format and detail of the Owner-Approved Cost Model.

2.3.1.2 Details associated with Guaranteed Maximum Price implementation of the contract. Such details should include the Shared Savings Provision, the Design-Builder's Fee, descriptions of how costs will be tracked and reported to Owner, descriptions of which costs will be subject to the Design Builder's Fee, and other such details as necessary for Guaranteed Maximum Price implementation of the Guaranteed Price.

2.3.1.3 Details associated with Lump Sum implementation of the contract. Such details should include a Lump Sum discount (if applicable), a listing of project milestones, details regarding how invoicing for Work will correspond to those project milestones, and other such details as necessary for Lump Sum implementation of the Guaranteed Price.

2.3.1.4 The final Owner's Project Criteria and the Construction Documents which serve as the basis for the Guaranteed Price Proposal.

2.3.1.5 A list of the assumptions and clarifications made by Design-Builder in the preparation of the Guaranteed Price Proposal, which list is intended to supplement the information contained in the drawings and specifications

2.3.1.6 A list of all Construction Documents used as a basis for the Guaranteed Price Proposal.

2.3.1.7 The scheduled Substantial Completion date upon which the Guaranteed Price Proposal is based, to the extent said date has not already been established under Section 6.2.1 hereof, and a schedule upon which the Scheduled Substantial Completion date is based.

2.3.1.8 A preliminary schedule and schedule of values for the execution of the construction work. The schedule shall indicate the dates for the start and completion of the various stages of Construction Work, including the dates when Owner information and approvals are required to enable Design-Builder to achieve the Contract Time(s). The schedule shall be revised monthly or as required by conditions and progress of the Construction Work, but such revisions shall not relieve Design-Builder of its obligations to complete the Construction Work within the Contract Time(s), as such dates may be adjusted in accordance with the Contract Documents. Owner's review of, and response to, the schedule shall not be construed as relieving Design-Builder of its complete and exclusive control over the means, methods, sequences and techniques for executing the Work.

2.3.1.9 If applicable, a list of Allowance Items, Allowance Values, and a statement of their basis;

2.3.1.10 If applicable, a schedule of alternate prices;

2.3.1.11 If applicable, a schedule of unit prices;

2.3.1.12 If applicable, a statement of additional services which may be performed but which are not included in the Guaranteed Price Proposal, and which, if performed, shall be the basis for an increase in the Contract Price and/or Contract Time(s);

2.3.1.13 If applicable, Performance Incentives;

2.3.1.14 The time limit (of no less than 60 days) for acceptance of the Guaranteed Price Proposal;

2.3.1.15 An Owner's Permit List, a list detailing the permits and governmental approvals that Owner will bear responsibility to obtain; and

2.3.1.16 Any applicable dates for Substantial Completion upon which the proposed Guaranteed Price is based.

2.3.2 Review and Adjustment to Guaranteed Price Proposal.

2.3.2.1 After submission of the Guaranteed Price Proposal, Design-Builder and Owner shall meet to discuss and review the Guaranteed Price Proposal. If Owner has any comments regarding the Guaranteed Price Proposal or finds any inconsistencies or inaccuracies in the information presented, it shall give written notice to Design-Builder of such comments or findings. If appropriate, Design-Builder shall, upon receipt of Owner's notice, make appropriate adjustments to the Guaranteed Price Proposal.

2.3.2.2 Acceptance of Guaranteed Price Proposal - If Owner accepts the Guaranteed Price Proposal, as may be amended in accordance with Section 2.3.2.1, the Contract Price and its basis shall be set forth in an amendment to this Agreement, when mutually agreed between the parties (the "Contract Price Amendment"). Once the parties have agreed upon the Contract Price and Owner has issued a Notice to Proceed with Phase 2, Design-Builder shall perform the Phase 2 services, all as further described in the Contract Price Amendment.

2.3.2.3 Failure to Accept the Guaranteed Price Proposal - If Owner rejects the Guaranteed Price (GP) Proposal, or fails to notify Design-Builder in writing on or before the date specified in the GP Proposal that it accepts the GP Proposal, the GP Proposal shall be deemed withdrawn and of no effect. In such event, Owner and Design-Builder shall meet and confer as to how the Project will proceed, with Owner having the following options:

- i. Owner may suggest modifications to the GP Proposal, whereupon, if such modifications are accepted in writing by Design-Builder, the GP Proposal shall be deemed accepted and the parties shall proceed in accordance with Section 2.3.2.3 above;
- ii. Owner may determine that the design is not yet sufficiently complete for acceptance or rejection of the GP Proposal. As such, Owner may direct Design-Builder to continue to proceed with the Phase 1 work and further advance the design before submitting a revised GP Proposal.
- iii. Owner may determine that it does not intend to proceed with Phase 2 services with the Design-Builder. In such a case, the Owner may authorize the Design-Builder to proceed until the completion of Phase 1 work, at which time, Owner may elect to publicly bid the Phase 2 work.

Contract Note: This is considered the “Off-Ramp” scenario.

- iv. Owner may terminate this Agreement for convenience in accordance with Article 9 hereof; provided, however, in this event, Design-Builder shall not be entitled to the payment provided for in Section 9.2 hereof.

If Owner fails to exercise any of the above options, Design-Builder shall have the right to (a) continue with the Work as if Owner had elected to proceed in accordance with Item 2.3.2.3 ii. above, and be paid by Owner accordingly, unless and until Owner notifies it in writing to stop the Work, (b) suspend performance of Work in accordance with Section 11.3 of the General Conditions of Contract, provided, however, that in such event Design-Builder shall not be entitled to the payment provided for in Section 9.2 hereof, or (c) may give written notice to Owner that it considers this Agreement completed. If Owner fails to exercise any of the options under Section 2.3.2.3 within thirty (30) days of receipt of Design-Builder’s notice, then this Agreement shall be deemed completed. If Owner terminates the relationship with Design-Builder under Section 2.3.2.3(iv), or if this Agreement is deemed completed under this paragraph, then Design-Builder shall have no further liability or obligations to Owner under this Agreement.

Article 3 – Contract Documents

3.1 The Contract Documents are comprised of the following:

3.1.1 All written modifications, amendments, minor changes, and Change Orders to this Agreement issued in accordance with DBIA Document No. 535, *Standard Form of General Conditions of Contract Agreement Between Owner and Design-Builder* (“General Conditions of Contract”);

3.1.2 The Contract Price Amendment referenced in Section 2.3.2.3 herein, including the Guaranteed Price Proposal accepted by Owner in accordance with Section 2.3 herein and all attachments to such documents.

3.1.3 This Agreement, including all exhibits but excluding, if applicable, the Contract Price Amendment;

3.1.4 The General Conditions of Contract;

3.1.5 Construction Documents prepared and approved in accordance with Section 2.3 of the General Conditions of Contract; and

Article 4 – Interpretation and Intent

4.1 Design-Builder and Owner, at the time of acceptance of the Guaranteed Price Proposal by Owner in accordance with Section 2.3 hereof, shall carefully review all the Contract Documents for any conflicts or ambiguities. Design-Builder and Owner will discuss and resolve any identified conflicts or ambiguities prior to execution of the Agreement, or if applicable, prior to Owner’s acceptance of the Guaranteed Price Proposal.

4.2 The Contract Documents are intended to permit the parties to complete the Work and all obligations required by the Contract Documents within the Contract Time(s) for the Contract Price. The Contract Documents are intended to be complementary and interpreted in harmony so as to avoid conflict, with words and phrases interpreted in a manner consistent with construction and design industry standards. In the event inconsistencies, conflicts, or ambiguities between or among the Contract Documents are discovered after Owner’s acceptance of the Guaranteed Price Proposal, Design-Builder and Owner shall attempt to resolve any ambiguity, conflict, or inconsistency informally, recognizing that the Contract Documents shall take precedence in the order in which they are listed in Section 3.1 hereof.

4.3 Terms, words, and phrases used in the Contract Documents, including this Agreement, shall have the meanings given them in the General Conditions of Contract unless otherwise defined herein.

4.4 If Owner’s Project Criteria contain design specifications: (a) Design-Builder is entitled to reasonably rely on the accuracy of the information represented in the design specifications (unless otherwise noted in the Owner’s Project Criteria) and their compatibility with other information set forth in Owner’s Project Criteria, including any design performance specifications; and (b) Design-Builder shall be entitled to an adjustment in its Contract Price and/or Contract Time(s) to the extent Design-Builder’s cost and/or time of performance have been adversely impacted by such inaccurate design specification.

4.5 The Contract Documents form the entire agreement between Owner and Design-Builder and by incorporation herein are as fully binding on the parties as if repeated herein. No oral representations or other agreements have been made by the parties except as specifically stated in the Contract Documents.

Article 5 – Ownership of Work Product

5.1 Work Product. All drawings, specifications and other documents and electronic data, including such documents identified in the General Conditions of Contract, furnished by Design-Builder to Owner under this Agreement (“Work Product”) are deemed to be instruments of service and Design-Builder shall retain the ownership and property interests therein, including but not limited to any intellectual property rights, copyrights, and/or patents, subject to the provisions set forth in Sections 5.2 through 5.5 below.

5.2 Owner’s Limited License upon Project Completion and Payment in Full to Design-Builder. Upon Owner’s payment in full for all Work performed under the Contract Documents, Design-Builder shall grant Owner a limited license to use the Work Product in connection with Owner’s occupancy of the Project, conditioned on Owner’s express understanding that any reuse beyond the intended purpose of said Work Product and/or its alteration of the Work Product without the involvement of Design-Builder is at Owner’s sole risk and without liability or legal exposure to Design-Builder or anyone working by or through Design-Builder, including Design Consultants of any tier.

5.3 Owner’s Limited License upon Owner’s Termination for Convenience or Design-Builder’s Election to Terminate. If Owner terminates this Agreement for its convenience as set forth in Article 9 hereof, or if Design-Builder elects to terminate this Agreement in accordance with Section 11.4 of the General Conditions of Contract, Design-Builder shall, upon Owner’s payment in full of the amounts due Design-Builder under the Contract Documents, grant Owner a limited license to use the Work Product to complete the Project and subsequently occupy the Project, and Owner shall thereafter have the same rights as set forth in Section 5.2 above, conditioned on the following:

5.3.1 Termination Via “Off-Ramp” Scenario. The Owner’s decision to reject the Guaranteed Price Proposal and proceed as set forth in Section 2.3.2.3 (iii) shall not be considered Termination for Convenience. Under such circumstances, the Design-Builder shall complete a bid-ready design of the facility suitable for construction. In such instance, the Design-Builder shall be subject to the Standard of Care for all design professional services performed to execute the Work. Standard of Care shall be the care and skill ordinarily used by members of the design profession practicing under similar conditions at the same time and locality of the Project.

5.3.2 The Design-Builder shall be subject to the Standard of Care for all design professional services performed to execute the Work. Standard of Care shall be the care and skill ordinarily used by members of the design profession practicing under similar conditions at the same time and locality of the Project.

5.4 Owner’s Limited License upon Design-Builder’s Default. If this Agreement is terminated due to Design-Builder’s default pursuant to Section 11.2 of the General Conditions of Contract, then Design-Builder grants Owner a limited license to use the Work Product to complete the Project and subsequently occupy the Project, and Owner shall thereafter have the same rights and obligations as set forth in Section 5.2 above.

5.5 Owner’s Use of Work Product Following Early Termination. Owner recognizes that in the event of an early termination of the Work, whether for convenience or for cause, Design-Builder will not have the opportunity to finish or to finalize its Work Product.

5.5.1 Owner’s Use of Completed Work Product Following Early Termination. Any Work Product which has been completed and accepted by the Owner prior to the termination of the Work shall be subject to the Standard of Care for all design professional services performed to execute the Work. Standard of Care shall be the care and skill ordinarily used by members of the design profession practicing under similar conditions at the same time and locality of the Project.

5.5.2 Owner's Use of Uncompleted Work Product Following Early Termination. The Design-Builder shall not responsible for meeting Standard of Care for any Work Product which has not been fully completed and accepted by the Owner prior to the termination of the Work. Owner acknowledges that the Owner will bear any and all risks associated with the use of any uncompleted Work Product.

5.6 Owner's Modification of Work Product. The Design-Builder shall not be responsible for any impacts which directly result from the Owner's modification of the Work Product.

Article 6 – Contract Time

6.1 Date of Commencement.

6.1.1 The Phase 1 services shall commence within five (5) days of Design-Builder's receipt of Owner's Notice to Proceed unless the parties mutually agree otherwise in writing.

6.2 Substantial Completion and Final Completion.

6.2.1 Substantial Completion of the entire Work shall be achieved no later than _____ (_____) calendar days after the Date of Commencement ("Scheduled Substantial Completion Date").

Contract Note: The date required in this section will be determined and formalized upon acceptance of the Guaranteed Price Proposal. As such, this field is expected to remain blank until the Contract Price Amendment is approved.

Contract Note (2): The definition of Substantial Completion will be further refined during the Design Phase of the project, and the revised definition will be included in the Contract Price Amendment.

6.2.2 Interim milestones and/or Substantial Completion of identified portions of the Work shall be achieved as follows:

Completion of 30% Design

Completion of 60% Design

Submittal of Guaranteed Price Proposal

Contract Notes: Owner and Design-Builder will set interim milestone dates for the items above during contract negotiations. Additional interim milestones may be set at the time of the Contract Price Amendment

6.2.3 Final Completion of the Work or identified portions of the Work shall be achieved as expeditiously as reasonably practicable. Final Completion is the date when all Work is complete pursuant to the definition of Final Completion set forth in the General Conditions of Contract.

6.2.4 All of the dates set forth in this Article 6 ("Contract Time(s)") shall be subject to adjustment in accordance with the General Conditions of Contract.

6.3 Time is of the Essence.

6.3.1 Owner and Design-Builder mutually agree that time is of the essence with respect to the dates and times set forth in the Contract Documents.

6.4 Liquidated Damages

6.4.1 Liquidated Damages for Substantial Completion. Design-Builder understands that if Substantial Completion of Construction Work is not attained by the Scheduled Substantial Completion Date, Owner will suffer damages which are difficult to determine and accurately specify. Design-Builder agrees that if Substantial Completion is not attained by _____ (_____) days after the Scheduled Substantial Completion Date (the "LD Date"), Design-Builder shall pay Owner four thousand five hundred Dollars (\$4,500) as liquidated damages for each day that Substantial Completion extends beyond the LD Date.

Contract Note: Liquidated Damages will be negotiated at the time of the Contract Price Amendment

6.4.2 Liquidated Damages for Final Completion. Design-Builder understands that if Final Completion is not achieved within _____ days of Substantial Completion Date, Owner will suffer damages which are difficult to determine and accurately specify. Design-Builder agrees that if Final Completion is not achieved within _____ (_____) days of Substantial Completion, Design-Builder shall pay to Owner two thousand Dollars (\$2,000), as liquidated damages for each calendar day that Final Completion is delayed beyond the above-referenced number of days.

Contract Note: Liquidated Damages will be negotiated at the time of the Contract Price Amendment

6.4.3 Any liquidated damages assessed pursuant to this Agreement shall be in lieu of all liability for any and all extra costs, losses, expenses, claims, penalties, and any other damages, whether special or consequential, and of whatsoever nature, incurred by Owner which are occasioned by any delay in achieving Substantial Completion or Final Completion.

6.4.4 Owner and Design-Builder agree that the maximum aggregate liability Design-Builder has for any liquidated damages that may be assessed under this Agreement shall be five hundred thousand Dollars (\$500,000).

Article 7 – Contract Price

7.1 Phase 1 Price

7.1.1 Maximum Price. Owner shall pay Design-Builder in accordance with Article 6 of the General Conditions of Contract an amount not to exceed Thirteen Million Six Hundred Sixty-Six Thousand Four Hundred Twenty-Seven Dollars (\$13,666,427.00) for the Phase 1 Services, subject to adjustments made in accordance with the General Conditions of Contract. Unless otherwise provided in the Contract Documents, the Phase 1 Services compensation is deemed to include all sales, use, consumer and other taxes mandated by applicable Legal Requirements.

7.1.2 Basis of Compensation. Design-Builder's compensation for Phase 1 work will be provided on the basis of actual hours of work performed and hourly rates agreed upon by Owner and Design-Builder.

7.1.3 Phase 1 Schedule of Values. Prior to the first Application for Payment for Phase 1 Work, the Design-Builder shall submit a schedule of values to the Owner which allocates the entire Phase 1 Contract Price to the various portions of the Phase 1 work. This schedule of values shall be used as a basis for providing authorization to proceed for various portions of the Phase 1 Work and for subsequently reviewing applications for payment for such work. The Owner's payments to the Design-Builder shall not surpass the values set in the schedule of values.

7.2 Guaranteed Price

7.2.1 Timing of Guaranteed Price. During Phase 1 work, the Design-Builder shall provide the Owner with regular updates to the cost estimate. When design has been advanced to a degree that the Owner deems sufficient, the Owner will direct the Design-Builder to develop a Guaranteed Price Proposal in accordance with Section 2.3. Upon acceptance of the Guaranteed Price Proposal, the price proposed therein shall be considered the Guaranteed Price for the Work.

7.2.2 Basis of Guaranteed Price. As required by the Contract Documents, the Design-Builder shall supply the Owner with regular Cost of Work estimates throughout Phase 1 which are developed in an open-book, transparent manner. All assumptions, accounting measures, and estimates which support Guaranteed Price development shall be available for Owner's review. The Guaranteed Price shall be based upon the estimated Cost of Work, the Design-Builder's proposed fees, pass-through costs, and any contingency values.

7.2.3 Implementation of Guaranteed Price. The Guaranteed Price for the Project may be implemented as either a Guaranteed Maximum Price or a Lump Sum at the sole discretion of the Owner. In the event that the Guaranteed Price is implemented as a Guaranteed Maximum Price, the requirements of Section 7.3 will govern payment for the Work. In the event that the Guaranteed price is implemented as a Lump Sum, the requirements of Section 7.4 will govern payment for the Work. The Owner and Design-Builder hereby agree that the Guaranteed Price will be implemented via the following (select the appropriate option):

_____ Guaranteed Maximum Price

_____ Lump Sum

Contract Note: This decision will be made at the time of the Contract Price Amendment

7.2.4 Guaranteed Price Assurance. Design-Builder guarantees that it shall not exceed the Guaranteed Price (GP) of _____ dollars (\$_____). Documents used as basis for the GP shall be identified in the Contract Price Amendment to this Agreement. Design-Builder does not guarantee any specific line item provided as part of the GP. Design-Builder agrees that it will be responsible for paying the applicable general conditions costs in excess of the General Conditions Cap, as well as be responsible for all costs of completing the Work which exceed the GP, as said general conditions line item and the GMP may be adjusted in accordance with the Contract Documents.

Contract Note: This section will be completed at the time of the Contract Price Amendment.

7.2.5 Guaranteed Price Scope Contingency. The Guaranteed Price includes a Contingency in the amount of _____ dollars (\$_____) which is available to the Design-Builder upon approval by the Owner for unanticipated costs it has incurred that are not the basis for a Change Order under the Contract Documents. Contingency shall be developed as part on the Guaranteed Price based on identified risks opportunities related specific Work scope that cannot be accurately estimated at the time of Guaranteed Price development. By way of example, and not as a limitation, such costs may include: (a) trade buy-out differentials; (b) overtime or acceleration; (c) escalation of materials; (d) correction of defective, damaged or nonconforming Work, design errors or omissions, however caused; (e) Subcontractor defaults; or (f) those events under Section 8.2.2 of the General Conditions of Contract that result in an extension of the Contract Time but do not result in an increase in the Contract Price.

7.2.5.1 Cap on Rework Contingency. Notwithstanding the above, the Design-Builder guarantees that the contingency for the correction of defective, damaged, or nonconforming work; design errors; and omissions shall not exceed _____ dollars (\$_____).

Contract Note: These values will be determined at the time of the Contract Price Amendment.

7.3 Guaranteed Maximum Price (GMP) implementation of the Guaranteed Price.

7.3.1 Design Builder's Fee. If the Owner elects to implement a Guaranteed Maximum Price the following fees shall be applied to Costs of Work:

Design-Builder's Fee on Self-Performed Work:	9.5 %
Design-Builder's Fee on Subcontracted Work:	5 %

At the time of the Contract Price Amendment, a maximum Design-Builder's Fee will be established based upon the estimated Cost of Work, the Design-Builder's Fees specified above, and the anticipated work allocation between the Design-Builder and subcontractors.

Payment of the Design-Builder's fee will be made based upon the actual Cost of Work associated with the project.

The Design-Builder's fee will be applied only to the Costs of Work as described in Section 7.5.

7.3.2 Change Orders and Design Builder's Fee.

7.3.2.1 Additive Change Orders. Additive Change Orders which increase the Cost of Work for the project shall be subject to the applicable Design-Builder's fee as specified in Section 7.3.1.

7.3.2.2 Deductive Change Orders. The Design-Builder's fee shall apply only to Work actually performed on the Project. As such, any deductive change order which results in a reduction to the Cost of Work shall result in a reduction to the total Design-Builder's fee for the Work.

7.3.3 Shared Savings Provision. If the sum of the actual Cost of the Work and Design-Builder's Fee is less than the GMP, as such GMP may have been adjusted over the course of the Project, the difference ("Savings") shall be shared as follows:

Percentage Allocation to Design-Builder:	25%
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<u>Percentage Allocation to Owner:</u>	<u>75%</u>
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Total Percentage of Savings Shared:	100%
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7.3.3.1 Savings shall be calculated and paid as part of final payment under Section 8.4 hereof, with the understanding that to the extent Design-Builder incurs costs after Final Completion which would have been payable to Design-Builder as a Cost of the Work, the parties shall recalculate the Savings in light of the costs so incurred, and Design-Builder shall be paid by Owner accordingly.

7.3.4 Schedule of Values. Prior to the first Application for Payment, the Design-Builder shall submit a schedule of values to the Owner which allocates the entire Guaranteed Maximum Price to the various portions of the work. This schedule of values shall be used as a basis for reviewing applications for payment. The Owner's payments to the Design-Builder shall not surpass the values set in the schedule of values.

Contract Note: If the Design-Builder is running over budget (for example, has spent 60% of the Cost of Work at only 40% completion), the Owner will only pay the Design-Builder for the portion of the work that has been completed.

7.3.5 Ongoing Monitoring. If the Guaranteed Price is implemented as a Guaranteed Maximum Price, the Design-Builder shall maintain open books for the Owner's review of all project costs throughout the construction process.

7.4 Lump Sum (LS) implementation of the Guaranteed Price.

7.4.1 If Owner elects to implement a Lump Sum approach to the Guaranteed Price, the Owner shall pay Design-Builder in accordance with Article 6 of the General Conditions of Contract the sum of _____ Dollars (\$) ("Contract Price") for the Work for Phase 2 Services, subject to adjustments made in accordance with the General Conditions of Contract. Unless otherwise provided in the Contract Documents, the Contract Price is deemed to include all sales, use, consumer and other taxes mandated by applicable Legal Requirements.

Contract Note: This Section 7.2 to be completed and binding only in the event that a Lump Sum delivery of the project is chosen by the Owner at the time of the Contract Price Amendment.

7.4.2 Design-Builder's Fee. If the Owner elects to implement a Lump Sum delivery, the Design-Builder's Fee shall equal \$_____. The Design-Builder's Fee is fixed and shall only be modified in accordance with the procedures for Change Orders specified below.

7.4.2.1 Development of Lump Sum Fees. For purposes of developing the Lump Sum price, the Design-Builder shall use the Lump Sum fees submitted with at the time of the proposal. Design-Builder markups in the Lump Sum price development shall equal:

Fee for Self-Performed Scope: 8.9%

Fee for Subcontracted Scope: 5%

7.4.3 Change Orders and Guaranteed Price.

7.4.3.1 Additive Change Orders. Additive Change Orders which increase the Cost of Work for the project shall result in increases to the Lump Sum value of the Guaranteed Price. Additive Change Orders shall be compensated in the same manner described by Section 7.3.2.

7.4.3.2 Deductive Change Orders. For deductive Change Orders, which decrease the Cost of Work, the Guaranteed Price shall be correspondingly reduced. The reduction in the Guaranteed Price shall be the equivalent to the total reduction in the Cost of Work and the reduction in the corresponding Design Builder's Fee.

7.4.4 Design-Builder's Obligations Related to Funding Requirements. As described herein, the Design-Builder's compensation for the Project shall not be dependent on open-book, verified Project costs if the Owner elects to implement a Lump Sum delivery.

7.5 Cost of the Work.

7.5.1 Cost Model and Design Builder's Fee. The Owner has provided the Design-Builder with a cost model for the Work. This Cost Model, provided as Exhibit J to the Agreement, defines the Cost of Work for the Project and clearly outlines which work is subject to the Design-Builder's Fee and which work is not subject to the Design-Builder's Fee. During Phase 1, the Owner and Design-Builder shall modify the Cost Model, as required, to suit project plans.

The Design-Builder's Fee shall be applied only to those portions of work which are designated as Costs of Work in the Cost Model.

Contract Note: The definition of Cost of Work will be further refined during the Design Phase. An update definition will be included in the Contract Price Amendment.

7.6 Allowance Items and Allowance Values.

7.6.1 Any and all Allowance Items, as well as their corresponding Allowance Values, are set forth in the Contract Price Amendment or the Guaranteed Price Proposal.

7.6.2 Design-Builder and Owner have worked together to review the Allowance Items and Allowance Values based on design information then available to determine that the Allowance Values constitute reasonable estimates for the Allowance Items. Design-Builder and Owner will continue working closely together during the preparation of the design to develop Construction Documents consistent with the Allowance Values. Nothing herein is intended in any way to constitute a guarantee by Design-Builder that the Allowance Item in question can be performed for the Allowance Value.

7.6.3 No work shall be performed on any Allowance Item without Design-Builder first obtaining in writing advanced authorization to proceed from Owner. Owner agrees that if Design-Builder is not provided written authorization to proceed by the date set forth in the Project schedule, due to no fault of Design-Builder, Design-Builder may be entitled to an adjustment of the Contract Time(s) and Contract Price.

7.6.4 The Allowance Value includes the direct cost of labor, materials, equipment, transportation, taxes, and insurance associated with the applicable Allowance Item. All other costs, including design fees, Design-Builder's overall project management and general conditions costs, overhead and Fee, are deemed to be included in the original Contract Price, and are not subject to adjustment notwithstanding the actual amount of the Allowance Item.

7.6.5 Whenever the actual costs for an Allowance Item is more than or less than the stated Allowance Value, the Contract Price shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect the difference between actual costs incurred by Design-Builder for the particular Allowance Item and the Allowance Value and shall include the appropriate markup fee as defined in Section 7.3.1. The Design-Builder shall be responsible for informing the Owner of any potential exceedances of Allowance Values prior to incurring such expenses, and Owner approval of such additional expenses shall be required prior to performing the work.

7.7 Performance Incentives.

7.7.1 Owner and Design-Builder have agreed to the Performance Incentive arrangements set forth in Exhibit M.

Contract Note: Owner and Design-Builder will collaborate during Phase 1 of the project to determine if Performance Incentives are appropriate for project needs and, if so, to specify relevant criteria.

Article 8 – Procedure for Payment

8.1 Payment for Phase 1 Services.

8.1.1 Design-Builder and Owner agree upon the following method for partial and final payment to Design-Builder for the services hereunder:

Monthly invoices based upon actual time and staff rates, plus costs of site exploration, piloting equipment, etc. consistent with Section 7.1.

8.2 Contract Price Payments.

8.2.1 Design-Builder shall submit to Owner on the first (1st) day of each month, beginning with the first month after the Date of Commencement (as defined in Article 6), Design-Builder's Application for Payment in accordance with Article 6 of the General Conditions of Contract.

8.2.2 Owner shall make payment within thirty five (35) days after Owner's receipt of each properly submitted and accurate Application for Payment in accordance with Article 6 of the General Conditions of Contract, but in each case less the total of payments previously made, and less amounts properly withheld under Section 6.4 of the General Conditions of Contract.

8.2.3 If Design-Builder's Fee under Section 7.4 hereof is a fixed amount, the amount of Design-Builder's Fee to be included in Design-Builder's monthly Application for Payment and paid by Owner shall be proportional to the percentage of the Work completed, less payments previously made on account of Design-Builder's Fee. Otherwise, Design-Builder's Fee shall be billed on the basis of the applicable Cost of Work.

8.2.4 The value of any Application for Payment submitted by the Design-Builder shall not exceed the value appropriate for the actual percentage of Work completed.

Contract Note: Barring any Change Orders, if the Design-Builder begins to run overbudget, compensation will only be provided for the actual percentage of work performed. (i.e. You can't bill 60% of the contract price when you're only 40% complete.)

8.3 Retainage on Progress Payments.

8.3.1 Owner will retain five percent (5%) of each Application for Payment for all Phase 2 Work.

8.3.2 Within thirty five (35) days after Substantial Completion of the entire Work or, if applicable, any portion of the Work, pursuant to Section 6.7 of the General Conditions of Contract, Owner shall release to Design-Builder all retained amounts relating, as applicable, to the entire Work or completed portion of the Work, less an amount equal to: (a) the reasonable value of all remaining or incomplete items of Work as noted in the Certificate of Substantial Completion; and (b) all other amounts Owner is entitled to withhold pursuant to Section 6.4 of the General Conditions of Contract.

8.3.3 Alternatively, Owner may agree to accept and Design-Builder may agree to provide a form of security in lieu of the retainage specified in Section 8.3.1. The form, content, and amount of the security provided must be mutually acceptable to both the Owner and the Design-Builder.

8.4 Final Payment.

8.4.1 Design-Builder shall submit its Final Application for Payment to Owner in accordance with Section 6.8 of the General Conditions of Contract. Owner shall make payment on Design-Builder's properly submitted and accurate Final Application for Payment (less any amount the parties may have agreed to set aside for warranty work) within thirty five (35) days after Owner's receipt of the Final Application for Payment, provided that: (a) Design-Builder has satisfied the requirements for final payment set forth in Section 6.8 of the General Conditions of Contract.

Contract Note: The Owner and Design-Builder shall develop language which governs the payment process for warranty period services during the Design Phase of the Project. That language will be included in the Contract Price Amendment.

8.5 Interest.

8.5.1 Payments due and unpaid by Owner to Design-Builder, whether progress payments or final payment, shall bear interest commencing five (5) days after payment is due at the rate of one and a half percent (1.5%) per month until paid.

8.6 Record Keeping and Finance Controls.

8.6.1 Design-Builder acknowledges that this Agreement is to be administered on an “open book” arrangement relative to Costs of the Work. Design-Builder shall keep full and detailed accounts and exercise such controls as may be necessary for proper financial management, using accounting and control systems in accordance with generally accepted accounting principles and as may be provided in the Contract Documents. During the performance of the Work and for a period of three (3) years after Final Payment, Owner and Owner’s accountants shall be afforded access to, and the right to audit from time to time, upon reasonable notice, Design-Builder’s records, books, correspondence, receipts, subcontracts, purchase orders, vouchers, memoranda, and other data relating to the Work, all of which Design-Builder shall preserve for a period of three (3) years after Final Payment. Such inspection shall take place at Design-Builder’s offices during normal business hours unless another location and time is agreed to by the parties. Any multipliers or markups agreed to by the Owner and Design-Builder as part of this Agreement are only subject to audit to confirm that such multiplier or markup has been charged in accordance with this Agreement, but the composition of such multiplier or markup is not subject to audit. Any lump sum agreed to by the Owner and Design-Builder as part of this Agreement is not subject to audit.

Article 9 – Termination for Convenience

9.1 Upon ten (10) days’ written notice to Design-Builder, Owner may, for its convenience and without cause, elect to terminate this Agreement. In such event, Owner shall pay Design-Builder for the following:

9.1.1 All services performed and Work executed and for proven loss, cost, or expense in connection with the services and Work;

9.1.2 The reasonable costs and expenses attributable to such termination, including demobilization and amounts due in settlement of terminated contracts with subcontractors and design consultants; and

9.1.3 Overhead and profit in the amount of nine and a half percent (9.5%) on the sum of items 9.1.1 and 9.1.2 above.

9.2 If Owner terminates this Agreement pursuant to Section 9.1 above and proceeds to design and construct the Project through its employees, agents or third parties, Owner’s rights to use the Work Product shall be as set forth in Section 5.3 hereof. Such rights may not be transferred or assigned to others without Design-Builder’s express written consent and such third parties’ agreement to the terms of Article 5.

9.3 Design Stage “Off Ramp”. The Owner’s decision to terminate the agreement in accordance with Section 2.3.2.4(iii) shall not be deemed termination for convenience.

Article 10 – Officers of the Parties

10.1 Owner's Officers.

10.1.1 Owner designates the individual listed below as its Principal in Charge, which individual has the authority and responsibility for avoiding and resolving disputes under Section 10.2 of the General Conditions of Contract:

Steve Schneider
General Manager, Saint Paul Regional Water Services
steve.schneider@ci.stpaul.mn.us
(651)266-6260

Contract Note: Upon Steve Schneider's retirement, the newly appointed General Manager will assume the position of the Principal in Charge.

10.1.2 Owner designates the individual listed below as its Owner's Project Manager, which individual has the authority and responsibility set forth in Section 3.4 of the General Conditions of Contract:

Will Menkhaus
Project Manager, Saint Paul Regional Water Services
william.menkhaus@ci.stpaul.mn.us
(651)266-6269

10.2 Design-Builders Officers.

10.2.1 Design-Builder designates the individual listed below as its Principal in Charge, which individual has the authority and responsibility for avoiding and resolving disputes under Section 10.2 of the General Conditions of Contract:

Greg Fischer
Vice President, CH2M Design Build Delivery
Greg.Fischer2@jacobs.com
(480)377-6230

10.2.2 Design-Builder designates the individual listed below as its Design-Builder's Project Manager, which individual has the authority and responsibility set forth in Section 2.1.1 of the General Conditions of Contract:

Steve Patterson
Steve.Patterson@jacobs.com
(303)898-5089

Article 11 – Bonds and Insurance

11.1 Insurance.

11.1.1 Design-Builder and Owner shall procure the insurance coverages set forth in the Insurance Exhibit (Exhibit H) attached hereto and in accordance with Article 5 of the General Conditions of Contract.

11.2 Bonds and Other Performance Security.

11.2.1 Design-Builder shall provide the following performance bond and labor and material payment bond or other performance security:

Performance Bond. (100% of Contract Price Amendment Value)

Payment Bond. (100% of Contract Price Amendment Value)

Parent Guarantee (100% of Contract Price Amendment Value)

Article 12 – Other Provisions

12.1 Other provisions, if any, are as follows:

12.2 Listing of Exhibits and documents incorporated herein:

Exhibit A – Preliminary Owner's Project Criteria

Contract Note: Revisions to the Owner's Project Criteria will be made during Phase 1, and the Owner's Project Criteria will be updated at the time of the Contract Price Amendment.

Exhibit B – Preliminary Scope of Phase 1 Services

Exhibit C – Permitting and Regulatory Approvals Responsibilities

Contract Note: The Preliminary Owner's Permit List will be updated at the time of the Contract Price Amendment.

Exhibit D – MN PFA Contract Packet (Project Funding Requirements)

Exhibit E – Labor Standards

Exhibit F – Key Firms and Key Personnel

Exhibit G – Phase 1 Milestone Schedule

Exhibit H – Insurance Requirements

Exhibit I – Billing Rates, Phase 1 Costs, and Phase 2 Markups

Exhibit J – Cost Model

Exhibit K – Parent Guaranty Agreement

Exhibit L – Scope Basis

Exhibit M – Site Security Requirements

Contract Note: Site Security Requirements will be developed and added at a later date.

Exhibit N – Performance Incentive Arrangements

Contract Note: Performance Incentive Arrangements will be developed and added at a later date.

Exhibit O – Index of Reference Documents

Article 13 – Limitation of Liability

13.1 Limitation. To the fullest extent permitted by law, and notwithstanding any other provision of this Agreement, the total liability, in the aggregate, of Design-Builder, its Design Consultants, and Subcontractors, surety (if any) and their respective officers, directors, employees, and agents, and any of them, to Owner and anyone claiming by, through or under Owner, for any and all claims, losses, liabilities, costs, or damages whatsoever arising out of, resulting from, or in any way related to, the Project or this Agreement from any cause, including but not limited to the negligence, indemnity, professional errors or omissions, strict liability, breach of contract, or warranty (express or implied) shall not exceed one hundred twenty percent (120%) of the Contract Price. The parties agree that specific consideration has been given by the Design-Builder for this limitation and that it is deemed adequate.

In executing this Agreement, Owner and Design-Builder each individually represents that it has the necessary financial resources to fulfill its obligations under this Agreement, and each has the necessary corporate approvals to execute this Agreement, and perform the services described herein.

[the remainder of this page left intentionally blank]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed on the dates listed below.

Approved as to form:

**BOARD OF WATER COMMISSIONERS
OF THE CITY OF SAINT PAUL**

By: _____
Stephen P. Schneider, General Manager
Saint Paul Regional Water Services

By: _____
Mara Humphrey, President

Date: _____

Date: _____

By: _____
Lisa Veith
Assistant City Attorney

By: _____
Mollie Gagnelius
Secretary

Date: _____

Date: _____

By: _____
John McCarthy
Director, Office of Financial Services

Date: _____

CH2M HILL ENGINEERS, INC.

By: _____
Printed Name
Title

Date: _____

Exhibit A: Preliminary Owner's Project Criteria

McCarron's Water Treatment Plant Improvements

EXHIBIT A

PRELIMINARY OWNER'S PROJECT CRITERIA

McCarron's Water Treatment Plant Improvements Project
As Approved for Design Phase Contract



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1. Owner’s Project Criteria

1.1 Overview

1.1.1 Purpose

The purpose of these Owner’s Project Criteria is to set forth the Owner’s minimum expectations for the upgrades to the McCarron’s Water Treatment Plant (Project). These include the scope of the constructed Project (Project Definition); minimum requirements for the plant as a whole following completion of the Project; Performance Standards; restrictions on areas available for constructing the Project; minimum technical requirements; and preliminary requirements for maintenance of plant operations during construction (MOPO), startup and commissioning, Acceptance Testing, development of operating plans, manuals, and standard operating procedures (SOPs), and training. SPRWS expects these criteria to be expanded upon throughout progression of Project design and planning activities. These Owner’s Project Criteria, including any dates or timeline requirements, may be modified upon mutual agreement between the Owner and the Design-Builder. Any such modifications shall be memorialized in the Contract Price Amendment at which time the Owner’s Project Criteria shall be considered finalized.

1.1.2 Definitions and Acronyms

The following definitions and acronyms are used within these Owner’s Project Criteria:

Acceptance Test is the formal test of the entire Project conducted in accordance with the Design-Builder’s Acceptance Test Plan as approved by the Owner. The Acceptance Test is intended to demonstrate that the Project can successfully meet the hydraulic and treatment Performance Standards over a range of expected conditions.

Acceptance Test Plan is the Design-Builder’s detailed plan setting forth the staffing, goals, procedures, specific test requirements, Performance Standards, and reporting requirements for Acceptance Testing the Project in accordance with the preliminary Acceptance Test requirements established in these Owner’s Project Criteria.

BAC Biologically Activated Carbon

Base Project Concept is a preliminary design concept developed by SPRWS to be used as reference for general expectations around project scope and potential process equipment, layout, and budget. The Base Project Concept has been developed to anchor design discussions but should not be considered the final design concept.

CO₂ Carbon Dioxide

Commissioning is the overall process from startup to initiation of the Acceptance Test and includes fine tuning and optimization of equipment, system and Project operations.

DOC Dissolved Organic Carbon

EOR Engineer of Record

Functional Demonstration Testing / Wet Testing is the process during which individual pieces of equipment and complete systems are placed into operation with raw or potable water in accordance with Design-Builder’s approved Startup and Commissioning Plan.

HAA5 Haloacetic Acids

HRL Health Risk Limit

MCL Maximum Contaminant Level

MGD million gallons per day

Milestone Testing may be conducted at the option of the Design-Builder in accordance with its approved Startup and Commissioning Plan. The purpose of a Milestone Test is to demonstrate that an individual system (unit process and all supporting components) is ready to turnover to City staff for interim operations prior to Acceptance Testing the Project as a whole. During a Milestone Test Design-Builder must demonstrate that the unit process is fully functioning and produces water meeting applicable regulatory requirements for the minimum demonstration duration defined in its approved Startup and Commissioning Plan.

Plant is the McCarron’s Water Treatment Plant

Project Definition is the scope of the Project to be constructed at the Plant.

SCADA Supervisory Control and Data Acquisition

SDS Simulated Distribution System

Service Manuals are the vendor manuals describing the operation and maintenance requirements for each equipment system, package and unit incorporated into the Project.

SOP Standard Operating Procedure

SPRWS St. Paul Regional Water Services

Startup / Dry Testing is the process for transitioning from construction to interim operations of individual pieces of equipment and systems in accordance with Design-Builder’s approved Startup and Commissioning Plan.

Startup and Commissioning Plan is Design-Builder’s detailed plan for starting up and commissioning equipment, systems, and the overall Project. The Startup and Commissioning Plan shall address Startup / Dry Testing, Functional Demonstration / Wet Testing, and, as applicable, Milestone Testing in accordance with the preliminary Startup and Commissioning requirements established in these Owner’s Project Criteria.

TOC Total Organic Carbon

TTHM Total Trihalomethanes

WTP water treatment plant

1.1.3 Existing Facilities

The existing Plant produces an average of 40 MGD, with peak daily production of 80 MGD. Source water comes to the plant from the Mississippi River via a string of four lakes. The lakes provide some water quality benefits: together, they provide settling time that reduces the turbidity of influent water, and two lakes are oxygenated for algae control. Copper sulfate is used for zebra mussel control in one of the lakes and also reduces algae growth.

After water enters the inlet gates of the plant, it flows to rapid mix basins where softening and coagulant chemicals are added. From there, water flows through a series of three flocculation basins prior to being split between five clarifiers. CO₂ is added to the clarifier effluent in a re-carbonation basin and then flows are split between two secondary settling basins before flowing on to 24 biologically activated carbon (BAC) filters. Filter effluent flows to two finished water

reservoirs where it is disinfected through chloramination and stored in a clearwell before pumping into the distribution system. A more detailed description of the facility and the treatment process and several other helpful resources are available in the Electronic Reference Library. A schematic of the current Plant is also shown in Figure 1-1. The Project will upgrade the treatment train from the inlet gates up to the influent to the filters.

1.1.4 Planned Improvements (excluding the Project)

SPRWS has recently concluded improvements to the Plant’s medium-voltage electrical system. No further improvements apart from those included in this Project are planned at this time; however, SPRWS may decide to pursue some of the improvement projects listed on pages 79 and 80 of the 2014 Master Plan by CH2MHill, included in the reference document library.

1.2 Project Definition

1.2.1 Functions and Objectives

SPRWS expects that the Project will meet the following objectives and functions:

- Study available lime slaking technologies, and upgrade lime slaking process if alternatives are found to offer meaningful benefits over the existing technology.
- Provide softening and clarification treatment for removal of calcium and magnesium hardness, turbidity, and organic carbon
- Thicken solids removed by the softening clarification process to the sludge holding tanks for later disposal. The solids pumping and handling process should be automated.
- Provide recarbonation treatment following softening to restore water pH to the target range
- Provide ozonation treatment for treatment of taste and odor compounds, disinfection byproducts (DBPs), and contaminants of emerging concern (CECs)
- Provide enhanced plant-wide monitoring and process control
- Provide power through an expanded and looped medium-voltage distribution system
- Provide a supervisory control and data acquisition (SCADA) system for the new Project elements and integrate it with existing plant SCADA
- Provide flexibility for future expansion and potential regulatory changes
- Provide automated chemical dosing adjustments
- Provide new laboratory space and other minor office space, as agreed between SPRWS and the Design-Builder

Additional project goals are described in the Request for Proposals document.

1.2.2 Demolition

All facilities, equipment and structures that will not serve a functional role at the Plant following completion of the Project shall be demolished and removed from the Plant. SPRWS anticipates that this shall include, but is not limited to, the following:

- Existing flocculation basins
- Existing secondary settling basins
- Existing clarifiers
- Existing water quality laboratory

- All related pipework and conveyance for and connected to the above required to achieve the overall project goals, including in some cases significant hydraulic structures such as the “Figure 8” connections between the existing secondary settling basins and the filters

The Preliminary Scope of Phase 1 Services (Exhibit B) includes condition assessment work that, depending on findings, may allow certain structural elements of the processes listed above to be retained and reused. Depending on the results of the condition assessment and other evaluations conducted during Phase 1, the following processes may also require demolition and removal from the Plant:

- Existing recarbonation basin and associated equipment, including the CO₂ storage and feed equipment
- Existing solids thickeners - SPRWS prefers a softener clarifier design that will provide a high enough concentration of settled sludge to allow for the elimination of the solids thickeners and instead allow the plant to route the solids stream from the clarifiers directly to the holding tanks and filter presses. Present solids thickeners appear to provide little benefit to the utility and require maintenance and upkeep
- Lime building (depending upon continued functionality and usefulness)
- Potential demolition of some power distribution equipment, and other elements of existing electrical equipment will likely be disturbed by the project.
- Existing rapid mix chambers – The rapid mix chambers sit under the existing lime building. Unless the project includes demolition of the lime building, which is not anticipated, rapid mix chambers shall be decommissioned but remain structurally sound.

1.2.3 Project Elements

Unless determined otherwise during Phase 1, the Project is expected to include the following structures, facilities and systems:

- **Rehabilitation of Inlet Water Terminal Structures** – The extent of required gate renovation is currently unknown. The Preliminary Scope of Phase 1 Services includes an evaluation to determine the required improvements.
- **New Softening-Clarification, including associated chemical dosing and mixing and sludge withdrawal and management** – This can be any low-footprint process that accomplishes both water softening and clarification without the use of acrylamide-based polymers.
- **New Recarbonation Basins.** This shall include all associated equipment, as well as carbon dioxide dosing and storage
- **New Ozonation Facilities.** This shall include all associated equipment.
- **(Possible) New Lime Equipment** – If the Phase 1 engineering study determines that alternative slaking technologies offer meaningful benefits over existing technology, the existing lime slaking equipment will be replaced with the current best-value available technology to support the future operation of the facility. Adjustments to the existing conveyance and storage facilities are also possible.
- **New chemical dosing equipment for the following chemicals:**
 - Lime
 - Alum

- Ferric Chloride
- Fluoride
- **All related pipework and conveyance** including but not limited to connections to existing infrastructure and treatment works to be retained at the Plant, and all required overflows, drains and other similar items
- **All new supporting utility service and supporting equipment** such as utility water, pneumatic connections, and safety equipment required for the above
- **All civil, structural, architectural features and buildings** required for the processes identified above.
- **All building mechanical (HVAC, plumbing, fire protection and similar) support systems required for the identified items above**
- **All new electrical equipment as required to run the new Project elements**
- **All new control and analytical equipment for a fully operational facility**
- **Metering** to measure flows to each individual unit process
- **New lab facilities**
- **New operator workspaces**
- **Repair of any existing valves that will remain operational at the Plant** to fully functional condition

1.2.4 Base Project Concept

SPRWS has developed a Base Project Concept incorporating the Project elements listed above to meet the Performance Standards and Minimum Technical Criteria set forth in these Owner’s Project Criteria. The Base Project Concept is shown in **Figure 1-2** and includes the following elements:

- 4 x 26.5 MGD single-stage solids contact clarifiers (SCCs) in an N+1 configuration. The SCCs consolidate the rapid mix, softening, clarification, and settling steps into one unit. The Base Project Concept considers that lime, alum, and ferric chloride are added to the SCCs.
- 2 x 80 MGD recarbonation chambers and associated equipment:
 - CO₂ storage tanks
 - 1 CO₂ injection assembly per basin (2 total)
 - Monitoring and controls equipment
 - 1 set of fluoride dosing and injection equipment per basin (2 total)
 - SPRWS prefers adding fluoride in the recarbonation chamber as it lowers the amount of CO₂ necessary to achieve the target pH
- 2 x 80 MGD ozonation contact chambers and associated equipment, installed downstream of the clarifiers and recarbonation
 - LOX Storage and Vaporizers
 - 2 O₃ generators, each capable of delivering a full ozone dose at 80 MGD
 - Nitrogen Boost System
 - 1 O₃ injection assembly per contact chamber (2 total)

- O₃ quench system
- Monitoring and controls equipment
- Safety equipment
- New lab facilities for water quality monitoring
 - New laboratory and sample receiving room should be at least 3,500 square feet (sf)
 - New laboratory space should include air handling systems sufficient for all existing laboratory equipment. (Fewer than 35x10⁶ particles/cubic meter in excess of 5 microns is required for the ICPMS equipment.)
 - New multi-purpose meeting room (at least 500 square feet) near or adjacent to the laboratory for staff
- New operator workspaces
 - New Control Room (to replace the existing lime control room) should be at least 400 square feet (sf)

The Design-Builder's proposed approach to the Base Project Concept is described in Exhibit L and identifies the assumptions that are the basis of the level of effort and fee associated with the Phase 1 tasks and Phase 2 fees.

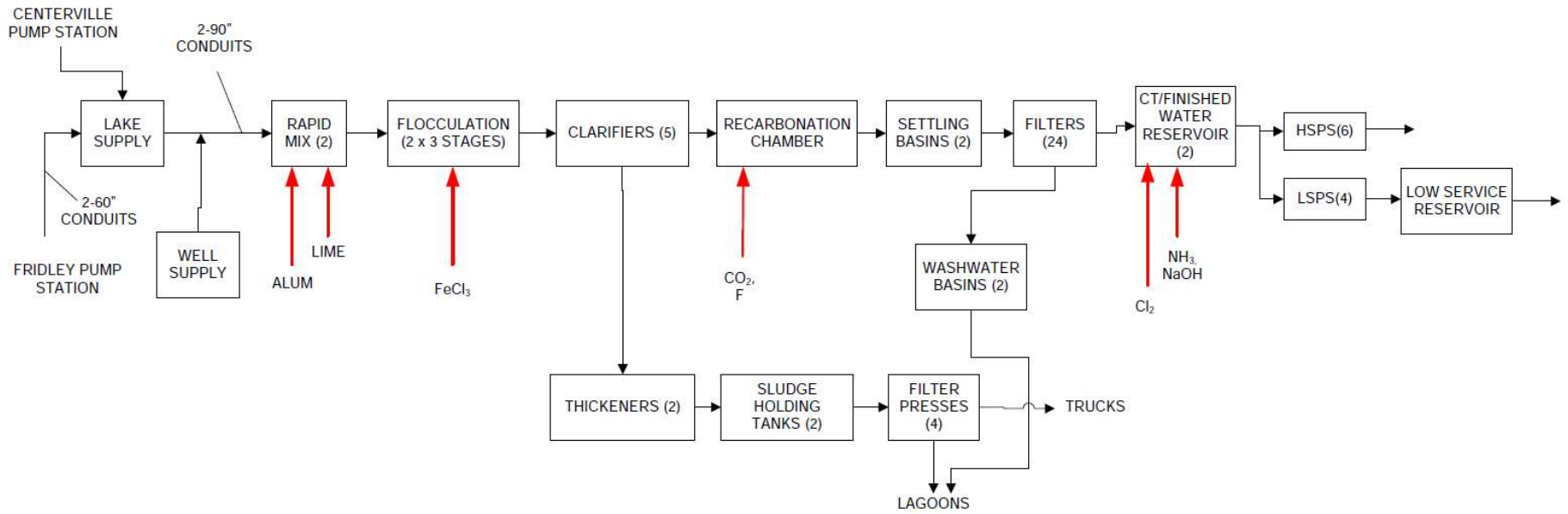


Figure 1-1: Existing McCarrons Process Flow Schematic

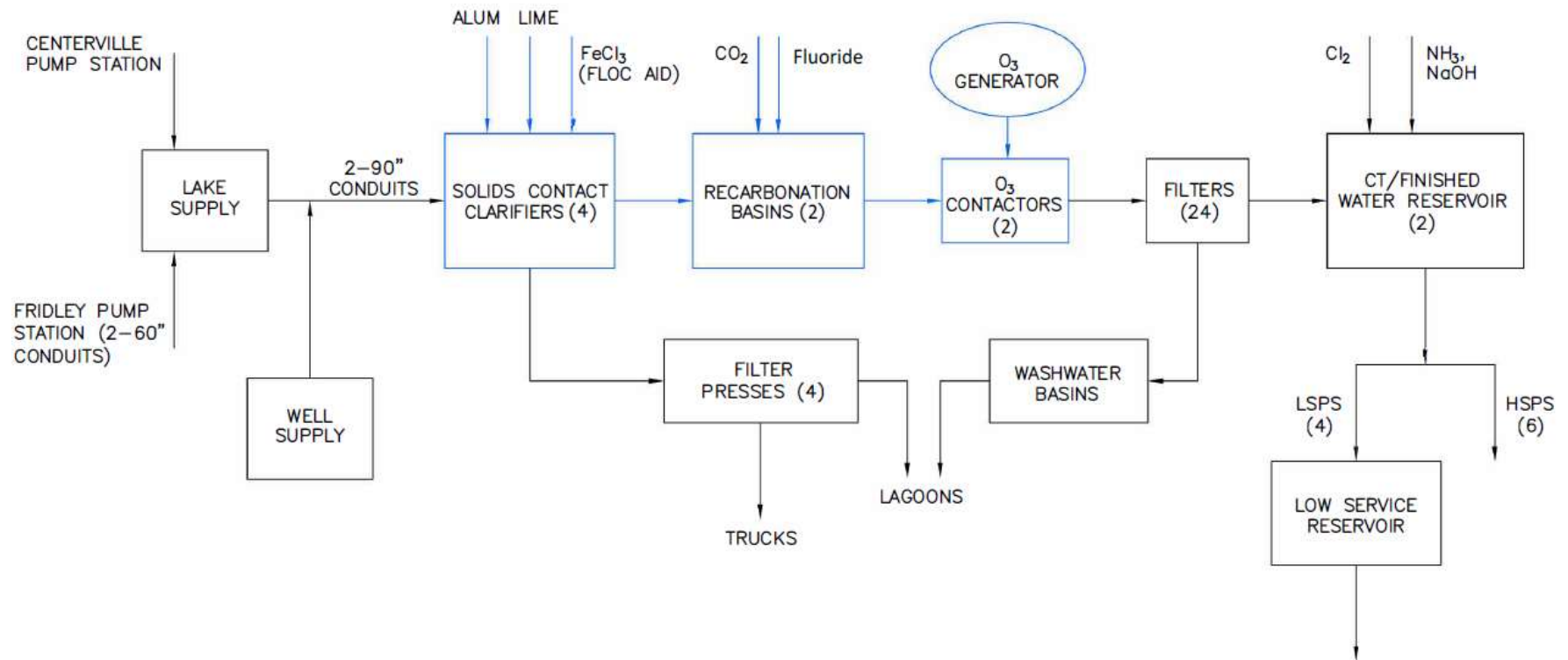


Figure 1-2: Base Concept Facility Process Flow Diagram (New facilities shown in blue)

1.3 Performance Standards

1.3.1 Overview

The Project shall meet the Hydraulic and Water Quality Performance Standards defined in this section. Performance Standards apply at various compliance points throughout the Plant including intermediate points upstream or downstream of certain unit processes. Water quality achieved by the current facility at different points in the treatment process are listed in *McCarrons Water Quality Data*, found in the Electronic Reference Library for Respondents.

Where performance standards are indicated for different treatment processes, such as for softening clarifiers, each individual unit process must conform to the standards.

1.3.2 Hydraulic Performance Standards

The Design-Builder shall demonstrate that the Project can meet the Hydraulic Performance Standards listed in Table 1 below:

Table 1: Plant Hydraulic Performance Standards	
Parameter	Requirement
Project-wide treatment and hydraulic capacity	The Plant shall be capable of conveying and treating up to 80 MGD plus all recycle and waste streams while meeting all Water Quality Performance Standards listed in this document. Note that the hydraulic and treatment requirements are “firm”; i.e., these must be met even with one unit of each Project treatment process out of service.
Hydraulic Gradient	A negative hydraulic gradient must be maintained between each subsequent unit process. This requirement applies at all flow rates from 20 MGD to 80 MGD and for a unit filter run volume of at least 9,000 gal min ⁻¹ ft ⁻² .
Freeboard	Maintaining minimum freeboard of 1.5 feet in all tanks, basins, and channels unless otherwise specified in the requirements for specific areas of the WTP. This requirement must be met for all flow ranges between 20 and 80 MGD.
Project-wide treatment and hydraulic performance at turndown	Project shall be capable of conveying and treating 20 MGD while meeting the Water Quality Performance Standards
Gravity Flow	Flow through the Plant following incorporation of Project improvements shall be by gravity.
Flow Splitting	Maintaining flow splitting accuracy between process trains with a deviation no greater than +/- 5.0 percent.

1.3.3 Design Raw Water Parameters

The Project shall meet the Water Quality Performance Standards described in Section 1.3 – Performance Standards, provided that influent (Raw Water) quality for the following parameters is within the specified ranges in Table 2 **Error! Reference source not found..** Influent water quality shall be measured in the pipework immediately downstream of the inlet structure.

Table 2: Raw Water Design Parameters				
Parameter	Minimum Value	Maximum Value	Average Value	Unit
Alkalinity	115.72	288.54	144.62	ppm CaCO ₃
Total Hardness	130.84	360.60	164.60	ppm CaCO ₃
Calcium Hardness	51.40	189.41	79.78	ppm CaCO ₃
Magnesium Hardness	68.50	178.76	84.76	ppm CaCO ₃
Turbidity	0.130	5.60	0.839	NTU
Total Organic Carbon	2.024	11.54	8.928	ppm
Dissolved Organic Carbon	1.695	11.69	8.638	ppm
Geosmin	0.541	15.51	4.312	ppt
UVT ₂₅₄	36.140	89.16	60.05	% Transmittance
Bromide	<80	<80	<80	ppb
Dissolved Oxygen	5.30	14.20	9.31	ppm

1.3.4 Finished Water Quality Performance Standards (Non-Degradation Standard)

Plant finished water must meet Health Advisory Limits imposed by the Minnesota Department of Health (MDH), as well as the Maximum Contaminant Levels (MCLs) set by the US EPA and MDH. Additionally, MDH maintains Health Risk Indices for classes of water contaminants that are not regulated but pose risks to human health. As part of the non-degradation standard, there must be no deterioration in any of the Health Risk Index values currently achieved by the McCarron’s plant. These values are listed in Table 3.

SPRWS is a Partnership for Safe Water Phase IV facility. Upon completion of the project, the new facility shall continue to meet Phase IV requirements. SPRWS has also been awarded a President’s Award by AWWA’s *Partnership for Safe Water* program for its outstanding operation of McCarron’s WTP. Following the Project improvements, the Plant shall continue to meet the standards of the President’s Award.

The most important metric for the President’s Award is maintaining a filter effluent turbidity of less than 0.100 NTU over 95% of the time. Given the centrality of this metric to the definition of a successful project for SPRWS and the high degree of interaction between the water produced by the elements of the Project and the performance of the biological filters, performance of the Project as a whole largely will be evaluated based on water quality parameters in the filter effluent, as listed in Table 3. Note that there is the potential for ozone treatment to be dropped from the Project, depending on the results of the Pilot Study. Therefore, Performance Standards have been listed with and without ozone.

Table 3: Finished Water Quality Performance Standards			
Parameter	With Ozone	Without Ozone	Compliance Point
pH	7.50 < pH < 8.90	7.50 < pH < 8.90	Filter Effluent
Alkalinity	> 40 ppm	> 40 ppm	Filter Effluent
Total Hardness	70-115 ppm	70-115 ppm	Filter Effluent
Turbidity	<0.100 NTU	<0.100 NTU	Filter Effluent
Total Organic Carbon (TOC)	> 50 % removal from raw water to filter effluent	> 50 % removal from raw water to filter effluent	Filter Effluent
Dissolved Organic Carbon (DOC)	> 50 % removal from raw water to filter effluent	> 50 % removal from raw water to filter effluent	Filter Effluent
Geosmin	< 5 ppt for raw water < 500 ppt > 99% reduction from raw water to filter effluent for raw water influent > 500 ppt	< 5 ppt for raw water < 500 ppt > 99% reduction from raw water to filter effluent for raw water influent > 500 ppt	Filter Effluent
MIB	< 5 ppt for raw water < 500 ppt > 99% reduction from raw water to filter effluent for raw water influent > 500 ppt	< 5 ppt for raw water < 500 ppt > 99% reduction from raw water to filter effluent for raw water influent > 500 ppt	Filter Effluent
Bromate	< 10 ppb	N/A	Filter Effluent
Haloacetic acids (HAA5)	< 60 ppb	Non-detect	Jar Tests of Filter Effluent
Total trihalomethanes (TTHMs)	< 35 ppb in Simulated Distribution System test (SDS)	< 50 ppb in Simulated Distribution System test (SDS)	Jar Tests of Filter Effluent
UVT254	> 90%/cm	> 85%/cm	Filter Effluent
Unit Filter Run Volume	> 9,000 gal/sq. ft.	> 9,000 gal/sq. ft	Calculation
Biological Filter Health	No degradation in health of filter microbial community	No degradation in health of filter microbial community	As measured by ATP and pH analyzer techniques
Health Risk Indices			
Adrenal (with or without E)*	<1		Filter Effluent
Cancer	3.78		Filter Effluent

Table 3: Finished Water Quality Performance Standards			
Parameter	With Ozone	Without Ozone	Compliance Point
Cardiovascular system	<1		Filter Effluent
Development (with or without E)	1.95		Filter Effluent
Eyes	<1		Filter Effluent
Female Reproductive (with or without E)	<1		Filter Effluent
Gastrointestinal system	<1		Filter Effluent
Hematological (blood) system	<1		Filter Effluent
Hepatic (liver) system	1.72		Filter Effluent
Immune system	1.63		Filter Effluent
Male Reproductive (with or without E)	<1		Filter Effluent
Nervous system (with or without E)	<1		Filter Effluent
None**	<1		Filter Effluent
Not applicable (NA)	<1		Filter Effluent
Renal (kidney) system	<1		Filter Effluent
Respiratory system	<1		Filter Effluent
Skeletal	<1		Filter Effluent
Spleen	<1		Filter Effluent
Thyroid (with or without E)	<1		Filter Effluent
EPA MCL table	<1		Filter Effluent

Notes:

- 1 Filter Effluent denotes the point in the effluent conveyance pipework immediately after the point at which effluent from all filters is combined.

1.3.5 Softening Clarifiers

The technology chosen for softening clarification must meet the following Performance Standards:

Table 4: Softening Clarifier Performance Standards		
Parameter	Performance Standard	Compliance Point
pH	> 10.30	Softening Clarifier Effluent
Alkalinity	> 40 ppm	Softening Clarifier Effluent
Turbidity	< 4 NTU	Softening Clarifier Effluent
Total Hardness	70-110 ppm as CaCO ₃ for surface water; 70-115 ppm for well water	Softening Clarifier Effluent
Calcium Hardness	< 70 ppm	Softening Clarifier Effluent
Magnesium Hardness	< 50 ppm	Softening Clarifier Effluent
TOC	> 45% removal between influent and effluent	Softening Clarifier Influent and Effluent
DOC	> 45% removal between influent and effluent	Softening Clarifier Influent and Effluent
Sludge Solids Concentration	> 5%	Softening Clarifier Sludge Effluent

Notes:

1. Softening Clarifier Influent shall be measured in the influent conveyance pipework immediately preceding a clarifier. Softening Clarifier Effluent shall be measured in the effluent conveyance pipework immediately following a clarifier.

1.3.6 Recarbonation Performance Standards

The recarbonation system shall meet the Performance Standards in Table 5 below.

Table 5: Recarbonation Performance Standards		
Parameter	Performance standard	Measurement Point
Turbidity	< 4.0 NTU	Recarbonation Effluent
pH Range	7.50 – 8.90	Recarbonation Effluent
Alkalinity	> 40 ppm	Recarbonation Effluent
Dosing Accuracy	The actual applied CO ₂ dose must be within +/- 10% of the target setpoint	Recarbonation Chamber

Notes:

1. Recarbonation Effluent shall be measured at the end of the chamber immediately before the chamber outlet, or in the effluent conveyance pipework immediately following the reactor, as appropriate.

1.3.7 Ozonation System Performance Standards

The ozonation system must meet the performance standards in Table 6 below. Note that these requirements are for a Project configuration in which ozone is applied downstream of softening clarification. If it is determined that a pre-ozonation configuration is preferable, these performance standards will be revised.

Table 6: Ozone System Water Quality Performance Standards		
Parameter	Performance Standard	Measurement Point
Ozone Transfer Efficiency	> 90%	Ozone Basin Injection Point
Turbidity	< 4.0 NTU	Ozonation Effluent
Geosmin	< 10 ppt for raw water =< 50 ppt > 80% removal for raw water > 50 ppt	Ozonation Effluent
MIB	< 10 ppt for raw water =< 50 ppt > 80% removal for raw water > 50 ppt	Ozonation Effluent
Dosing Accuracy	The actual applied ozone dose must be within +/- 10% of the target setpoint	Ozone Contact Basin
Ozone Residual	< 0.01 ppm	Ozonation Effluent

Note:

1. Ozonation Effluent shall be measured at the end of the chamber immediately before the chamber outlet, or in the effluent conveyance pipework immediately following the reactor, as appropriate.

The required ozone dose rate will be determined through the Design-Builder’s pilot study; however, and additional performance targets for individual compounds will be set based on the results of the pilot study.

1.4 Minimum Technical Requirements

1.4.1 General Requirements

The Project shall be designed taking the following general requirements and objectives into account:

- **System integration.** The Project shall result in the Plant as a whole operating as a single integrated system with all controls and automation integrated into the existing facility.
- **Automation.** The Project facilities shall be able to run in an automatic configuration with minimal need for operator interference
- **Power Supply and Electrical Distribution.** The Plant has recently undergone an electrical upgrade, and SPRWS assumes that the overall Plant power feed will be sufficient for the Project. Electrical supply and distribution for new facilities shall be coordinated with the

electrical usage of the overall plant. This assumption should be verified by the Design-Builder.

- **Enhancing Gravity Flow.** In addition to avoiding pumping water during treatment, SPRWS hopes Project improvements will optimize plant hydraulics and make recovered head available for potential future additions to the facility.
- **Design for Future Flexibility.** New treatment plant components should be designed and constructed in a manner that maximizes flexibility for the future addition of further plant capacity and/or treatment processes. Future expansions to consider in design work may include adding ultraviolet treatment components, converting from chlorine gas to an alternative disinfectant, and other possible expansions. SPRWS, the Owner’s Representative, and the Design-Builder will collaborate to determine what degree of flexibility is appropriate.
- **Life-Cycle Cost.** The Project shall be designed to appropriately balance capital costs and operating costs, including, but not limited to, labor, maintenance, energy, and chemicals and consumables. The Design-Builder shall provide calculations in a report showing that these costs have been appropriately accounted for in the design.
- **Frequency of Chemical and Gas Deliveries.** Chemical storage shall be sized such that deliveries will be required no more frequently than once every three days during average flow and influent water quality conditions.
- **Equipment Clearance and Accessibility.** Adequate clearance shall be provided around all equipment to allow for unconstrained access by SPRWS personnel, including any equipment that may be required for operations and maintenance purposes.

1.4.2 Codes and Standards

The Project shall be designed in compliance with all applicable federal, state, and local regulations and in compliance with the codes, standards and guidelines in Table 7 below.

Table 7: Applicable Codes and Standards	
Issuing Body	Code or Standard
2020 Minnesota State Building Codes , including	• Building Code • Plumbing Code • Mechanical & Fuel Gas • Fire Code • Energy Code
Minnesota Rules Chapters listed here. These parallel, amend, and supplement the model codes above.	• 1303 - Minnesota Provisions of State Building Code • 1305 - Adoption of International Building Code • 1323 - Commercial Energy Code • 1346 - Minnesota Mechanical and Fuel Gas Code • 4714 - Plumbing Code
American Concrete Institute	• ACI 301 – Specifications for Structural Concrete • ACI 305 – Hot Weather Concrete • ACI 306 – Cold Weather Concrete • ACI 309 – Consolidation of Concrete • ACI 318 – Building Code Requirements for Structural Concrete (for non-water-bearing structures) • ACI 350 – Environmental Engineering Concrete Structures (for water bearing structures)
International Code Council	• 2012 International Building Code
National Fire Protection Association	• National Electric Code 2020 • NFPA 13 – Fire Sprinklers
Minnesota Department of Transportation	• Standard Specification for Construction 2018
Great Lakes - Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers	• Recommended Standards for Water Works 2018 Edition (10 States Standards)

Table 7: Applicable Codes and Standards	
Issuing Body	Code or Standard
Capital Region Watershed District	- Capitol Region Watershed District Rules. Revised 06/05/2019. - Permit Guidance and Information Handbook. Updated April 2015.
NSF International	NSF 61 – Drinking Water System Components – Health Effects (for all wetted materials)

1.4.3 Redundancy Requirements

Redundancy can be achieved through standby units, the ability to increase throughput of a process unit when a parallel unit is out of service, or other means. The selected Design-Builder shall conduct a capacity and redundancy study, described in the Phase 1 Scope of Services, to determine the optimal approach to meeting redundancy requirements. Project elements shall meet the minimum redundancy requirements listed in Table 8.

Table 8: Preliminary Redundancy Requirements	
Equipment/Facility	Redundancy Requirement
Softening Clarifiers	N + 1
Recarbonation Basins	Minimum of two basins. With one basin out of service, the remaining basin(s) shall be hydraulically capable of passing 80 MGD with full CO ₂ dose
CO ₂ Injection Assemblies	One injection assembly per basin. With one injection assembly or basin out of service, the remaining injection assembly(ies) shall be capable of fully treating 80 MGD
Ozone Contact Basins	Minimum of two basins. With one basin out of service, the remaining basin(s) shall be hydraulically capable of passing 80 MGD
Ozone Generation Equipment	Ozone generation equipment may not require redundancy and shall be subject to the findings of the Redundancy Study described in the Phase 1 Scope of Services.
Ozone Injection Assemblies	Ozone generation equipment may not require redundancy and shall be subject to the findings of the Redundancy Study described in the Phase 1 Scope of Services.
Lime Slakers	N + 1

1.4.4 Capacity Requirements and Future Expansion

The Plant currently has a hydraulic capacity of 120 MGD. This Project, as built, shall provide 80 MGD firm treatment capacity.

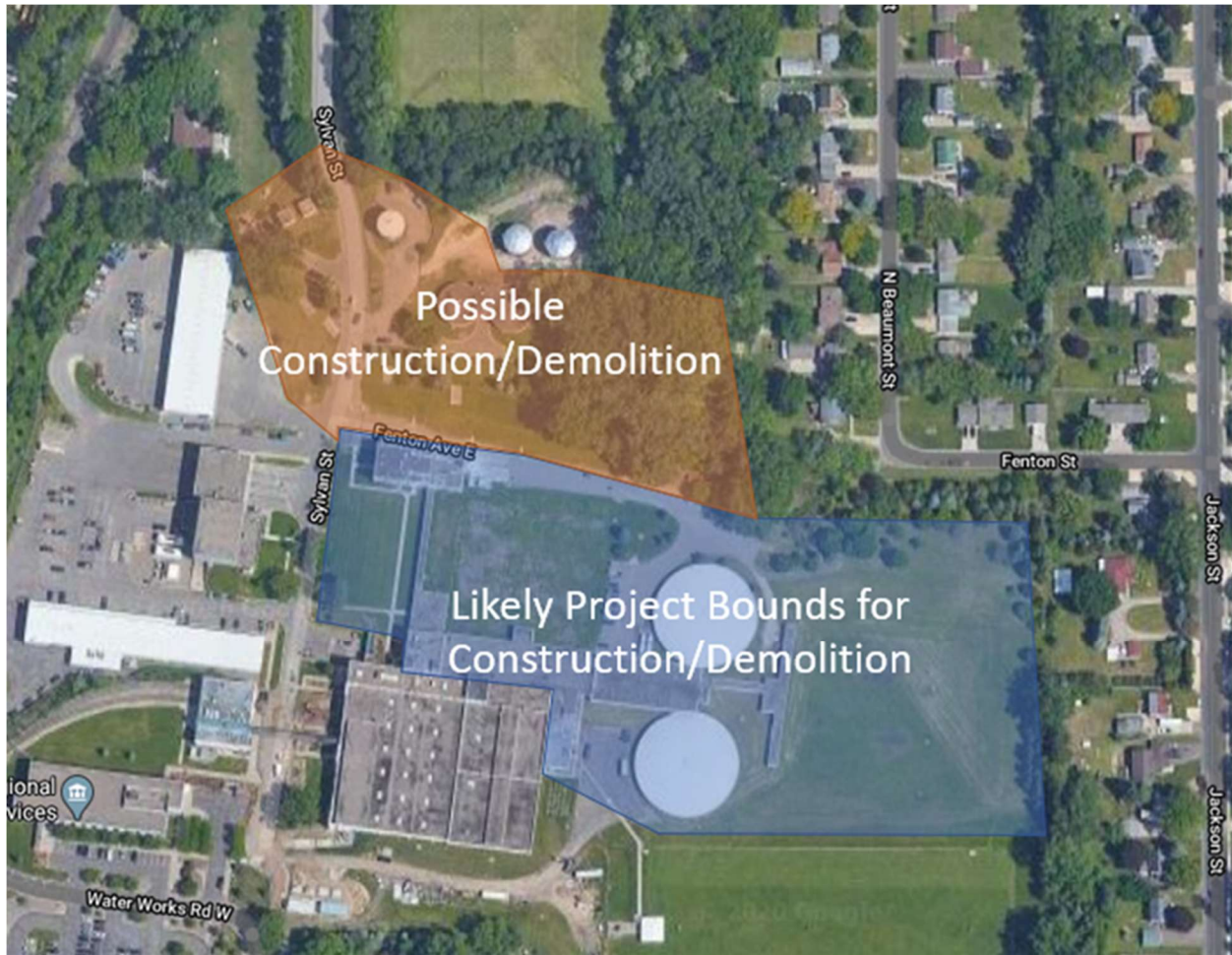
The Design-Builder is also asked to provide designs for future expansion of the Project facilities to 120 MGD treatment capacity. Design of the expansion to 120 MGD shall be advanced to the 30% level, as detailed in the *Scope of Phase I Services*. In particular, the design and calculations should clearly show the following:

- Interconnections between the existing treatment plant, the new works constructed as part of the Project, and the 120 MGD expansion facilities
- Basic layout and footprint requirements
- Equipment and facility sizing
- Hydraulic modeling of the plant at 120 MGD

As designed, the 120 MGD plant shall continue to meet all performance standards, technical requirements, and hydraulic considerations discussed in this document, including hydraulic gradient, freeboard, and gravity-driven flow. In the 120 MGD plant, all requirements that refer to 80 MGD of flow and treatment should be understood to apply to 120 MGD flow and treatment.

The designs for an expansion from 80 MGD firm capacity to 120 MGD firm capacity are to be provided so that, as water demand increases, SPRWS can easily expand the facilities constructed in this project.

The area that will be available for the current Project and for future expansion is shown in the graphic below.



Graphic 1: Available Area for Expansion. The blue area is preferred space for the current Project and the orange space will be available for future projects. If necessary, consideration can be made to allow for construction of the current Project in the orange area.

1.4.5 Lime Equipment

Table 9 provides minimum requirements for the slakers and other lime equipment.

Table 9: Lime Equipment Technical Requirements	
Parameter	Minimum Technical Requirement
Lime Application Capacity	30,000 – 220,000 lbs/day
Lime Dosage Range	100 - 220 ppm
Temperature Variability	Lime slakers must maintain their temperature setpoint for slaking within +/- 4 °F
Water-to-Lime Ratio	Lime slakers must maintain their lime: water ratio setpoint to within 10 mg/L of the target

Table 9: Lime Equipment Technical Requirements	
Parameter	Minimum Technical Requirement
Lime Storage	The Plant currently has 7 lime storage hoppers providing about 8 days of lime storage under average treatment conditions. Any replacement to the lime storage must maintain a similar capacity.

1.4.6 Softening Clarifiers

The technology chosen for softening clarification shall meet the technical requirements in Table 10. All process requirements must be met while equipment is running at the maximum design surface loading rate.

Table 10: Softening Clarifier Technical Requirements	
Parameter	Technical Requirement
Prohibited Polymers	• Acrylamide-based • Quaternary amine-based • polyDADMAC
Acceptable Materials	Materials shall be chosen to prioritize corrosion resistance, durability, and overall longevity. Acceptable materials include: • Grade 316 stainless steel • Fiberglass-reinforced plastic • PVC • CPVC • Concrete
Prohibited Materials	The use of aluminum and any steel except 316 stainless is prohibited for components in the SCCs.
Dosing Accuracy	Chemical feed systems must deliver doses within the following tolerances of their target setpoint at steady state flow conditions: • Alum: 1 ppm • Ferric: 1 ppm • Lime: 5 ppm

1.4.7 Recarbonation

The recarbonation system must meet the technical requirements in Table 11 below.

Table 11: Recarbonation Technical Requirements	
Parameter	Technical Requirement
Required System Components	CO ₂ storage tanks, vaporization equipment, injection equipment, recarbonation contact basins and all associated ancillary equipment
Allowable Injection Methods	• Direct injection • Bubble Diffusion • Sidestream pressurized solution feed (PSF)
Disallowed Injection Methods	Combustion
Contact Basin Maintenance Frequency	Basins shall be designed to be taken out of service for maintenance no more than once per year
pH Target at Recarbonation Effluent	8.70
CO ₂ Storage Tank Capacity	> 10 days at average flow and dose rate
CO ₂ Injection Assemblies	1 per basin
CO ₂ Transfer Efficiency	> 80% for direct injection > 95% for PSF
Hydraulic Detention Time	20 minutes at 80 MGD under normal operating configuration

1.4.8 Ozonation

The ozonation system must meet the technical requirements in Table 12 below.

Table 12: Ozone Technical Requirements	
Parameter	Technical Requirement
Required Elements	Oxygen supply, ozone generation equipment, nitrogen boost equipment, injection equipment, environmental control and safety equipment (e.g. ambient analyzers, destruct), and quench system, and all other ancillary equipment comprising a complete and functioning ozone system
Contact Basin Maintenance Frequency	Basins shall be designed to be taken out of service for maintenance no more than once per year
Data Outputs	The ozone equipment must provide accurate data outputs including, but not limited to, the following: • O₂ gas flow rate • O₃/O₂ gas ratio • Electricity consumption

Table 12: Ozone Technical Requirements	
Parameter	Technical Requirement
Ozone Contact Time	15 minutes
Efficiency Optimization	The ozone generating equipment shall be sized such that at normal operations it is running in its most efficient configuration, based on the combined costs of electricity, oxygen, other consumables, and maintenance frequency. The Design-Builder will be responsible for providing calculations backing up the optimization.

1.4.9 Chlorine and Ammonia Warning System Requirements

The Ammonia and Chlorine Warning System that will be either specified or designed and installed by the Design-Builder must meet the requirements listed in Table 13 below:

Table 13: Chlorine and Ammonia Warning System Technical Requirements	
Parameter	Technical Requirement
Integration	The system must be adaptable to the entire McCarrons’ campus and allow for retrofitting to existing structures
OSHA Compliance	The system must meet OSHA standards for chlorine and ammonia safety, in addition to safety standards associated with any other facility chemical or process
Multi-Hazard Integration	The system must be designed so that it properly ties into or parallels existing warning systems, such as the PA system and fire alarm system. Warning systems should not interfere with each other’s operation, and should not create unnecessary duplicate warnings. If feasible, the chlorine and ammonia system may be fully integrated with other hazard warning systems to create one multi-hazard alarm system.

1.4.10 General Process Mechanical Requirements

All process mechanical design work shall be performed under the responsible charge of a Professional Engineer who is licensed in the State of Minnesota and is proficient in the type of process mechanical design required for this Project.

The process mechanical design shall meet the minimum requirements in Table 14.

Table 14: Process Mechanical Requirements	
Project Element	Requirement
Actuators	Actuators shall be electric

Table 14: Process Mechanical Requirements	
Project Element	Requirement
	• Ro-Tork Actuators are to be used unless inappropriate for the application
Pumps	• To the extent possible, pumps shall be from a single supplier • Where multiple pumps are installed for a particular purpose (e.g., a duty and standby pump), pumps shall be of the same make and model
Chemical Feed	• The chemical feed system shall be designed to minimize operational complexity • Diaphragm pumps shall be Pulsafeeder • Peristaltic pumps shall be Watson Marlow • Flow meters for liquid chemical feed shall be Micro Motion • Flow meters for gas chemical feed shall be Sierra • Chemical piping shall be Schedule 80 PVC or CPVC, as appropriate for the application
Process Piping	• All materials shall be durable enough to handle the expected range of forces and that will be placed on them and the temperatures that they will be subject to • Flanged pipe and fittings shall be used for applications that require both longitudinal and lateral support. • Grade 316 stainless steel piping shall be used in places where internal buildup is likely • Pipes shall be equipped with blind flanges to allow access for cleaning and flushing. Blind flanges shall be tapped with a nipple with ball valve to allow for pipe flushing • Field welding is prohibited on stainless steel piping. Stainless steel piping must be connected with flanges or mechanical couplers • Grooved piping is allowed for pipe 16” diameter and smaller • Process piping shall have CIM linings as appropriate
Stainless Steel	• All stainless steel shall be Grade 316
Aluminum	• All Aluminum, where allowed, shall be Grade 6061
Water Bearing Structures	• All water-bearing structures shall be tested for water-tightness. The Design-Builder shall implement pre-approved measures for fixing structures that fail water-tightness tests and for restoring any concrete work found deficient according to the codes and standards listed in this document.

Table 15 below lists acceptable chemicals for use in Project facilities:

Table 15: Suitable Chemical-Handling Materials	
Chemical	Suitable Materials
Lime (Slaked)	Buna EPR, EPDM Fluorocarbon Geolast Hastelloy C LDPE Polychloroprene Polypropylene PTFE PVDF SantoPrene
Lime Soda (Slaked lime and soda ash)	EPR, EPDM PTFE Santoprene
Alum	Acetal Buna EPR, EPDM Fluoroelastomer (FKM) Nitrile (TS or TPE) Polychloroprene Polypropylene PTFE PVDF PVC Santoprene UHMWPE
Ferric Chloride (Concentrated)	Acetal Buna EPR, EPDM Fluoroelastomer (FKM) LDPE

Table 15: Suitable Chemical-Handling Materials	
Chemical	Suitable Materials
	Polychloroprene PTFE PVDF PVC UHMWPE
Carbon Dioxide	316 SS Buna Hastelloy C LDPE Polypropylene PTFE PVDF PVC
Ozone	CSM (Hypalon) EPR, EPDM Fluorocarbon Fluoroelastomer (FKM) Hastelloy C PTFE PVDF Santoprene Urethane
Process Water, General	6061 Aluminum 316 SS Acetal Buna EPR, EDPM Fluoroelastomer (FKM) LDPE TPE Polychloroprene Polypropylene

Table 15: Suitable Chemical-Handling Materials	
Chemical	Suitable Materials
	PTFE PVC Santoprene

1.4.11 General Electrical Requirements

All electrical design work shall be performed under the responsible charge of a Professional Engineer who is licensed in the State of Minnesota and is proficient in the type of electrical design required for this Project.

The electrical design shall comply with the following criteria in Table 16.

Table 16: Electrical Requirements	
Project Element	Requirement
Electric Code	Design shall be based on the NFPA 70 – National Electrical Code – Current Edition (2020)
Medium-Voltage Switchgear	- Square D - SEL relaying for protection, monitoring, and control devices
Medium-Voltage Motor Control Centers	- Allen-Bradley - SEL relaying for protection, monitoring, and control devices
Low-Voltage Motor Control Centers	Allen-Bradley
Power Monitors	Allen-Bradley PowerMonitor 5000 to match existing monitors
Surge Protection Devices (SPDs)	SPDs shall be provided for all new switchgear, motor control, and distribution equipment
Low-Voltage Panelboards	Low-Voltage Panelboards shall have bolt-on circuit breakers
Conduit	Conduit shall be as follows: - All conduit shall be installed exposed unless approved otherwise. - Rigid steel for all exposed conduit unless noted otherwise. - Schedule 40 PVC for all chemical rooms or other corrosive areas. - Schedule 40 PVC for underground, under slab, or in slab (where allowed). - Concealed EMT for office areas. - Myers hubs shall be used for all penetrations into electrical equipment. - Provide detailed as-built documents for all conduit runs.

Table 16: Electrical Requirements	
Project Element	Requirement
Variable Frequency Drives (VFDs)	- Allen-Bradley - Branch circuit wiring to loads fed from VFDs shall use VFD cables
Local Disconnects	Local disconnects shall be: - NEMA 3R for outdoor - NEMA 4X for corrosive areas. Non-metallic enclosures shall be provided if corrosive area has detrimental effects to stainless steel - NEMA 12 for all others unless specifically noted otherwise
Wiring Devices	All wiring devices shall be specification grade
Lighting	All lighting shall be LED with controls appropriate to the area being illuminated
Security Systems	- Expand existing Lenel System as needed. - All exterior doors shall be monitored. - Card access shall be provided for all exterior doors. - Motion sensors / glass break as needed. - Provide cameras (interior and exterior) to monitor all new areas / buildings. - Cameras to be tied into the plant SCADA system. - Cameras to be Panasonic, model(s) to be determined during design. - Security System integrator shall be Protek Security & Fire Systems Inc.
Fire Alarm and Detection Systems	- Provide fire alarm and detection systems as required by Code. - Expand existing Simplex System as needed to incorporate all new devices.
Electrical Model	- All new equipment shall be added to the existing power systems model for short circuit analysis, coordination, and arc flash hazards. The existing model will be furnished by the Owner for updating by the Design-Builder. - Electrical modeling of the impacts of new equipment on the electrical equipment shall be done using SKM Power Tools Version 9.0.0.3
Backup Power	The existing standby power at the campus is provided by two 1750 Caterpillar generators. If the load from the new works exceeds the spare capacity of these generators, the Design-Builder shall provide additional standby power so that the entire plant can run off of backup power.

1.4.12 General Instrumentation and Controls Requirements

All I&C design work shall be performed under the responsible charge of a Professional Engineer who is licensed in the State of Minnesota and is proficient in the type of I&C design required for this Project.

The I&C design shall comply with the following criteria in Table 17.:

Table 17: I&C Requirements	
Project Element	Requirement
SCADA HMI	The existing Ignition (Inductive Automation) SCADA HMI software shall be expanded as required to monitor, control, and provide reporting for all new equipment and systems, including, but not limited to: • Process equipment • Instrumentation • Switchgear • Motor control • Security systems • Fire alarm and detection systems • Gas monitoring system
SCADA Network Model	Refer to most recent SCADA network model. • Control system design shall follow the methodology of the existing system. • This model is not 100% up to date. • Contractor shall work with the City to provide a complete up to date model at the conclusion of the project
System Integrator	• System Integrator shall be a registered integrator in the Inductive Automation Integrator Program. • System Integrator shall perform all programming with similar methodology to existing programming.
Control Panel Communication	• Communication between control panels shall be via multimode fiber optic cable.
Programmable Logic Controllers (PLCs)	• PLCs shall be Allen-Bradley ControlLogix 1756-L83 series or current model if this model is superseded with newer model.
Operator Interface Terminals (OITs)	• OITs shall be Allen-Bradley PanelView Plus 7 or current model if this model is superseded with newer model. – OITS shall be 12.5” minimum size. Upsize to 15” or 17” where appropriate. – OITs shall be provide for each process to back up the HIM software if the HIM software is not functioning.

Table17: I&C Requirements	
Project Element	Requirement
Instrumentation	• All devices to have Bluetooth connectivity if available. • HACH turbidity meters and controllers. • ABB pH meters and controllers. • VEGA radar level. • Rosemount pressure transmitters. Other manufacturers may be considered. • Flow meters shall be magnetic flow meters unless other meter types are more appropriate for the process being monitored.
Gas Detection Systems	• Any new gas detection system shall be Sensidyne and shall be annunciated through the fire alarm and detection system. – Note: Existing gas detection systems are Sensidyne. A project is underway to interface it with the existing fire alarm and detection system so gas alarms will be annunciated throughout the plant.
Building Automation Systems	• Existing Building Automation System shall be expanded as needed to control and monitor new building systems.

1.5 Maintenance of Plant Operations

The anticipated Project scope will require the Design-Builder to remove several process elements in the current treatment train. These elements must remain operational during construction and then be demolished in a controlled manner once the new systems are online. Demolition of existing facilities and construction of new ones must be carefully coordinated. Construction sequencing must be done in a manner such that the finished water of the plant continuously meets the water quality targets described above. Proposers should describe how they will ensure compliance with this requirement and note how disruptions to water quality, such as during commissioning and startup of new treatment units, will be minimized.

The Process Outage Matrix Excel tool found in the Electronic Reference Library for Respondents can be used to model the effects of taking different treatment processes offline together. The Process Outage Matrix Supplement, which is also included in the Electronic Reference Library, provides a narrative summary of some of the key considerations that need to be made when taking each treatment process offline. Proposers are encouraged to use those two documents, in combination with the provided Plant Valving Diagram, Plant Valving Inventory, and drawings, to discuss potential avenues for construction sequencing and maintenance of plant operations meeting the requirements listed in this section.

Some key limitations of the plant concerning construction sequencing are:

- All process water flows through the single recarbonation basin. The recarbonation basin cannot be bypassed without the erection of temporary or permanent facilities to reroute water.

- The Figure 8 structure that conveys water from the Secondary Settling Basins to the filters is structurally integrated with Floc 2 North and South. Additionally, the “Figure 8” structure does not presently allow for both SSBs to be bypassed simultaneously.
- Certain valves and gates leak and do not maintain a perfect seal. These are noted in Plant Valving Inventory.

1.5.1 MOPO Plan Submittal Milestones

Unless otherwise agreed to by SPRWS, MOPO Plan submittals shall include:

- Detailed Annotated Outline of MOPO Plan and Attachments submitted with 60% Design
- Preliminary Draft of MOPO Plan and Attachments submitted with the Final Design
- Final Draft of MOPO Plan and Attachments at least 60 days prior to the commencement of any Construction Activities
- Final MOPO Plan and Attachments at least 15 days prior to the first modifications made to any existing process units for MOPO purposes. These modifications shall not commence until the Final MOPO Plan is accepted by SPRWS.

1.6 Preliminary Start-Up and Commissioning Requirements

1.6.1 Commissioning Plan

1.6.1.1 Minimum Requirements

The Design-Builder shall be responsible for Commissioning Period planning and for the development of a Commissioning Plan detailing all aspects of the Commissioning including Design-Builder and City roles throughout.

The Commissioning Plan shall provide systematic methods and procedures for tracking and ensuring the successful completion of all installation, startup, commissioning, and preliminary testing activities. It will also provide details for the collection of comprehensive supporting documentation that is a prerequisite to proceeding with the Acceptance Test. Specific items to be included in the Commissioning Plan (or as separate documents or attachments to the Commissioning Plan) shall include:

- The minimum requirements for Startup, Functional Testing, and Milestone Testing
- Requirements for documentation of all Startup, Functional Testing, and Milestone Testing Activities
- Roles and responsibilities of Design-Builder and SPRWS
- Protocols for commissioning equipment and systems, including procedures for turning over specific systems to SPRWS for ongoing operations as part of a Milestone Test prior to the Acceptance Test. Such procedures shall detail testing and commissioning prior to SPRWS operations, and agreed-upon operating, maintenance, repair, and documentation protocols.
- Comprehensive program and schedule for training SPRWS Staff during the Commissioning Period.
- A Maintenance of Plant Operations (MOPO) Plan describing in detail how the entire plant is to be operated during the Commissioning Period. Reference Section 1.4, Maintenance of Plant Operation, for additional operating parameter requirements. At a minimum, the MOPO shall address activities necessary to ensure continuous and smooth operation and

coordination between SPRWS’s existing treatment operations and new/rehabilitated facilities.

- Plans for plant-wide monitoring during the Commissioning Period.
- Any other activities necessary to ensure continuous and smooth operation and coordination between SPRWS’s existing treatment operations and new facilities during commissioning.

1.6.1.2 Commissioning Plan Submittal Milestones

Unless otherwise agreed to by SPRWS, Commissioning Plan submittals shall include:

Detailed Annotated Outline of Commissioning Plan and Attachments at 60 % design

Preliminary Draft of Commissioning Plan and Attachments 180 days prior to the commencement of any Startup Activities

Final Draft of Commissioning Plan and Attachments at least 60 days prior to the commencement of any Startup Activities

Final Commissioning Plan and Attachments at least 15 days prior to the commencement of Startup Activities. Startup shall not commence until the Final Commissioning Plan is accepted by SPRWS.

1.6.2 Minimum Requirements for Startup

Startup/Dry testing is the verification process by the Design-Builder that all system components have been properly installed and calibrated and are ready for Functional Testing. At a minimum Startup shall include the following:

- Complete installation for piping, wiring, and equipment
- All quality control testing and inspections
- Interim Service Manuals provided by the Equipment Vendors
- Tagging of all valves/equipment that must be open, closed, and energized for operational testing activities
- Verification that qualified personnel including manufactures representatives are available.
- Certificates of Proper Installation are signed and dated by the manufacturer’s service representative, have been compiled and provided to SPRWS.
- Completion of all wiring continuity and insulation tests
- Providing and checking all lubrication requirements
- Calibration and testing of all instruments and analyzers
- Verifying motor wiring polarity terminations
- Verifying operation of all switches, interlocks and alarms
- Electrical termination of all I/Os
- Electrical termination checks of all cabling
- Verifying and documenting that all equipment factory testing, physical checkout, and dry testing, are complete

1.6.3 Minimum Requirements for Functional Testing

During Functional Testing individual pieces of equipment and complete systems are placed into operation with raw or potable water in accordance with Design-Builder’s approved Commissioning Plan. During Functional Testing “treated” water is not required to meet regulatory requirements or Performance Standards, and therefore must be discharged in a SPRWS approved manner.

At a minimum, Functional Testing responsibilities shall include:

- Verifying system operation over the required range of flows
- Demonstrating operation of all support or auxiliary systems
- Demonstrating operation in local manual mode, remote manual mode and ultimately in remote automatic mode
- Tuning control loops, and demonstrating that the system functions in fully automatic mode
- Conducting certain baseline tests, such as power consumption and vibration testing.

The Design-Builder shall prepare and submit a report(s) which shall present all data, calculations and conclusions, and other information obtained in the course of the Functional Testing or needed to substantiate the Design-Builder’s conclusions reached in the Functional Testing.

1.6.4 Minimum Requirements for Milestone Testing

Upon agreement between Design-Builder and SPRWS that the functional testing has successfully been completed, the Design-Builder shall conduct Milestone Tests for any unit processes, including all supporting systems, that it intends to turnover to SPRWS for initial operations prior to conducting the Project Acceptance Test. During a Milestone Test the Design-Builder shall demonstrate that the unit process is fully functioning and produces water meeting applicable regulatory requirements. The minimum duration for a Milestone Test shall be four weeks unless otherwise approved by SPRWS.

Seasonal variations in water quality should be thoroughly considered as part of the Milestone Testing for any facility components.

Water produced during the Milestone Test period shall be discharged to an SPRWS-approved location.

1.7 Service Manuals, Standard Operating Procedures, Operations Manual, Maintenance Procedures, and Training Requirements

1.7.1 Purpose

This section provides minimum requirements for the development of the Service Manuals, Standard Operating Procedures, the Project Operations Manual, Maintenance Procedures and Training by the Design-Builder.

1.7.2 Service Manuals

1.7.2.1 Minimum Requirements

The Design-Builder shall provide individual Service Manuals (Vendor) for each equipment system, package, or unit incorporated into the Project Assets. Tagging and numbering of all

assets shall be assigned according to the nomenclature rules of SPRWS's asset management system.

Service Manuals shall contain complete and detailed operating, maintenance and repair instructions in sufficient detail to allow journeyman mechanics and operators of the WTP to adjust, operate, maintain and repair all components of the equipment and to order all parts, without consulting with the manufacturer and/or representative.

Preliminary Service Manuals shall contain at a minimum:

- Necessary start up and shut down procedures,
- Preventive maintenance tasks,
- Troubleshooting information,
- Assembly/disassembly procedures,
- Parts list and wiring diagrams for support of Training and Startup and Commissioning and to service the equipment and order replacement parts until the final Service Manual is approved.

In addition to meeting the requirements for Preliminary Service Manuals, Final Service Manuals shall contain:

- Detailed information, drawings, procedures and guides to allow for the proper installation, calibration, testing, preventative maintenance and corrective maintenance procedures;
- Necessary as-built diagrammatic piping and wiring diagrams;
- All warranty information with effective warranty dates and a list of all spare parts, spare equipment, tools and materials that are supplied with the equipment;
- And all field testing records for the equipment.

The Service manuals are to contain only the information pertinent to the equipment provided by the Vendor. The Design-Builder shall exclude unnecessary information, advertising and theoretical data not directly pertaining to the equipment provided.

1.7.2.2 Required Submittals Milestones

The Design-Builder shall submit preliminary Service Manuals for each equipment system, package, or unit at least 60 days prior to initiating Startup activities for the applicable piece of equipment or system.

Final service manuals shall not be submitted until preliminary manuals have been accepted by SPRWS and after all warranty plans, field test records and electrical record drawings have been completed and accepted for insertion in the final Service Manuals.

Final Service Manuals shall be provided prior to handover for Owner interim operation (Milestone Testing) or prior to Acceptance Testing if a handover of the system to the City is not contemplated.

The Design-Builder shall deliver the final service manuals in searchable , fully indexed Adobe Acrobat Portable Document Format (latest edition) with thumbnails generated and all pages in proper orientation; furnish drawings in AutoCAD, DWG format using the same version accepted for design drawings; provide links from the Service Manual PDF files to the drawing files; and deliver the final Service Manuals and drawings in formats that can be edited. One hard copy set of final service manuals shall be delivered to the City prior to the start of Acceptance Testing.

1.7.3 Standard Operating Procedures

1.7.3.1 Minimum Requirements

The Design-Builder shall develop comprehensive Standard Operating Procedures for all Project Assets providing simplified standard operating procedures with descriptions of the startup sequence, routine adjustments, and shut down sequences for each major process equipment system. One hard copy of all Final Standard Operating Procedures shall be delivered to the City at the end of Acceptance Testing.

SOPs shall be prepared for each logical grouping of process equipment components serving a common function within each system or subsystem and shall include the following common elements:

- Startup Sequence
 - Conditions required for initiation or restart
 - Feedback required for each subsequent step
 - Potential hazards to avoid
 - Feedback confirming proper startup
- Routine Operation
 - Parameters monitored
 - Value ranges indicating proper operation
 - Controls intended for routine adjustments
- Shut Down Sequence
 - Conditions required for initiation
 - Feed back required for each subsequent step
 - Potential hazards to avoid

The Design-Builder shall confirm the accuracy and clarity of each SOP during Milestone Testing or during Acceptance Test activities completed in accordance with Section 1.6, Startup and Commissioning, and training sessions conducted in accordance with Section 1.7.6, Training, for equipment components included in the subsystem covered. SOP documents shall be updated to include any changes as recommended by the manufacturers authorized training and service representatives, as well as the Design-Builder’s approved training representatives.

1.7.3.2 Submittal Milestones

The Design-Builder shall submit the following documentation at the indicated stages:

- Preliminary SOPs– an outline of the planned structure of the SOPs including a description of the planned level of detail for each system no later than 60 days prior to Commissioning
- Interim SOPs no later than 45 days prior to Functional Testing
- Provisional SOPs at least 45 days prior to any Milestone Testing or prior to Acceptance Testing
- Final SOPs–No more than 15 days following successful completion of the Acceptance Test.

1.7.4 Operations Manual

1.7.4.1 Minimum Requirements

The Design-Builder shall develop a comprehensive Operations Manual that describes the Project Assets and how they are designed to operate within the whole treatment plant.

The Design-Builder shall work closely with SPRWS to refine the scope and requirements for the electronic Operations Manual during Phase 1 and prior to the Contract Price Amendment.

The Operations Manual shall be designed as an open-format, web-based computer system, accessible by SPRWS and designed to interface with SPRWS's existing system as much as practicable. The system shall be designed for ease of use and updating. Equipment and systems included in the Operations Manual shall be numbered consistent with City protocols and hierarchies.

The Design-Builder should anticipate, as part of this work, that it will be required to research all necessary sources of reference materials and prepare original written text for an informative narrative, describing the design criteria, function and proper use of the new and modified facilities, systems, and components. The narrative portion the electronic manual shall be enhanced by linking keywords and references in the text to pertinent reference information such as: Standard Operating Procedures, Service Manuals, CAD drawings, photographs, and video clips. Linking, through the use of hyper-text and hyper-graphics, shall connect the parts of the manual through a point-and-click user interface. The electronic Operation Manual shall be developed for use in the Microsoft Windows NT operating system, or congruent system, such that the manual will function in either operating system and on a single PC or a local area network and shall also be capable of being easily converted to XML/Intranet format. In addition, two hard copies of the Final Operations Manual shall be provided.

The Design-Builder shall anticipate providing software and possibly some hardware necessary to view and maintain the electronic Operation Manual. This may also include training of staff on the maintenance of this manual.

The Operations Manual shall include the overall plant control; operation of new, upgraded, and expanded plant elements; auxiliary plant equipment and systems; and grounds and building maintenance. The Operation Manual shall, at a minimum, include the following information as appropriate to the Design-Builder's design:

- Brief history of McCarron WTP including current design and anticipated future design description
- Relevant permits and standards
- Detailed description of the plant processes and operational parameters
- Links to appropriate Service Manuals
- Links to appropriate SOP's
- Monitoring and reporting requirements including forms and checklists to be used for monitoring equipment and process system operation
- Overall upgraded SPRWTP staffing and organizational plan reflecting staffing responsibilities for new/upgraded facilities

- Operating procedures for various flows through WTP
- Emergency Notification Plan as required by MN Dept. of Health
- Maintenance procedures, records and reports (written as an overview only, with the assumption that all PM plans, rounds and maintenance procedures will be developed as outlined in Section 1.7.5
- Procedures for incorporating updates to the Operations Manual

Each separate unit, system, process and facility section of the Operations Manual shall include a detailed written explanation of the following:

- The system or process, including its key components
- The system function, including its purpose and normal operating parameters
- Design criteria for that system or process
- Equipment summary, including nameplate data, supplier/local representative, and manufacturer
- Description of electrical, instrumentation and control system, including an alarm summary and control narratives
- Description of normal system operations, including startup and shutdown, adjustment of variable functions and setting, interface with other plant systems, routine monitoring checklists, and record-keeping forms
- Procedures to determine and optimize appropriate chemical dosage rates
- Emergency system operation including procedures to be followed in the event of probable plant upset conditions such as temporary power outage, chemical spill, localized or area-wide flooding, etc.
- Process functions such as cleaning, flushing and inspection.
- Troubleshooting system malfunctions
- Safety and emergency procedures

The electronic Operation Manual shall be designed and formatted to allow SPRWS to ultimately expand it to include all plant operations.

1.7.4.2 Submittal Milestones

The Design-Builder shall submit the following documentation at the indicated stages:

- Draft annotated outline of Preliminary Operations Manual– an outline of the planned structure of the Operations Manual including a description of each section at the 60 % design submittal.
- Draft Process Overview section of the Preliminary Operations Manual that provides a detailed description of each process and how all processes operate together. at the 60% design submittal
- Draft Operations Manual at least 90 days prior to Commissioning
- Final Draft Operations Manual at least 45 days prior to any Milestone Testing or prior to Acceptance Testing
- Final Operations Manual no more than 15 days after successful completion of the Acceptance Test.

1.7.5 Asset Management and Maintenance Procedures

The Design-Builder shall assign discrete numbers to all equipment, facilities, and systems consistent with SPRWS asset management numbering protocol throughout the entire project. All equipment, facilities and systems shall use approved SPRWS naming conventions. All equipment assets shall use approved SPRWS tag numbers.

The Design-Builder shall develop maintenance procedures as recommended in all equipment Service Manuals. The procedures shall be formatted so as to upload into SPRWS’s existing Maintenance Management System (MMS). The Design-Builder will work with SPRWS staff to develop the template and all necessary information needed to complete each maintenance procedure. Maintenance procedures shall be developed for routine, predictive and preventive maintenance required for all equipment installed as part of the Project.

1.7.6 Training

1.7.6.1 Minimum Requirements

As part of the Commissioning Plan, the Design-Builder shall develop and provide a Training Plan to guide a training program for SPRWS staff on all system components, processes and facility improvements so that staff are proficient and able to assume operation and maintenance of the improvements.

The Design-Builder shall conduct a comprehensive and thorough training program for SPRWS personnel necessary to operate and maintain all Project facilities and equipment. The training program shall be phased in coordination with its Commissioning Plan. The training program shall include:

- Each training session must be held enough times to cover each operating shift, including the swing shift;
- Multiple training sessions expanding on individual topics so that specific requirements can be reinforced with plant personnel;
- Specific training on routine operations, emergency operations, troubleshooting;
- Specific training on predictive and preventive maintenance;
- Targeted trainings on newly installed equipment;
- Follow-up training sessions during Commissioning; and
- Training on use of the electronic Operations Manual.

The Design-Builder shall prepare a comprehensive lesson plan for each equipment package or system for the intended audience in addition to the Service Manuals. The lesson plans shall provide learning objectives and detail specific instruction topics including hands-on demonstrations planned for the instruction and knowledge checks at the end of the training session. The Design-Builder shall develop lesson plans specific to the needs of:

- Operations
- Mechanical Maintenance
- Electrical Maintenance
- Instrumentation Maintenance
- Water Quality staff and supervisors

The Design-Builder shall coordinate the content of training sessions for different equipment components and systems using similar components to minimize repetition of instruction presented to SPRWS operations and maintenance personnel.

Hands-on training for operations personnel shall cover proper start-up, shutdown, normal and alternative operating strategies, emergency procedures, and monitoring and troubleshooting review. Each trainee shall demonstrate skill acquisition to the satisfaction of the instructor using a standard operating procedure (SOP) developed in accordance with Section 1.7.3, Standard Operating Procedures. The Design-Builder shall evaluate the SOP for accuracy, clarity, and completeness based upon use by the trainees and identify any changes recommended to render the SOP more useful.

The Design-Builder shall provide hands-on demonstrations by the instructor of common corrective maintenance repairs for each scheduled group. The Design-Builder shall provide the tools, equipment, technical expertise, and support trades necessary to conduct the demonstrations’ requirements, provide written certification of proper operation, and allow each trainee to demonstrate skill acquisition by performing each common maintenance action under the supervision of the instructor. For those training situations where personnel shall participate in disassembly or assembly of equipment, the Design-Builder shall confirm conformance of disassembly or assembly with manufacturer’s requirements and provide written certification of proper equipment operation to SPRWS on completion of hands-on training.

The Training Program shall include methods for evaluating each training session's effectiveness and incorporating appropriate modifications. SPRWS will make its Training Room available for training sessions, provided the Design-Builder schedules this conference room at least two weeks in advance.

The Design-Builder shall provide a dedicated Training Coordinator who will be responsible for the oversight and administration of the Training Plan. The Training Coordinator will be responsible for the coordination of all aspects of the Training Program, including the submittal of the Training Plan, instructor qualifications, and lesson plans, training schedules, video recording, quality assurance and the completion and submittal of the training records.

1.7.6.2 Submittal Milestones

The Design-Builder shall submit the following documentation at the indicated stages:

- Annotated outline of the Training Plan at the 60 % design submittal
- Draft Training Modules at least 90 days prior to Startup
- Final Draft Training at least 45 days prior to Startup
- Final Training Modules 15 days prior to Startup

1.8 Preliminary Acceptance Testing Requirements

1.8.1 General

The intent of the Acceptance Test is to demonstrate that the McCarron WTP Upgrade and Expansion Facilities can meet the Performance Standards for the Project. SPRWS's goal is to have achievement of the Performance Standards clearly and unquestionably demonstrated during the Acceptance Test to the maximum extent possible.

1.8.2 Acceptance Test Plan

1.8.2.1 Minimum Requirements

At a minimum, the Acceptance Test Plan shall include:

- Internal and external communications protocols;
- Organization of the test team, including responsibilities, authority, and decision-making protocols;
- Planned time of year for Acceptance Testing and anticipated flows;
- Plans for cleaning and flushing pipelines prior to Acceptance Testing;
- Testing Procedures and Acceptance Test Protocols to be used;
- Specific measurements to be made, including calibration methods;
- Proposed usage of permanent and temporary instrumentation;
- Factory testing requirements and initial schedule;
- Proposed approach, including any proposed temporary facilities, to simulating flow conditions to demonstrate the Project's ability to meet Performance Standards;
- Proposed approach to ensuring that the Acceptance Test accurately accounts for seasonal variation in raw water quality and that Performance Standards will be met in all seasons
- Response procedures for unsuccessful test results including definition of threshold results that constitute overall Acceptance Tests failure;
- Description of specific operation activities that SPRWS will need to conduct in order to support the Acceptance Test;
- SPRWS operating role and acknowledgement of SPRWS override authority during Acceptance Testing;
- Contingency plans for equipment failures, process upsets, unsatisfactory test results, and unanticipated interruptions;
- Testing schedule;
- Documentation requirements during equipment check-out and testing including sign-off responsibilities;
- Operating and maintenance schedule during testing;
- Circumstances requiring re-testing; and
- Requirements for the Acceptance Test Report.

The Acceptance Test Plan shall include specific, detailed sampling protocols to be utilized during the Acceptance Test and all associated pretests.

SPRWS may conduct sampling, monitoring, and testing during the Acceptance Test. Split samples shall be made available to the Design-Builder at its request. All other labor, materials, equipment, and services necessary to perform the Acceptance Test shall be supplied by the Design-Builder. During the test, the Design-Builder will operate the facilities undergoing Acceptance Testing with oversight by a City operator who will have the authority to cancel the test or direct changes to the Design-Builder's operation.

1.8.2.2 Submittal Milestones

Acceptance Test Plan submittals shall comply with the following milestones:

- Annotated Outline of Acceptance Test Plan and Attachments at the 60 % design submittal.
- Preliminary Draft of Acceptance Test Plan and Attachments at least 180 days prior to the commencement of the Acceptance Test.
- Final Draft of Acceptance Test Plan and Attachments at least 90 days prior to the commencement of the Acceptance Test.
- Final Acceptance Test Plan and Attachments at least 30 days prior to the commencement of the Acceptance Test.

The Acceptance Tests shall not be conducted until the Acceptance Test Plan is approved and authorization is received from SPRWS. The Acceptance Test Plan shall not be considered complete and approved until all City comments are resolved.

1.8.3 Acceptance Test Protocol

The Design-Builder shall develop an Acceptance Test Protocol consistent with the following approach:

The duration of the test shall be at least 30 days during which time all components of the Facilities shall be operated on a continuous basis and without taking any units out of service for more than 2 hours unless planned in order to facilitate testing. If any unit is taken out of service for more than the allowed time, the Acceptance Test shall be stopped, and the issue shall be corrected so that the unit can be put back into service. The Acceptance Test shall begin again and restart the 30-day clock for the test.

Should the performance of the Project be deemed to be unsatisfactory at any time during the Acceptance Test Period, the Design-Builder shall take immediate action to correct the problem.

1.8.4 Acceptance Test Report Requirements

The Project will be deemed to have passed the Acceptance Tests if the full timeframe is met and if the results for each parameter comply with the Performance Standards, and the manual and automatic shutdown and startup tests are completed successfully.

The Acceptance Test Plan, as approved by SPRWS, shall specify the contents of such Acceptance Test Report, including, but not limited to:

- A certification that testing was conducted in accordance with the approved Acceptance Test Plan;
- A certification of the results of the testing, including a determination of the extent to which the completed treatment plant complies with the applicable Performance Standards and requirements;
- All data measured and recorded during the tests;
- All calculations used in determining test results; and
- Any other data reasonably requested by SPRWS to be included in such reports.

Exhibit B: Preliminary Scope of Phase 1 Services

McCarron's Water Treatment Plant Improvements

Exhibit B. Preliminary Scope of Phase 1 Services

General

Purpose

This Exhibit B to the Contract sets forth the Preliminary Scope of Phase 1 Services. The level of effort and price for Phase 1 Services is based on the Phase 1 Tasks (as described herein) and Design-Builder’s proposed approach to the Base Project Concept as described in Exhibit L.

Organization

The sections and tasks of the Preliminary Scope of Phase 1 Services are organized as follows:

Section 1 Preconstruction Services

Task 101	Mobilization and Project Set Up
Task 102	Preconstruction Management and Administration for Design and Preconstruction Phase
Task 103	Constructability Reviews, Construction Planning and all Required Deliverables
Task 104	Cost Modeling and Estimates
Task 105	Scheduling
Task 106	Design and Construction Phasing Plan
Task 107	Subcontract and Equipment Procurement
Task 108	Project Labor Agreement (PLA) Negotiation
Task 109	Preconstruction Contingency to Accommodate Iterative Design-Build

Section 2 Design Services

Task 201	Phase 1 Project Management
Task 202	Meetings and Workshops
Task 203	Background Document and Record Drawing Review and Validation
Task 204	Geotechnical Investigations
Task 205	Surveying, Mapping and Site Investigations
Task 206	Permitting and Approvals
Task 207	Stakeholder and Public Outreach Planning and Support
Task 208	Engineering Studies
Task 209	Preliminary Design Report and 30 Percent Design Package
Task 210	60 Percent Design Package

	Task 211	Phase 2 Guaranteed Price Submittal(s) and Phase 2 Amendment
	Task 212	Final Design (Ready for Design-Build Construction)
	Task 213	100 Percent Design (Bid Documents in case of Off-Ramp, at SPRWS’s Option)
	Task 214	Design Contingency (to Accommodate iterative design-build process)
Section 3	Task 300	Pilot Testing
	3.1	Pilot Test Plan
	3.2	General Pilot Requirements
	3.3	Schedule
	3.4	Base Concept Pilot Design
	3.5	Sampling Requirements

Deliverables

Deliverable Review by SPRWS

All deliverables are to be submitted in draft form for review by SPRWS. SPRWS will provide comments in a timely manner (as specified in the General Conditions), and the Design-Builder shall promptly respond to SPRWS’s comments in writing. Design-Builder will respond to all SPRWS comments in writing and adjudicate those response with SPRWS prior to incorporating changes into subsequent deliverables.

Deliverable Software

During the course of the project, work products shall be developed using the most current versions of the following software products:

- | | |
|----------------------------|---------------------------------|
| 1. Word Processing: | MS Word |
| 2. Spreadsheets: | MS Excel |
| 3. Scheduling: | Primavera |
| 4. Drawings: | Bentley Microstation |
| 5. Hydraulic Profile | Replica TM |
| 6. Process Design Software | Commercially available software |

Design-Builder shall submit electronic files in .pdf format. Upon Owner request, Design-Builder shall also submit 8 hard copies of deliverables. Hard copy deliverables shall be printed at 8 1/2”x11” with full-size 22”x34” drawings reduced to 11”x17”. Electronic source files for deliverables shall be provided when requested by the Owner.

Phase 2 Record drawings will be provided in Autodesk AutoCAD.

Final Deliverable Software

While the Project is ongoing, SPRWS staff will separately consider their long-term requirements for an asset management and drawing system. A variety of systems may ultimately interface

with one another in the resulting system (ex. Oracle WAM; Microstation, CAD, or Revit; ArcGIS; etc.) It is the Owner’s responsibility to independently (or with the help of an outside consultant) develop these plans. The Design-Builder is not responsible for assisting SPRWS with the developing an overall asset management and drawing management plan for the McCarron’s campus.

During Phase 1 and throughout Phase 2, the Design-Builder and the Owner will collaborate to ensure that both entities have a clear understanding of the requirements for the final deliverables.

Currently, SPRWS utilizes AutoDesk software, and the RFP for the project originally called for deliverables in Revit and/or Civil 3D. SPRWS does not have any familiarity with Microstation, nor does the Owner hold any licensing in the software.

Despite the current preference for AutoDesk products, SPRWS has approved the use of Bentley Microstation for design purposes. The Design-Builder understands, however, that the Owner may determine that the final deliverable must take a different form. Ultimately, the Design-Builder is committed to providing final deliverables that align with the drawing and asset management plan developed by SPRWS.

In the event that the Owner determines that the final deliverables should be developed in a software other than Microstation, the Design-Builder will provide the deliverable in the required format. This may mean recreating models or drawings in a separate program. The final deliverable shall contain all the relevant data (i.e. data loss during conversion from one software to another is not acceptable.)

Due to some uncertainty regarding the fairest method of compensating this work (conversion from one software to another and/or development of deliverables that align with SPRWS’s requirements), the Owner and the Design-Builder have agreed to a compromise. Provided that other portions of the project have come in under budget, the Design-Builder may pull funds from other portions of the project budget and be compensated by the Owner at their standard hourly rate. If however, a change order is required to perform the work (i.e. no funds are available to pull from elsewhere in the budget), the Design-Builder agrees to bill for the work at 80% of the standard hourly rates for the relevant staffers.

1. Preconstruction Services

In the event SPRWS elects to take the off-ramp, incomplete Preconstruction Services will be eliminated from Phase 1 services.

Task 101 - Mobilization and Project Setup

Task Description

This task is for Design-Builder mobilization activities including project set up and general project initiation activities. Project initiation activities include setup and configuration of project document and information management systems, team chartering and kickoff activities, and setup activities that support Task 102 & 201 execution.

Deliverable

1. Itemization of setup and mobilization costs.

Task 102 - Preconstruction Project Management and Administration for Design and Construction Phase

Task Description

This task is for Design-Builder participation in project management and administration activities during the Preconstruction phase of the project, which are further described in this Section. It is anticipated that Project Management for Preconstruction Services will cover the Design-Builder’s overall oversight of the project, and includes, for example, management, invoicing, safety, meetings, training, partnering and oversight of the designer.

Deliverable:

1. Itemized scope for Preconstruction Project Management and Administration for Design and Construction Phase

Pricing Assumptions

1. The level of effort and pricing for management is based on the progression of the design and preconstruction schedule per Exhibit G – Phase 1 Milestone Schedule.

Task 103 - Constructability Reviews, Construction Planning and all Required Deliverables

Task Description

This task is for the Design Builders efforts related to constructability reviews, construction planning and deliverables submitted during the preconstruction phase of the project.

Constructability Reviews

Conduct a comprehensive project constructability review at the 30% and 60% design milestones. The constructability review shall be completed by construction personnel experienced in construction techniques, construction sequencing, and the types of construction means and methods expected to be employed on this project. At a minimum these reviews should address protection of existing facilities, special shoring requirements, lifting requirements, temporary service or utility requirements, bypass requirements, site accessibility, project phasing plans, and other relevant factors.

Deliverable

1. Draft and Final Constructability Review Report submitted at the 30% and 60% design milestones

Task 104 - Cost Modeling and Estimates

Cost Model Development

Submit a revised draft cost model for the Project. SPRWS will provide a model template which may be modified through mutual agreement between the Owner and the Design-Builder. The intent of the cost model development and review is to have SPRWS and the Design-Builder agree on the format for presenting cost estimates that will be used consistently throughout the Project, so that SPRWS can easily track the evolution of estimated costs through successive cost estimate submittals.

The cost model shall breakdown costs to show labor classification and hours (including overtime and night shift), material, equipment and any subcontract costs for each item. All contingency and escalation factors shall be identified. Scope related contingencies shall be based on probabilistic assessment of risks and risk costs for the Project. The cost model shall include both cost details, and a section for summary costs of major cost categories, markups, and contingencies. The revised draft cost model shall be submitted to SPRWS for review prior to development of the first cost estimate for the Project.

A revised cost model shall be submitted to the Owner that incorporates and addresses Owner comments. The Design-Builder shall submit additional revisions as needed to reach agreement with the Owner on the format of the cost model.

Cost Estimates

The Design-Builder shall use the SPRWS-approved cost model for developing cost estimates. With SPRWS’s approval, the cost model may be further refined as greater detail becomes available on the Project. Cost estimates will be progressively developed and refined, allowing SPRWS to modify priorities and requirements, if necessary, based on the overall budget.

The Design-Builder shall develop and submit Project cost estimate updates regularly over the course of Phase 1, with the first submission provided no later than 90 days after issuance of the Notice to Proceed. Updates shall be provided on a bimonthly basis and shall also be provided whenever there is a design change or new information materially affecting Project costs, with the 30 percent design submittal, with the 60 percent design submittal, with any early work packages, and with the Guaranteed Price Proposal at a minimum.

The Design-Builder will develop cost estimates in a transparent and open-book manner concurrent with design development to create an acceptable cost (including contingencies) to which the Design- Builder’s proposed fee and other fixed allocations or allowances will be added.

Cost estimates are to be provided on an iterative, progressive basis as design detail is developed. Full cost estimates shall be provided at the outset of the project (as a baseline estimate) and then at subsequent major design milestones (i.e., 30% and 60% design). Incremental cost estimates between milestones may take the form of additions and deductions to the previous full estimate. Incremental cost estimates shall be maintained on a monthly basis to reflect substantive design changes subsequent to the preceding update. All incremental updates should then be incorporated into the next full estimate.

Full cost estimates at major design milestones shall be in the form of a draft Guaranteed Price (GP) proposal, in accordance with the requirements of the Design-Build Agreement. Each estimate shall include a log of additive or deductive changes from the previous cost estimate submission, with a description of the basis for changes (e.g., design changes, updated quotes, revised contingencies, etc.).

Once design has progressed to a degree acceptable to the Owner, the Owner shall have the authority to direct the Design-Builder to submit a Guaranteed Price Proposal. A GP is expected for the Project at approximately the 60 percent level of design, although earlier or later GPs for all or a portion of the Project will be considered by SPRWS as described below. Multiple GPs at various levels of design completion, including those in support of early materials purchase or early start construction packages, may be developed by the Design-Builder for consideration by SPRWS.

Design-Builder and SPRWS shall meet and confer about each cost estimate submission, with Design-Builder identifying the evolution of the costs from the previous estimate (if any). The Design-Builder shall revise the cost estimate submittals as needed in response to SPRWS’ comments and incorporate said responses into the subsequent cost estimate submittal.

Deliverables

1. Initial cost estimate submitted no more than 90 days following NTP
2. Updated cost estimates as follows
 - a. Incremental cost estimate updates whenever there is a design change or other change materially affecting costs, as needed to support Project decisions, and no less frequently than bimonthly
 - b. Submit full cost estimates in the Owner Approved Cost Model format, with the initial estimate, and with the 30%, and 60% (and 90%, if necessary) milestone design submittals, and with any early works packages.

Task 105 - Scheduling

Design Build Schedule Development

The Design-Builder shall prepare a critical path method network analysis (Baseline Schedule) to be updated over the duration of the Project. The Baseline Schedule shall be consistent with plans described in the Design-Builder’s Proposal and shall include detailed scheduling for Phase 1 and higher level (major activities and milestones) scheduling for Phase 2. It shall be submitted within 45 days of the Notice to Proceed.

Minimum Phase 1 activities for the Baseline Schedule shall include the following:

1. Procurement, installation and implementation of the pilot unit
2. All workshops and significant meetings
3. Development and review of all Phase 1 deliverables, including 30%, 60% and 100% design submittals, engineering studies, and site work.

As Phase 1 progresses, the level of detail for Phase 2 scheduling shall be expanded such that full Phase 2 schedules shall be available with the 30%, and 60%, Pre-Construction (and additional, if

required) design submittals and with the Design-Builder's Guaranteed Price Proposal(s). Phase 1 Schedule development scope shall end upon acceptance of the Design-Builder's Guaranteed Price proposal, at which time any scope for schedule development and maintenance shall have been included in the Phase 2 scope.

Minimum Schedule Requirements

Each activity in the detailed network diagram for all schedules shall include the following information:

1. Sequential activity number
2. Activity description
3. Activity dependencies
4. Activity duration in units of working days
5. Early start date
6. Early finish date
7. Planned start date
8. Planned finish date
9. Late start date
10. Late finish date
11. Free and total float
12. Percent complete
13. Resource assignment
14. Activity cost

Schedules shall have multiple sort capabilities including the following:

1. By activity number
2. By the amount of total float
3. By responsibility
4. Early start dates
5. Actual start dates
6. Late start dates
7. Activities on the critical path
8. Listing of all deliverable related activities
9. A graphical cost curve based on early start/finish and late start/finish

The Schedule shall be updated every other month. In addition, the Schedule shall be updated whenever a Project change occurs that would significantly affect the nature of Project activities, duration of activities, network logic, or the scheduled Substantial Completion, Acceptance, or Final Completion Dates. All schedule updates shall be assigned a sequential revision number.

Deliverables:

1. Baseline schedule

2. All schedule updates

Task 106 - Design and Construction Phasing Plan

Design and Construction Phasing Plan

After completion of the 30-percent design, Design-Builder shall analyze alternative design / construction phasing concepts and other methods for compressing the Phase 2 schedule. This analysis shall evaluate a baseline approach with no design and construction phasing, no extended workdays and no extended hours and at least two alternative approaches for completing the design and construction in advance of the Substantial Completion date identified in the Design-Build Agreement. The Design-Builder shall collaborate with the Owner to balance the benefits of alternative sequencing arrangements with the costs that may be associated with the sequencing approach. The approaches may involve proposed early work package(s), at the discretion of the Design-Builder. For the baseline approach and each alternative, the Design-Builder shall:

1. Provide an overall description and identify key elements of the approach
2. Provide a detailed schedule (consistent with a 30 percent design) showing the inter-relationship of all necessary design and construction activities
3. Provide a detailed cost estimate (consistent with a 30 percent design)
4. Identify assistance required from the Owner to implement the approach
5. Identify any pre-purchasing of materials required and their cost
6. Identify risks and benefits, including risks associated with any proposed deferments of Phase 1 permits and approvals identified in the Design-Build Agreement to Phase 2, as applicable

The Design-Builder shall submit a draft Plan to SPRWS for review and comment and finalize the Plan after meeting with the Owner to review and discuss alternative approaches and recommendations.

It is expected that the Design-Builder submit the 30 percent design documents prior to proposing any Guaranteed Price Proposals for Early Work Packages for construction.

Deliverables

1. Draft Design and Construction Phasing Plan

Task 107 - Subcontract and Equipment Procurement

Subcontract and Equipment Procurement

Prior to submitting its 60-Percent Design Package, the Design-Builder shall develop a preliminary Subcontracting Plan.

At a minimum, the Subcontracting and Self-Performance Plan shall incorporate the following:

1. Introduction, background and purpose
2. Planned work packages and estimated value

3. Self-performed work (including work by key firms) and competitively subcontracted work
4. Process for competitive proposals for bidding (consistent with Proposal submittals provided during procurement)
5. Local participation and outreach
6. Subcontractor prequalification process
7. Subcontractor selection process
8. Procurement plan for subcontractors, vendors, and material suppliers (consistent with Proposal submittals provided during procurement)
9. Goal and procurement plan for SBEs/MBEs, consistent with Project funding requirements
10. Handling of long lead items and coordination with the Project schedule

The Design-Builder shall submit the Plan to SPRWS for review and comment. The Design-Builder shall prepare a revised Plan, addressing SPRWS comments, for inclusion in its Contract Price Proposal Submittal Package.

Deliverables

1. Draft and final subcontracting plan

Pricing Assumptions

The Design-Builder’s proposed approach to subcontracting is described in Exhibit F and identifies the assumptions that are the basis of the level of effort and fee associated with the Phase 1 tasks and Phase 2 fees.

Task 108 - Project Labor Agreement Negotiation

Project Labor Agreement Negotiation

SPRWS is considering development of a Project Labor Agreement (PLA) that would be executed between SPRWS, the Design Builder and the St. Paul Building Trades Council. The Design Builder shall participate in negotiations with the St. Paul Building Trades Council and provide input on development of the PLA if it is incorporated into this project.

Deliverable

1. Draft iterations and final signed PLA between Design-Building and trade unions.

Task 109 - Preconstruction Contingency to Accommodate Progressive Design Build

Preconstruction Contingency

Progressive design build is an iterative process requiring multiple meetings, submittals and reviews by the Owner that may not be fully quantified at the outset. An effort has been made to quantify these assumptions for pricing purposes. This task represents a contingency amount for the cost of additional meetings, submittals and reviews that are in excess of those defined in this Preliminary Scope of Phase 1 Services and are requested by SPRWS to arrive at acceptable solutions.

Deliverables

1. Additional review submittals as requested by the Owner.

Pricing Guidance and Assumptions

This is a contingency amount that shall be used for additional services as directed by SPRWS as acknowledgement that the scope is not fully defined. In the event that the Design-Builder forecasts a budget overrun for a particular task, they should inform SPRWS. SPRWS and the Design-Builder will collaborate to determine the most appropriate source of funding the budget overrun. SPRWS’s approval of pulls from the contingency account is required as part of the collaborative process.

2. Design Services

Task 201 – Phase 1 Project Management

Provide all necessary project management and coordination of Design Services throughout Phase 1.

1. Project management shall include the following elements:

Phase 1 Project Management Plan

Within 30 days of issuance of the Notice to Proceed, the Design-Builder shall submit a draft Phase 1 Project Management Plan (PMP) to communicate basic Project requirements and approach to its Project team and subconsultants and establish and document standard project management requirements. This plan should closely parallel the Phase 1 approach specified by the Design-Builder in the submitted Proposal. At a minimum the PMP shall:

1. Identify the project team including team members, their roles, responsibilities and contact information. This section of the PMP shall also describe protocols for communication between team members and with SPRWS to ensure that team members are up to date on Project developments.
2. Include, as an attachment, the Phase 1 Health and Safety Plan (as described below)
3. Include, as an attachment, the Phase 1 Quality Management Plan (as described below)
4. Include, as an attachment, the Phase 1 Risk Management Plan (as described below)
5. Detailed scheduling requirements are described in Task 106.

Health and Safety Management Plan

The Health and Safety Management Plan shall establish the Design-Builders requirements, protocols and procedures for maintaining the health and safety of its team. Throughout Phase 1, the Design-Builder shall implement all aspects of its Phase 1 Health and Safety Plan and shall ensure that all Project personnel and subconsultants are familiar with and implement the plan’s requirements. As part of this, the Design-Builder shall track Project-related safety incidents of its personnel and subconsultants and shall report any incidents promptly to SPRWS and any appropriate governing bodies/agencies.

The Health and Safety plan shall be consistent with the plans described in the Design-Builder’s Proposal for the project. SPRWS reserves the right to reject any Health and Safety Plans which significantly deviate from those originally proposed by the Design-Builder during procurement activities.

Quality Management Plan (QMP)

The Quality Management Plan shall identify procedures for quality assurance and quality control including the necessary levels of documentation and procedures for monitoring the effectiveness of Design-Builder’s Phase 1 quality program.

Throughout Phase 1, the Design-Builder shall implement all aspects of its Phase 1 QMP and shall ensure that all Project personnel and subconsultants are familiar with and implement the plan’s requirements. As part of this, the Design-Builder shall track the effectiveness of its Phase 1 Quality Management program and shall modify its quality procedures and Phase 1 Quality Management Plan to address any short-comings.

Risk Management Plan

The Risk Management Plan shall include an initial Risk Register identifying Phase 1 and Phase 2 project risks known at the time. The risk register shall document risks, probability and consequence of risks, potential cost of risks, and management and mitigation strategies.

Throughout Phase 1, the Design-Builder shall regularly update the Project Risk Register(s) for Phases 1 and 2 and report the changes to SPRWS. Updates shall occur whenever a significant risk issue is identified and no less frequently than monthly.

Project Coordination and Communication.

The Design-Builder shall conduct general coordination and communication with the Design-Builder’s Project team and with the Owner regarding issues as they arise, including scheduling, progress of Project activities etc. Such coordination shall include regular meetings and updates as described in Task 2 and required by the Agreement.

Project Progress Tracking and Reporting

The Design-Builder shall submit monthly reports summarizing Project progress. The monthly progress reports shall include a narrative summarizing progress and shall identify any recommended actions by SPRWS or the Design-Builder to mitigate risks or modify the Project approach and scope. Attachments to the monthly progress report shall include:

1. Updated Action Item Log
2. Updated Risk Register
3. Monthly invoice and backup, including budget status update by percent complete

Affirmative Action Plan

As required by the City of St. Paul Affirmative Action/Equal Employment Opportunity Contract Specifications, the Design-Builder shall prepare and submit an Affirmative Action Plan (AAP) to the City for certification.

Deliverables:

1. Draft and final Project Management Plan including all attachments

2. Affirmative Action Plan
3. Monthly Progress Reports

Pricing Assumptions

1. Costs associated with project setup and initiation are included in Task 101.
2. The level of effort and pricing for management is based on the progression of the design and preconstruction schedule per Exhibit G – Phase 1 Milestone Schedule.

Task 202 - Meetings and Workshops

Schedule, and conduct meetings with the Owner and the Owner’s Representative throughout Phase 1 of the Project. The Design-Builder shall prepare draft agenda and meeting/workshop minutes for City review. Draft meeting agendas shall be submitted to the SPRWS Project Manager (PM) 2 days prior to the meeting; draft workshop agendas shall be submitted to the SPRWS PM 5 days prior to the workshop along with applicable handout materials. Based on any comments provided by SPRWS, the Design-Builder shall revise and finalize the agendas and handout materials. Draft meeting and workshop minutes shall be submitted to the SPRWS PM no more than 5 days following the meeting or workshop. Upon receipt of SPRWS’s comments, the Design-Builder shall finalize the minutes within three days.

They meetings and workshops under Task 202 shall include (at a minimum) the following:

Kickoff / Chartering Meeting

The Design-Builder shall schedule, prepare for, and conduct a Project Kickoff / Chartering meeting to introduce team (Owner, design-builder and owner’s advisor) members, review and endorse overall project objectives, discuss project management protocols, and introduce early project activities. The kickoff / chartering meeting shall also be designed to foster open communication, trust, understanding, and teamwork between the Design-Build team and SPRWS project team.

Key members of all firms on the Design-Builder’s project team, the Owner’s Representative team, and SPRWS’s project team are to attend.

Progress Meetings

The Design-Builder shall schedule, facilitate and participate in bi-weekly project progress meetings with the Owner’s PM during Phase 1. (Phase 2 progress meetings will be governed by the General Conditions of Contract.)

Progress meetings are to provide a routine forum for reviewing items in the monthly progress report, discussing ideas, and confirming short-term and long-term Project priorities. The Design-Builder shall complete updates to a high-level project schedule to reflect any changes to the major project deadlines, near-term (next two months) milestones, and critical path. Design-Builder shall provide this schedule update two days prior to the regularly scheduled progress meetings.

Technical Workshops

The Design-Builder shall schedule and facilitate technical workshops focusing on specific topics. These meetings are to provide a forum for presenting the Owner with alternatives and design

information while providing an opportunity for feedback and direction from the Owner. The topics for these workshops shall be agreed upon by SPRWS and the Design-Builder but may include:

1. Background information review and validation
2. Review of geotechnical and surveying information and plans for further site investigation during Phase 1
3. Pilot test planning, implementation and results
4. Unit process design criteria
5. Control systems and strategies
6. Equipment selection and layouts
7. Maintenance requirements for equipment access, lifting and repairs
8. Power supply and distribution
9. Cost modeling/estimating
10. Project scheduling
11. Design/construction phasing
12. Permitting and approvals
13. Traffic control and site use planning
14. Stakeholder and public outreach
15. Preliminary Design Report (PDR) and 30-percent design
16. 60 percent design
17. Stage 2 Contract Price Proposal Submittal development
18. Pre-construction and final design review

Deliverables:

1. Kickoff / chartering meeting agenda (draft and final) and meeting notes (draft and final)
2. Draft and final progress meeting agendas and draft and final meeting notes
3. Draft and final technical workshop agendas and notes
4. Topic-specific workshop materials for all workshops

Pricing Assumptions

1. Progress meetings will average 1.5 hours in duration and will involve the Design-Builders project manager, design manager and an average of two other members of the Design-Builders team.
2. There will be approximately 30 technical workshops averaging 4 hours in duration.

Task 203 – Background Document and Record Drawing Review and Validation

The Design-Builder shall obtain, review and conduct due diligence related to Background Documents and Drawings provided in the Electronic Reference Library during the Request for Proposals. The purpose of this review shall be to facilitate a thorough understanding of the facility.

A preliminary list of Background Documents is included in Exhibit O to the Design-Build Agreement.

General Background Document Review.

The Design-Builder shall consult with SPRWS to develop a better understanding of site and Plant constraints, Project requirements, and other information relevant to the Project. The Design-Builder shall review all materials supplied in the Electronic Reference Library to develop a general understanding of the Project, existing Plant, and site. Based on this review, the Design-Builder shall prepare a letter verifying review of the listed documents and identifying any information gaps and follow-up questions for SPRWS to address. Following receipt of this letter SPRWS will collaborate with the Design-Builder in an effort to locate additional resources that may answer outstanding questions.

Utility and Project Site Record Drawing Review and Verification.

The Design-Builder shall request, obtain, and review all relevant record drawings from SPRWS and from any utilities with easements crossing the Plant Site, including public utility (e.g., stormwater, wastewater, and water) record drawings, private utility (e.g., gas, buried power or telecommunications) record drawings, and Plant site record drawings to identify potential conflicts affecting the design and construction, and the need for utility coordination or relocations. The Design-Builder shall conduct meetings with public and private utilities as needed to clarify information or inconsistencies within the record drawings. The Design-Builder shall notify SPRWS of any such meetings so that SPRWS may participate if desired. The Design-Builder shall prepare draft and final minutes summarizing the results of such meetings.

As further described in Task 5, potholing may be required in order to precisely determine the location of some site utilities. The Design-Builder shall conduct potholing for utility location purposes in any areas of importance which may impact facility design.

Deliverables:

1. Letter to owner verifying review of information and identifying information gaps and follow-up questions.

Pricing Assumptions

1. The level of effort and price is based on the documents included in the Electronic Reference Library as of the Contract date. The index of the Electronic Reference Library is included in Exhibit O of the Agreement.

Task 204 – Geotechnical Investigations

Intent

The intent of this task is to:

1. Inform the Design-Builder’s analysis of site layout and construction methods.
2. Allow the Design-Builder to develop its recommended geotechnical design criteria.
3. Help define expected vs. unforeseen subsurface conditions.

4. Characterize anticipated groundwater to support selection and design of appropriate construction and dewatering methodologies.

Work under this task shall be performed by a geotechnical engineer licensed in the State of Minnesota and by appropriately certified hydrogeologists.

Geotechnical Field Investigations

Based on its review of available Background Documents, the Design-Builder shall prepare a Geotechnical Exploration Plan that establishes the field exploration necessary to support the Project design. Following revisions to the exploration plan based on SPRWS's comments, the Design-Builder shall implement the field investigations identified in its Geotechnical Exploration Plan.

The geotechnical investigation approach described in the Design-Builder's Proposal (as revised based on any input from the Owner) shall serve as the basis for the Geotechnical Exploration Plan.

Geotechnical Report

Based on the geotechnical investigation results the Design-Builder shall develop a Geotechnical Report to support selection of construction methods (including excavation, shoring, and dewatering methods), and define geotechnical, hydrogeologic, and structural design criteria.

The report shall include the following specific items at a minimum:

1. Site plan showing approximate exploration locations on a base map, including any previously completed borings included in the Background Documents.
2. Descriptive logs of subsurface explorations.
3. Description of surface, soil and groundwater conditions.
4. Conclusions regarding soil corrosivity.
5. Recommendations for site preparation, as applicable
6. Recommendations concerning utility trench excavations, including temporary slope angles and excavation support
7. Recommendations for pipe bedding and trench backfill
8. Ground and groundwater conditions relevant to the selection of construction and dewatering methods
9. Recommendations concerning ground stabilization
10. Recommendations concerning temporary and permanent drainage systems, where applicable
11. Recommended foundation design criteria for pipes and structures
12. Recommendations for construction monitoring
13. Recommendations for dewatering
14. Any other recommendations necessary to support the Design-Builder's design

Deliverables:

1. Draft and Final Geotechnical Exploration Plan
2. Draft and Final Geotechnical Report

Pricing Assumptions

1. 24 borings with a maximum depth of 70 ft will be collected
2. Up to 3 separate mobilizations to collect field borings will be required

Task 205 - Surveying, Mapping, and Site Investigations

SPRWS Survey

SPRWS has provided survey data from a recent site survey performed by Sunde Engineering. For Proposal compilation purposes, the Design-Builder should assume that the survey is sufficiently accurate. The survey is not sufficiently accurate to serve as the basis of design for the project. The Design-Builder shall perform its own site survey, relying solely on its own site survey for the basis of design.

Design-Builder's Survey

Design-Builder shall conduct additional surveying to verify locations and elevations of existing structures and facilities and for those undeveloped portions of the Site that will be occupied or affected by Project facilities. The Survey shall be conducted in the same datum as the SPRWS survey and shall otherwise be compatible with SPRWS's survey files. All survey work shall be conducted by a Professional Land Surveyor licensed in Minnesota.

Prior to conducting the survey or surveys, the Design-Builder shall: submit a draft Site Survey Work and Potholing Work Plan for SPRWS's review. The draft survey work plan shall include information on survey datum, control points and benchmarks, targeted site features and topography for supplemental survey (e.g., existing utility features, curbs, edge of pavement, lane striping, trees, etc.), easements, right-of-way, spot elevations for appropriate contour intervals, and procedures for locating and identifying underground utilities. The Design-Builder shall not proceed with any survey work until all SPRWS comments on the work plan have been addressed to SPRWS's satisfaction.

The Design Builder shall be responsible for ensuring that the survey is sufficiently complete and accurate to inform design.

The Design-Builder shall submit an electronic copy of the finished survey in Adobe PDF and in AutoCAD® Civil3D.

Hazardous Material Investigation

Asbestos containing materials (ACM) have been identified and labeled at specific locations within the Plant, however a comprehensive ACM or lead paint study has not been completed. The Design-Builder shall provide in-situ testing of suspected materials proposed for demolition or disruption by the Project and prepare a Removal and Mitigation Plan to be implemented during Phase 2.

Utility Coordination, Location, and Potholing.

The Design-Builder shall conduct field utility location and potholing activities as needed to confirm the location of utilities and yard piping potentially affected by the Project. Potholing shall include restoration of excavations and surfacing (asphalt, concrete, or otherwise) as necessary to maintain plant operations.

The Design-Builder shall identify potholing locations and incorporate locations of existing utilities and yard piping into the Project base maps. Project yard piping shall be routed (horizontally and vertically) within the Project sites where possible to avoid utility conflicts and maintain required separation distances from existing utilities while minimizing high points.

Deliverables:

1. Draft and final survey and potholing work plan
2. Survey files and mapping
3. Utility locating and potholing results, incorporated into Project base maps

Pricing Assumptions

1. Up to 30 potholes have been assumed for this task.
2. Surveying is limited to WTP site and does not include any offsite facilities.

Task 206 – Permitting and Approvals

The Design-Builder shall conduct all necessary activities to obtain permits and approvals required for Project completion and to support permits and approvals identified as SPRWS’s responsibility consistent the Permitting and Regulatory Approvals Responsibilities, which are included as Exhibit C to the Agreement.

Permitting and Approvals Plan

The Design-Builder shall develop a draft Project Permitting and Approvals Plan consistent with the Design Build Agreement and including any other permits / approvals identified by the Design-Builder in addition to those listed in Exhibit C to the Contract. The draft Project Permitting and Approvals Plan shall address all permits and approvals including those Identified as SPRWS’s responsibility in Exhibit C to the Contract.

The Plan shall identify all permits/approvals that must be obtained prior to the Contract Price Amendment.

The Design-Builder shall consult with SPRWS regarding the timing for providing input for the permitting process and obtaining any other permits / approvals identified by the Design-Builder.

The Plan shall include a detailed schedule for obtaining permits and approvals and for providing timely input and deliverables by the Design-Builder for the permits being obtained by SPRWS.

The schedule shall identify each permit / approval and show discrete activities for draft application development, development of supporting materials for SPRWS-obtained permits and approvals, review of each application by SPRWS, incorporation of SPRWS’s comments, revisions to the application, submittal of the application to the approving entity, preparation of responses to approving entity comments, SPRWS’s review of responses, resubmittal to the approving entity, and anticipated duration for obtaining final approval.

For each identified permit / approval, the Plan shall include the following information:

1. The name of the permit / approval
2. Name and contact information for the approving entity

3. Individual responsibilities for developing the permit application and supporting technical information
4. A summary of application requirements and supporting technical requirements
5. A description of linkages to other permits / approvals and to decisions by the Owner and/or Design-Builder
6. Expected approval dates
7. Permit tracking procedures and responsibilities
8. Protocols for incorporating permit / approval conditions into design and construction

The Design-Builder shall provide the draft Project Permitting and Approvals Plan to SPRWS for review and shall revise the Plan to address SPRWS’s comments. The Design-Builder shall update the plan as Project development activities progress if such progression results in the identification of additional permits or changes to the permitting requirements and durations.

Permits and Approvals Required Prior to the Contract Price Amendment.

For all permits/approvals listed in Exhibit C to the Contract (regardless of which party is responsible for obtaining the permit) and that are required to be obtained prior to execution of the Contract Price Amendment, the Design-Builder shall:

1. Periodically meet or otherwise coordinate with SPRWS regarding the strategy for and status of obtaining those permits
2. Conduct any field studies, technical analysis or evaluations needed to support the permit/approval applications unless being conducted as part of another Phase 1 task
3. For permits and approvals identified as Design-Builder’s responsibilities, develop permit/approval applications and supporting documentation to meet the requirements of the governmental and non-governmental entities issuing the permits and approvals. Provide SPRWS with a draft of all applications for review and concurrence prior to submittal to the approving entity. Obtain SPRWS signatures and other signatures as needed for the applications
4. For permits and approvals identified as SPRWS’s responsibilities, support development of permit/approval applications and develop supporting documentation necessary for each permit/approval
5. Actively monitor the status of permit / approval processing and respond to requests for clarification, additional information, and application revisions by the approving entities
6. Attend meetings with the approving entities to expedite permit processing. Notify SPRWS in advance of such meetings for possible SPRWS attendance. Develop draft agenda and meeting minutes for distribution to the approval entities and SPRWS. Develop final agenda and meeting minutes incorporating changes and addressing comments
7. Report to SPRWS once the permit or approval has been obtained

Support for Owner Obtained Permits and Approvals.

The Design-Builder shall coordinate with and provide supporting technical information to support Owner-obtained permits and approvals. Upon Owner’s request, the Design-Builder shall attend related meetings between the Owner and approval entities.

Deliverables:

1. Project Permitting and Approvals Plan.
2. Draft, final, and revised applications for all permits and approvals listed as Design-Builder Responsibility in the Design-Build Agreement, Exhibit C, and identified as being required prior to the Contract Price Amendment.
3. Draft, final and revised supporting technical information for SPRWS-obtained permits/ approvals required prior to the Contract Price Amendment.
4. Draft, final and revised technical studies for permit and approval applications, including both Design-Builder and Owner obtained permits and approvals.
5. Draft and final agenda and draft and final meeting minutes from meetings with permitting entities.

Pricing Assumptions

1. The costs of permits acquired during phase 1 are included in the Phase 1 price.
2. The costs of permits obtained after the Contract Price Amendment are not included in the Phase 1 price.
3. All field studies, technical analysis or evaluations needed to support permit applications have been identified in other Phase 1 tasks. If additional studies, analyses or evaluations are identified during Phase 1 these activities may require use of contingency from Task 214 or incorporation into Phase 2 activities.

Task 207 – Stakeholder and Public Outreach Planning and Support

Minimizing construction impacts on neighbors, maintaining a high level of public trust and maintaining positive relationships with key stakeholders are critical success factors for this Project.

At the direction of the SPRWS Project Manager, the Design-Builder shall provide support for stakeholder and public outreach efforts throughout Phase 1 of the Project. SPRWS has included a budgetary allotment for Public Outreach.

SPRWS and the Design-Builder will collaboratively develop the Stakeholder and Public Outreach Plan.

Stakeholder and Public Outreach Plan

The Design-Builder and SPRWS will prepare draft and revised stakeholder and public outreach plans that include the following:

1. Opportunities for direct neighborhood gatherings and/or virtual presentations to ensure immediate neighbors are engaged early and often on project progress.
2. Schedule of customer newsletter updates.
3. Schedule of potential virtual or in-person “water cooler” events related to project progress.
4. Monthly or bi-monthly blog-postings and other social media releases.
5. One survey to assess stakeholder concerns and / or understanding of the Project.

6. Definition of project website requirements for development and maintenance throughout the project.
7. Definition of public-facing Project fact sheets, summary posters and PowerPoint presentation requirements.
8. Definition of multi-media documentation requirements.
9. Definition of Site Tours and Supporting Information requirements.

Deliverables

- Stakeholder and Public Outreach Plan
- Time, materials, manhours, etc. as required to meet the Design-Builder’s responsibilities under the Stakeholder and Public Outreach Plan.

Pricing Assumptions

An allowance has been provided for Task 207. The actual cost will be based on the actual hours and verifiable expenses incurred by the design builder. The Design-Builder’s level of effort to develop the Stakeholder and Public Outreach Plan is part of the allowance.

Task 208 – Engineering Studies

The Design-Builder shall complete a comprehensive review of the Project site, the Project conditions, and contiguous areas that may be affected by the Project, including regulatory requirements that may affect the Project.

The Design-Builder shall accumulate and review applicable data, criteria, standards, regulations and other information pertinent to the project. In addition, the Design-Builder shall accumulate and review applicable standard SPRWS design procedures and guidelines.

The Design-Builder shall coordinate all field investigations of the Project Site with SPRWS. All studies listed require a report documenting the Design-Builder’s findings, including (as relevant): data, calculations, drawings, narrative interpretation, and recommendations. For contract purposes, all Engineering Studies shall be considered Basis of Design Documents. At a minimum, the Design-Builder shall complete the following studies, which shall be written as individual Technical Memoranda (TMs) for each study:

Inlet Gate Evaluation

This study will determine what parts of the inlet gates at the terminal chambers require upgrading. This study shall include examination of the following elements connected to the inlet gates and provide an assessment of their condition alongside recommendations for their replacement and future gate configuration:

1. Concrete
2. Gate body
3. Rails
4. Associated pipework

Equipment Reuse Study

The Design-Builder shall evaluate the following equipment and advise SPRWS on whether they should be reused or replaced. The study should consider overall lifecycle costs (including capital and operational costs) and system performance and reliability

1. CO2 storage and dosing equipment
2. Recarbonation Contact Basin (if reused, redundancy should still be provided)
3. Lime distribution and storage equipment
4. Instrumentation in the process units to be removed from service

Redundancy Study

The Design-Builder shall determine how plant capacity will be affected by units out of service. The study must make recommendations on approaches to redundancy for all new equipment and process units installed as part of the Project. This study shall address impacts on:

1. Constructability
2. Cost
3. Regulatory compliance
4. Softening clarifier design
5. Recarbonation system design, including application points and injection method
6. Ozone generation, including number of units, capacities, and efficiency at different production rates
7. Ozone system design, including application points and injection method
 - a. Hydraulic redundancy is necessary to ensure that a shutdown of an ozone contact chamber does not lead to a full plant shutdown. However, the Design-Builder shall determine what level of redundancy is required in the associated generation and dosing equipment to meet SPRWS water quality goals.

Maintenance of Plant Operation Plan

Development of the Maintenance of Plant Operations (MOPO) Plan will require the Design-Builder to evaluate different approaches to Project construction sequencing and recommend an approach to be agreed between the Design-Builder and the Owner. The MOPO plan shall, at a minimum, address the following issues:

1. Access
2. Constructability
3. Temporary Facilities
4. Hydraulics (see Plant Hydraulics Study Below)
5. Approaches to changeovers between existing, temporary and Project treatment processes
6. Hydraulics (see Plant Hydraulic Study)
7. Schedule impacts
8. Water quality impacts during sequencing
9. Risks associated with different sequencing approaches
10. Impacts of sequencing approaches on final design

The MOPO Plan shall consider the requirements discuss in Section 1.5 of the Preliminary Owner’s Project Criteria document.

Lime Equipment Study

The purpose of this study is to determine which elements of the current lime system should be replaced and to ensure that any replacement components will interact smoothly with the existing system. The study shall include:

1. Comparison of different lime slaking technologies
2. Recommendations for upgrading the current slaking technology
3. Impacts of lime slaking upgrades on the lime system
4. Evaluation of lime conveyance and equipment
5. If an upgrade is recommended to the lime conveyance equipment, then the study should propose a replacement to that equipment
6. Consideration of the placement, location, and stability of existing lime building with the aim of determining whether the building should remain as part of the new facility.

Softening Clarifier Technology Study

This study will evaluate different softening clarifier technologies on the market and provide a rationale for the Design-Builder’s proposed technology. The study shall include:

1. Comparison of available technologies, including:
 - a. Single-stage solids contact clarifiers
 - b. Non-acrylamide-polymer-based high-rate softening clarifiers
 - c. Any other softening clarifier technology that the Design-Builder believes will achieve the performance and technical requirements of the project
2. Capital and operating costs, including:
 - a. Energy use
 - b. Chemical use
 - c. Maintenance expenses
 - d. Anticipated lifespan of equipment
3. System complexity
4. Maintenance requirements (specifically how difficult maintenance is and whether it can be performed by in-house staff or must be outsourced to the vendor or another expert)
5. Footprint
6. Water quality impacts, including disinfection byproducts.

The study shall distill the comparison of each technology into a recommendation which best suits the Project goals.

Sludge Thickening Study

The Design-Builder shall conduct a study on the sludge thickening process to confirm that, following construction of the new softening clarifier system, the sludge thickening tanks can be

removed, and sludge can be sent directly to the belt filter presses. The study shall include recommendations for any improvements to the sludge thickening process

Ozonation Study

This study will be conducted as part of the piloting process. It shall produce results sufficient to design the full-scale Project ozonation system. In particular, the study shall include:

1. Recommendation for or against the application of Ozone as part of the project. While SPRWS anticipates that Ozone will be included as part of the Project, piloting efforts should aim to solidify that assumption. Based upon piloting results, the Design-Builder should prepare a recommendation for or against the use of Ozone as part of the new treatment process.
2. Detailed cost analysis for proposed Ozone system including design costs, construction costs, and long-term O&M costs.
3. Determination of required ozone dose to achieve treatment targets, including:
 - a. Residual: 0.01 mg/L after fifteen minutes of contact time
 - b. 80% reduction in geosmin and MIB from ozone influent to ozone effluent
 - c. 99% reduction in geosmin and MIB from raw water to filter effluent
 - d. CEC and/or DBP goals as discussed in the Draft Pilot Testing Plan
4. Determination of the optimal point of ozone injection:
 - a. Pre-ozonation for enhanced coagulation
 - b. Intermediate ozonation for taste and odor, disinfection byproduct, and emerging contaminant control
 - c. A split injection in both places
5. Recommendations for or against any enhanced oxidation measures, including:
 - a. Hydrogen peroxide, and recommended dosage range
6. Determination of the best ozone technologies to use, including:
 - a. Oxygen provision method:
 - b. Liquid Oxygen (LOX)
 - c. Vapor Swing Adsorption (VSA)
 - d. Injection method
 - e. Sidestream injection
 - f. Fine-bubble diffusion

Plant Hydraulics Study (Existing Plant)

The Design-Builder shall create hydraulic grade drawings for the existing plant and generate a hydraulic model of the plant to use for planning shutdowns during construction and for integrating new design into the existing plant. The model must provide enough detail such that the Design-Builder can design the Project to meet all hydraulic and freeboard requirements listed in the Performance Requirements and Minimum Technical Requirements included in the Owner's Project Criteria (Exhibit A to the Agreement).

The hydraulic model shall:

1. Capture hydraulic properties from the terminal chambers through the filter effluent
2. Capture water levels in each process unit at different flow rates through the plant. The model should show water levels for flow rates from 30 to 85 MGD in 5 MGD increments.
3. Show the impacts to plant hydraulics of any proposed construction sequencing arrangement(s) and the associated removal of process units from the plant treatment train

Hydraulic Study of Proposed Treatment Process

The Design-Builder shall also model the hydraulic impacts of the proposed modifications to the existing treatment process. The Design-Builder shall use a hydraulic model to prepare a report highlighting:

1. Significant gains or losses in head throughout the treatment process
2. The degree to which head is available for future expansion in treatment capacity or addition of treatment processes
3. Upon project completion, the hydraulic model of the treatment plant should be made available to SPRWS for their continued, unhindered use.

Future Process Upgrades and Expansion Study

This study shall provide a detailed discussion of how the post-upgrade Plant may adapt to changing requirements in the future. Changes to be evaluated shall include the potential for increased capacity requirements, more onerous treatment targets, and upgrades and changes to technology. At a minimum, the study shall address:

1. Expansion of the plant from 80 MGD (firm capacity) to 120 MGD (firm capacity) based on designs generated as part of this project.
 - a. Impacts of flow expansion on the treatment process
 - b. Ability to meet regulations
 - c. Ability to maintain the AWWA Partnership for Safe Water Phase IV Designation
 - d. Changes to operating costs, e.g.: increased chemical and energy usage
 - e. Impact on plant hydraulics
2. Considerations for the conversion of the existing chlorine gas system to sodium hypochlorite
 - a. Capital and operating costs
 - b. Safety
 - c. Operational challenges
 - d. Plant performance
 - e. Describe how the technologies associated with this conversion would fit with the proposed layout for the upgraded facility,
3. Increased ozone dose for future water quality challenges
 - a. Ability of installed equipment to meet these needs
 - b. Impacts on chemical delivery schedule and other operational concerns
4. Addition of hydrogen peroxide for advanced oxidation

- a. Potential disinfection benefits
 - b. Capital and operational lifecycle costs
 - c. Potential impact on filter performance
 - d. Other benefits or drawbacks
5. Future technology integration
- a. Examine technologies that may be added in the next several decades to address emerging treatment challenges. Discussion should include how these technologies would be integrated into the existing facility, potential treatment benefits, and potential challenges in adding them to the McCarron’s facility. The technologies discussed are expected to include:
 - b. UV/AOP
 - c. Membrane treatment

Electrical Study

The Design-Builder must conduct a study on the effect of new electrical equipment on the existing plant electrical system. Proposers should review the 2015 WTP Electrical Conceptual Design by CH2MHILL in the Electronic Reference Library for recent study results of the McCarrons electrical system. The electrical study should be completed in two parts:

1. Initial Electrical Study

The Initial Electrical Study shall take place as part of the Basis of Design development and shall confirm that adequate power is available to supply new project elements. If adequate power is not available, it shall detail preliminary plans for expanding power supply

2. Final Electrical Study

The Final Electrical Study to be submitted with the Final Design documents must investigate impacts to harmonics, load, voltage, controls, backup power, and all other elements necessary to ensure a safe and smoothly functioning electrical system. The study shall be conducted using the same software used to generate the existing electrical model for the Plant.

Architectural Study

SPRWS has contracted with the 106 Group to conduct a historic preservation review of existing facilities as required by the project funding source. When available, the results of the historical assessment of the property will be shared with the Design-Builder. Following comments, recommendations, and requirements shared by the State Historical Preservation Office, the Design-Builder shall prepare an Architectural Review Report documenting proposed building features and ensuring that the facility complies with any potential historical preservation requirements.

The architectural study of the facility shall also provide SPRWS staff with an understanding of the proposed architecture of the planned facility. The study should be conducted in such a way that it allows for SPRWS feedback on the proposed architectural features of the facility and subsequent design iterations.

Workspace Study / Architectural Programming

The Workplace Study shall determine:

1. Location, layout and features for a new water quality laboratory
2. Location, layout and features for a new operator area
3. Whether or not to include a new electrician’s office and if so, the location, layout and features for the new electrician’s office.

In order to determine the optimal location for these facilities, the Design-Builder shall consider the layout of existing workspaces in the Plant building. The Design-Builder shall aim to design new facility components in a way that balances the desire for centralizing staff and the desire to ensure that workspaces are located near essential job functions.

Deliverables:

1. Draft and final technical memoranda for each study
2. As the design progresses to 60% and 100%, modifications to the information or recommendations in the respective technical memoranda may occur. Where this is the case, applicable technical memoranda shall be updated with the new information such that the final documents submitted at the end of Phase 1 represent the most current design documentation

Task 209 - Preliminary Design Report and 30-Percent Design Documents

Preliminary Design Report

Prepare and deliver a draft Preliminary Design Report (PDR) for the Project which builds upon the Technical Memoranda required by Task 208. The conclusions and recommendations of the Technical Memoranda shall be summarized in the PDR. The TMs shall be included as appendices to the PDR. The PDR shall serve as a basis of design for the Project. For contract purposes, the PDR is considered a Basis of Design Document.

To establish the basis of design for the Project, the PDR shall include at a minimum the following:

1. Project summary, goals/objectives, and requirements
2. Project Performance Standards (see Owner’s Project Criteria) and design criteria including reference to published codes and standards and to Minimum Technical Requirements (see Owner’s Project Criteria). Any proposed changes to the Owner’s Project Criteria shall be identified.
3. Project features (scope)
4. Demolition requirements (scope)
5. Site and facility layout drawings including connection points to the existing Plant piping and processes, existing facilities/systems, and external utilities, including layout of future facilities
6. Geotechnical design criteria
7. Hydraulic design criteria including design flow rates and preliminary hydraulic profile
8. Process flow diagrams

9. Treatment unit process selection, sizing, and design criteria
10. Preliminary equipment sizing and selection
11. Preliminary process control narratives for major equipment and processes
12. Control system architecture diagrams Preliminary process and instrumentation diagrams for major unit processes
13. HVAC and plumbing design criteria
14. Descriptions of necessary auxiliary/support systems (e.g., cranes and monorails, plant water systems, fire suppression systems, chemical storage, and standby power)
15. Power supply one-line diagrams and site layout drawings, including any new utility services
16. Evaluation of the need for and type of corrosion control measures appropriate for the Project.
17. Design criteria applicable to Design-Builder’s selected methods for construction, excavation, and dewatering
18. Site constraints
19. Engineering analyses and calculations supporting the design
20. Testing criteria
21. Quality assurance/quality control (QA/QC) documentation
22. Constructability review of the 30 percent design documents identifying constructability issues and recommended resolutions.

Thirty Percent Design Documents

Following approval of the PDR, the Design-Builder shall finalize and submit 30 Percent Design documents including drawings, draft specifications, and equipment data sheets.

The 30-Percent Design documents shall be consistent with a 30-percent level of completion, including at a minimum the items identified in Table 1. The layout of the facilities shall be complete, and all structures shall be identified and sized. Major items of the project shall be identified and detailed sufficiently to support cost estimates. As a part of the 30-percent design review meeting the Design-Builder shall demonstrate that sufficient attention has been given to equipment operation and maintenance considerations through the use of 3-D modeling and other means as appropriate. Minimum features that are to be demonstrated include:

1. Proposed locations of stairs and platforms for equipment access
2. Adequate clearances for equipment access and equipment disassembly for maintenance
3. Provisions for equipment removal including lifting devices and hatches

Table 1. 30-Percent Drawings and Specifications – Minimum Requirements	
Drawings	Specifications
General	
Cover Sheet	
List of Drawings	List of specifications

Table 1. 30-Percent Drawings and Specifications – Minimum Requirements	
Drawings	Specifications
List of Abbreviations	
Legends	
Vicinity and location maps	
Process flow diagrams and mass balances	
3D model at LOD 200	
Civil	
Civil legends and abbreviations including expected drawing list	Detailed civil specification outlines
General Project Plan(s) Based on survey information Delineate property boundaries, transportation corridors, etc.	
Preliminary Construction Staging Plan and Preliminary Sequencing Plan	
Preliminary yard piping plans and profiles	
Preliminary paving and grading plans	
Preliminary landscaping plans	
Preliminary stormwater management plans	
Preliminary Access and Traffic Control Plan(s)	
Architectural	
Architectural legends and abbreviations including expected drawing list	Detailed architectural specification outlines
Preliminary architectural drawings and details	
Structural	
Structural legends and abbreviations including expected drawing list	Detailed structural specification outlines
Preliminary structural drawings and details	Geotechnical (including seismic) design criteria recommendations
Process Mechanical	
Preliminary mechanical plans and sections at each major floor/level including locations of: • Process equipment • Major pipe routing	Draft specifications for major process equipment and piping Detailed outlines for remaining process mechanical specifications
Equipment access and maintenance features (e.g., hatches, cranes)	

Table 1. 30-Percent Drawings and Specifications – Minimum Requirements	
Drawings	Specifications
Building Mechanical	
Preliminary mechanical plans and sections at each major floor/level including locations of: - Major HVAC equipment - Major HVAC pipe routing - Equipment access and maintenance features (e.g., hatches, cranes)	Draft specifications for major HVAC equipment and piping Detailed outlines for remaining building mechanical specifications
Electrical	
Preliminary legends and abbreviations including expected drawing list	
Preliminary electrical standard details	
Preliminary electrical site plan and electrical 1-line	
Instrumentation and Controls	
Preliminary legends and abbreviations including expected drawing list	
Preliminary I&C standard details	
Preliminary P&IDs	
Preliminary plant control system block diagram	

Deliverables:

1. Draft and final Preliminary Design Report
2. 30 Percent Design Submittal based on 80 MGD firm capacity
3. 30 Percent Design Submittal of the expansion from 80 MGD to 120 MGD (see Section 1.1.4 of the *Preliminary Owner’s Project Criteria* for more details)

Pricing Assumptions

1. The level of effort and price for Phase 1 Services is based on the Phase 1 Tasks and Design-Builder’s proposed approach to the Base Project Concept as described in Exhibit L.
2. Specifications will be developed from Jacobs Master Specification library in 49 Division CSI format.

Task 210 - 60-Percent Design

Site and Traffic Management Plan

Develop a site and traffic management plan for site use, which includes internal plant traffic and off-site construction traffic. At a minimum, the plan shall include the following:

1. A site layout plan that utilizes available areas for construction, job site trailers, storage and related contractor uses while avoiding conflicts that would interfere with plant operations
2. Develop a traffic control plan that allows SPRWS to maintain continuous delivery of materials, equipment, and chemicals to their destination within the plant and complies with City and County requirements for construction traffic and haul routes. Solicit and incorporate input from the Cities of St. Paul and Maplewood and Ramsey County on potential construction traffic haul routes and impact mitigation requirements.
3. Incorporate SPRWS, City and County comments and requirements into the plan

60-Percent Design Submittal

Develop and submit a draft 60-Percent Design submittal. The 60-Percent Design submittal shall include all documents, drawings and specifications required under this task or identified as being submitted along with the 60-Percent Design under other tasks. At a minimum, the 60-Percent Design submittal shall include:

1. Revisions to the PDR, and appendices, including any revisions to design criteria including rationale for changes.
2. Updated Project design, including:
 - a. Refinements to design criteria and process calculations
 - b. Final hydraulic profile and elevation of structures
 - c. Updated process piping design
 - d. Updated equipment sizing
 - e. Draft process control narratives
 - f. Updated P&IDs
 - g. Material and equipment selections
 - h. Fire protection concept plan
 - i. Groundwater control methods for excavations
 - j. Structural design elements in accordance with final Geotechnical Report recommendations
 - k. Power supply system
 - l. Control system, including complete control descriptions and identification of critical control points
 - m. Constructability review of the 60 percent design documents identifying constructability issues and recommended resolutions
3. Preliminary Construction Stormwater Pollution Prevention Plan (SWPPP)
4. Draft Phase 2 Health and Safety Plan
5. Draft Phase 2 Quality Management Plan
6. Summary of status of permits
7. Updated Project cost estimates based on 60-percent design
8. Updated Project schedule based on 60-percent design
9. Updated Construction Risk Register

10. Constructability TM
11. Annotated outline of the Commissioning Plan
12. Annotated outline of the Training Plan
13. Annotated outline of the Acceptance Testing Plan
14. Site and Traffic Management Plan
15. Draft of the process overview section of the Operations Manual
16. QA/QC Review documentation
17. Plans and specifications consistent with a 60-percent design milestone, including at a minimum the items identified in Table 2.

Table 2. 60-Percent Drawings and Specifications – Minimum Requirements	
Drawings	Specifications
General	
Cover Sheet	Draft general specifications (all sections)
List of Drawings	Updated list of specifications
List of Abbreviations	
Legends	
Vicinity and location maps	
Process flow diagrams and mass balances	
3D model at LOD 350 for process mechanical and 300 for all other disciplines	
Civil	
Civil legends and abbreviations including updated final drawing list	Draft civil specifications (all sections)
Revised General Project Plan(s)	
Revised Construction Staging Plan and Sequencing Plan Show construction staging and storage areas and expected construction access and haul routes	
Revised yard piping plans and profiles	
Revised paving and grading plans	
Revised landscaping plans, and preliminary landscaping details	
Revised flood protection and stormwater management plans	
Preliminary pipe, trench and manhole, and paving/surfacing details	
Revised Access and Traffic Control Plans	
Preliminary TESC Plans and Details	

Table 2. 60-Percent Drawings and Specifications – Minimum Requirements	
Drawings	Specifications
Preliminary Dewatering Plans and Details	
Architectural	
Revised legends and abbreviations	Preliminary architectural specifications (all sections)
Revised architectural drawings and details	
Structural	
Structural legends and abbreviations including updated final drawing list	Draft structural specifications (all sections)
Revised structural drawings and details	
Process Mechanical	
Mechanical legends and abbreviations including update final drawing list	Draft final specifications for major process equipment and piping
Revised process mechanical plans and section, including: - Final location of major process equipment, piping, and appurtenances - Final locations of equipment access and maintenance features (e.g., hatches, cranes) - Preliminary minor piping locations and auxiliary system layouts - Preliminary process mechanical details	Draft specifications for remaining process mechanical sections
Building Mechanical	
Mechanical legends and abbreviations including update final drawing list	Draft final specifications for major HVAC equipment and piping
Revised building mechanical plans and section, including: - Final location of major HVAC equipment, piping, and appurtenances - HVAC and plumbing layouts and sections - Final locations of equipment access and maintenance features (e.g., hatches, cranes) - Preliminary minor piping locations and auxiliary system layouts	Draft specifications for remaining building mechanical sections
Preliminary building mechanical details	
Electrical	
Revised legends and abbreviations	Preliminary electrical specifications (all sections)
Revised electrical standard details	
Revised electrical site plan and electrical 1-line	

Table 2. 60-Percent Drawings and Specifications – Minimum Requirements	
Drawings	Specifications
Electrical and Instrumentation and Controls	
Revised legends and abbreviations	Preliminary I&C specifications (all sections)
Revised I&C standard details	
Final P&IDs	
Revised plant control system block diagram	

Deliverables:

1. 60 Percent Design Submittal for 80 MGD firm capacity
2. Update, as required, the 30 Percent Design Submittal of the expansion from 80 MGD to 120 MGD to confirm its viability.
3. Updates to PDR and all relevant appendices.

Pricing Assumptions

1. The level of effort and price for Phase 1 Services is based on the Phase 1 Tasks and Design-Builder’s proposed approach to the Base Project Concept as described in Exhibit L.

Task 211 - Phase 2 Guaranteed Price Proposal and Phase 2 Amendment

Upon the Owner’s request, the Design-Builder shall conduct all work necessary to develop, revise, and negotiate its proposed Guaranteed Price (GP) Proposal in accordance with the requirements of the Design-Build Agreement. The Design-Builder shall utilize an “open book” approach to develop the GP Proposal, providing SPRWS with full access to the financial basis for the proposed Guaranteed Price. (Note: Any Key Firms identified in the submitted Statement of Qualifications are likewise required to develop costs on an open book basis). These efforts are designed to prepare the documents and estimates as accurately as possible and to keep SPRWS fully informed and involved with the design and cost throughout the development of the GP Proposal.

While SPRWS anticipates that the Guaranteed Price Proposal will be requested at approximately the 60% design stage, the Owner reserves the right to direct the Design-Builder to submit a Guaranteed Price Proposal at an earlier or later stage of design. No price adjustments will be made for earlier or later GP Proposals.

The GP Proposal shall meet the requirements set forth herein and, in the Design-Build Agreement.

Provided that the Guaranteed Price Proposal is completed around the time of the 60-percent design submittal, the Guaranteed Price Proposal shall (at a minimum) include the items specified below. In the event that an earlier or later GP Proposal is requested, the list below may be modified through negotiation between the Owner and the Design-Builder. SPRWS reserves the right to request additional documents or information prior to accepting a Guaranteed Price Proposal.

Anticipated Requirements for Guaranteed Price Proposal

1. Revised 60-Percent Design documents and submittals addressing Owner comments and any other drawings or specifications necessary to define the baseline design for the Contract Price Amendment (unless a GP is accepted by the Owner prior to 60 percent design completion).
2. Proof of all permits and approvals that the Design-Builder was responsible for obtaining during Phase 1, as identified in the Design-Build Agreement.
3. Identification of construction permits and approvals to be obtained by the Design-Builder during Phase 2.
4. Finalized Owner’s Project Criteria including Performance Criteria as jointly developed by Design-Builder and Owner.
5. Proposed Design-Build Schedule including an accompanying narrative describing key assumptions in the proposed Baseline Design-Build Schedule upon which the Base Guaranteed Price is based including dates for Substantial Completion and Final Completion.
6. Descriptive information on all engineering, procurement, materials, construction labor and equipment. design gap narratives, and other services necessary to perform the Design-Build work as required under the Design-Build Agreement.
7. The proposed direct Cost of Work as defined in the Design-Build Contract and including contingency, to which the Design-Builder’s proposed fee and other fixed allocations or allowances will be added to establish a mutually agreed-upon Guaranteed Price (GP). Direct cost for the Phase 2 work shall include all services required for construction of the Project through Final Completion, using the Owner-approved cost model. Supporting documentation for the proposed direct cost of Phase 2 work shall include, at a minimum:
 - a. Subcontractor and materials vendor bids and quotations.
 - b. Details supporting estimates for self-performed construction work (labor, materials and equipment).
 - c. Expense rates such as mileage charges, per diem for meals and lodging, and personnel vehicle rentals.
 - d. Unburdened rental rates on construction equipment, trailers, storage and staging space and major tools.
 - e. Allowances (where appropriate).
 - f. Labor and expense costs for engineering construction support consistent with the Phase 2 professional services billing rates included in the Design-Build Agreement.
 - g. Details for any other relevant labor, expense, or other costs
 - h. Design-Builder contingency based on probabilistic assessment of risks and cost consequences if realized, weighted for probability of occurring
 - i. The proposed GP and breakdown consisting of the proposed direct cost of Phase 2 work, including proposed Design-Builder contingency.
 - j. Details to support the possible implementation of a Guaranteed Maximum Price delivery of the project, including the Design-Builder’s fee and any shared

savings provisions. Any details which differ from those submitted in the Proposal should be well-supported and are subject to Owner approval.

- k. Details to support the possible implementation of a Lump Sum delivery of the project, including a Lump Sum discount on the Design-Builder’s fees. Any details which differ from those submitted in the Proposal should be well-supported and are subject to Owner approval.
- l. All other proposed GP pricing assumptions and clarifications on terms and conditions used not covered in the preceding items in this section.
- m. A list of work activities, expenses and fees not included in the GP which the Owner may be expected to pay for.

After delivery of the initial draft GP Proposal, the Design-Builder will meet with SPRWS during a 4- hour workshop to present, review, and answer questions about the content of the GP Proposal. The Design-Builder will continue to revise the GP Proposal as needed and conduct additional workshops and meetings as needed to obtain SPRWS agreement.

In general, the following will be required before SPRWS will approve a Contract Price Amendment: all required permits necessary prior to initiating Phase 2 have been obtained, or SPRWS has approved proceeding forward with certain permits still pending.

Upon acceptance of the Guaranteed Price Proposal, all documents upon which the GP Proposal is based shall be considered Contract Documents and shall serve as the basis for the remaining design work and construction. Any proposed meaningful deviations from the Contract Documents shall be the basis for a Change Order.

SPRWS shall have the sole authority to determine whether the project will be completed with the use of a Guaranteed Maximum Price or a Lump Sum as the basis for payment.

After SPRWS acceptance of a proposed GP, the Design-Builder and Owner shall negotiate and finalize a Contract Price Amendment in accordance with the requirements of the Design-Build Agreement.

Deliverables:

1. Guaranteed Price Proposal and supporting documentation
2. Contract Price Amendment (mutually negotiated with SPRWS)

Pricing Assumptions

The level of effort for Task 211 is based on preparing the complete set of revised design documents to support the GP submittal one time only. Multiple preparations of revised design documents may require additional funding for this task at the Owner’s expense. In this instance, the Design-Builder will be required to pull unused funds from other tasks and/or contingency funds. If all funds have been exhausted, a change order may be required.

Multiple revisions of this submittal will be covered as part of the Design-Builder’s expense in the event that:

- The Guaranteed Price Proposal cost exceeds the preceding cost estimate by 7% or greater, provided that the Design-Builder cannot reasonably attribute the cost increase to SPRWS-directed scope changes (from the preceding estimate) or to market increases. In order to attribute the increased cost to market increases, the Design-Builder must

demonstrate that the market increases occurred during the time period between the GP Proposal submittal and the preceding estimate. (i.e. If the GP Proposal is submitted 3 months after the preceding estimate, only market increases which occurred during those 3 months will be considered relevant.)

- A design flaw discovered during the GP submittal process requires revisions to the design or multiple bids for the same work or renders a portion of the project not constructable.

Task 212 - Final Design (Ready for Design-Build Construction)

In the event that the Owner and Design-Builder reach an agreement on the Contract Price Amendment, the Design-Builder shall continue to advance the design for the facility.

The Design-Builder may also progress the design while the Owner is reviewing the Guaranteed Price Proposal. In doing so, the Design-Builder shall focus on progressing design features that are relevant and applicable to both (a) the Owner’s acceptance of the GP Proposal and subsequent Phase 2 work and (b) the Owner’s rejection of the GP Proposal and decision to take the “off-ramp” and bid work out. The Design-Builder should not use this time to progress any design work on any features which have not been previously discussed with the Owner.

The design shall ultimately be progressed until it is sufficiently complete to allow for the beginning of construction work. Such design documents need not be “bid-ready” but they must be sufficiently complete to ensure that construction work can proceed unhindered. Prior to the start of construction, Owner must be sufficiently satisfied that design documents have been developed to an appropriate degree. The Owner has full discretion with regard to providing a Notice to Proceed and may withhold such notice if it feels that further work is required before proceeding with design. All plans and specifications shall be signed by the appropriate design professionals licensed in the State of Minnesota.

Additional documents to be submitted with the Construction Documents include the following:

1. Final Construction Stormwater Pollution Prevention Plan (SWPPP)
2. Summary of status of permits
3. Updated Project schedule
4. Updated construction risk register
5. Final constructability technical memorandum
6. All updated technical memoranda
7. Annotated outline of the Commissioning Plan
8. Annotated outline of the Training Plan
9. Annotated outline of the Acceptance Testing Plan
10. QA/QC Review documentation

Deliverables

1. Revisions to all Construction Documents, which are sufficiently complete to allow for construction by the Design Builder and which have been approved by SPRWS as sufficiently complete
2. Additional documents noted above as applicable to the design package scope.

Task 213 - 100 Percent Design (Bid Documents in Case of Off-Ramp, at SPRWS’s Option)

In the event that the Owner and the Design-Builder are unable to reach an agreement on the Guaranteed Price for the project, the Owner has the right to direct the Design-Builder to finish design work. In such instance, the design work shall be brought to 100% completion by the Design-Builder. 100 percent completion of design shall mean that the design documents are sufficiently complete to allow the Owner to bid the project on the open market without hinderance.

Final plans and specifications for construction by a General Contractor through competitive bids shall meet the minimum industry standards for construction documents and be prepared in sufficient detail to communicate the full design intent of the project and in sufficient detail for solicitation of competitive bids. All plans and specifications shall be signed by the appropriate design professionals licensed in the State of Minnesota.

Deliverables:

1. Draft 100 Percent Design Package
2. Final 100 Percent Design Package
3. Update, as required, the 30 Percent Design Submittal of the expansion from 80 MGD to 120 MGD to confirm its viability.
4. Updates to PDR and all relevant appendices.

Pricing Assumptions

1. The level of effort and price for Task 213 assumes prior completion of all Task 212 activities.

Task 214 - Design Contingency to Accommodate Progressive Design-Build

Design Contingency

Progressive design build is an iterative process requiring multiple meetings, submittals and reviews by the Owner that may not be fully quantified at the outset. An effort has been made to quantify these assumptions for pricing purposes. This task represents a contingency amount for the cost of additional meetings, submittals and reviews that are in excess of those defined in this Preliminary Scope of Phase 1 Services and are requested by SPRWS to arrive at acceptable solutions.

Deliverables

Additional review submittals as requested by the Owner.

Pricing Assumptions

This is a contingency amount that shall be used for additional services as directed by SPRWS as acknowledgement that the scope is not fully defined. In the event that the Design-Builder forecasts a budget overrun for a particular task, they should inform SPRWS. SPRWS and the Design-Builder will collaborate to determine the most appropriate source of funding the budget overrun. SPRWS's approval of pulls from the contingency account is required as part of the collaborative process.

Task 215 – Design of an Ammonia and Chlorine Warning System (Optional)

McCarrons' existing ammonia and chlorine warning systems are out of compliance with OSHA requirements.

At the direction of the SPRWS Project Manager, the Design-Builder shall provide support for design of an ammonia and chlorine warning system. SPRWS has included a budgetary allotment for this task.

Basis of Design

In order to further define the scope of this task the Design-Builder will develop a basis of design memorandum (BOD) with SPRWS. The BOD shall include the following:

1. Review current OSHA or other applicable local code requirements for chlorine and ammonia leak alarms and document the requirements.
2. Review existing alarm systems, SCADA and operating procedures.
3. Develop design concept for the plant wide warning system.
4. Develop implementation strategy for existing facilities and facilities that will be installed as part of the Design-Build Improvements project.

Develop Technical Design

1. Prepare drawings and specifications that will be incorporated into the Task 209 – 212 deliverables for the Design-Build Improvements project.
2. Based on the implementation strategy developed as part of the BOD prepare specifications sufficient for SPRWS to bid out the design and installation work for the existing facilities that are outside of the scope of the Design-Build Improvements project.

Pricing Assumptions

1. Existing system drawings and catalog information will be provided by SPRWS
2. Drawings will not be produced for individual existing facilities to show system upgrades. The system will be primarily depicted in the form of a block diagram.
3. An overall site plan will be developed to show the location of the existing facilities where modifications are required, and the location of the existing & proposed main controller/system hub.

3. Task 300 Pilot Testing

This Section 3 details requirements and protocols regarding the pilot for the McCarron’s Water Treatment Plant (WTP) Rehabilitation. The requirements have been developed through collaboration with the Minnesota Department of Health (MDH).

Generally, these piloting requirements have been developed under the assumption that the base case (as described in Exhibit L) will be implemented.

The Design-Builder shall be responsible for performing all pilot testing associated with the project.

Pricing Guidance and Assumptions

All pilot testing costs are shown in Exhibit I.

3.1 Pilot Test Plan

Before beginning the pilot, a Pilot Test Plan must be developed by the DB and approved by the Owner and MDH. The Pilot Test Plan shall detail the exact equipment, instrumentation, operating procedures, monitoring and testing to be used in the pilot and shall be consistent with the Pilot Testing Approach described in the Design-Builder’s submitted Proposal. The Pilot Test Plan shall at a minimum include sections detailing:

1. Overview of purpose and specific pilot goals
2. Pilot equipment procurement plan
 - a. The decision to rent vs. purchase equipment, including a comparison of costs for equipment rental, purchase, and lease-to-buy options
 - b. How procurement will ensure adherence to overall project schedule
3. Pilot site description
 - a. Any modifications to the McCarrons WTP required to accommodate the pilot
 - b. The location that will house the pilot and any associated concerns
 - c. Delivery protocols for pilot chemicals
4. Pilot design
 - a. The Pilot Test Plan must describe a pilot design meeting all requirements in specified herein.
 - b. Provide a design criteria table summarizing the sizes and dimensions of each item to be provided
5. Pilot construction management plan
 - a. Position and contact details of DB pilot construction staff
 - b. Construction quality assurance protocols
 - c. Communication plan during construction
 - d. How construction and installation of the pilot will be documented and reported
6. Pilot management and reporting description
 - a. Position and contact details for DB pilot staff
 - b. How pilot results will be documented and report

- c. How communication between the DB and the Owner will be structured
- 7. Pilot test plan phase descriptions
 - a. Describe distinct phases of piloting which are focused on different pilot goals
 - b. Identify the ranges of key operating conditions (e.g.: clarifier loading rate) that will be evaluated during each stage
 - c. Identify the ranges of key water quality parameters (e.g.: geosmin concentration) that will be tested during each stage
 - d. Describe the sequential arrangement of the phases, including under which phase each key water quality parameter will be evaluated
 - e. How the initiation and completion of each phase will be determined
 - f. Describe how key seasonal water quality variations are being considered
 - g. Describe how source water changes (i.e., receiving raw water from SPRWS’s 10 groundwater wells instead of the surface water) are being considered
 - h. Description of piloting operational manpower that will be provided
 - (1) Include description of any alarms or remote communication which will be included
 - (2) Include a protocol for contacting DB during any periods the pilot is not staffed
- 8. Sampling and analytical plan
 - a. Discussion of how sampling will be conducted and how samples will be analyzed. In particular, discuss how the following types of samples fit into the overall plan:
 - (1) Onsite sampling required to operate the pilot but that may not meet MDH reporting requirements
 - (2) Onsite tests meeting MDH reporting requirements
 - b. Discussion of spiking trials to capture water quality events that may not be represented by the raw water during the trial, including but not limited to Geosmin and 2-Methylisoborneol (MIB)
- 9. Data Management Plan
 - a. Describe the electronic data platform that will be developed to support storage, management, visualization, and analytics for multiple data types
 - b. Provide specific details regarding how data from online instrumentation will be incorporated into the data management system, and at what frequency
 - c. Establish key monitoring concepts, and provide data platform prototype prior to pilot deployment
 - d. Provide detailed description of any data cleaning necessary to support data visualization and analyses
- 10. Quality Assurance and Quality Control Plan
 - a. Provide specific details of online instrumentation calibration protocols

- b. Provide specific details related to sampling and analysis through both SPRWS laboratories and any necessary third-party laboratories including:
 - (1) Sample duplicates, split samples and field blanks
 - (2) List of all laboratories responsible for analytical work and coordination with laboratory project managers to establish testing and QC protocols specifically for this project, including but not limited to method numbers, method detection limits, turnaround times, QC sample requirements, etc.
 - (3) Plan for obtaining MDH approval of all labs processing samples and generating data that will be submitted to MDH for compliance.
 - (4) Establish protocols for shipping samples
 - (5) Establish detailed information to be collected on sample chain of custodies and document management protocols
 - (6) Establish Electronic Data Deliverable formats and project team review protocols
- 11. Health and Safety Plan
- 12. Commissioning and Startup Plan
 - a. Steps involved in startup
 - b. Plan for start-up following a power outage
 - c. Indicators that reliability and steady-state have been achieved
- 13. Decommissioning Plan
 - a. Client site must be restored to its original condition and any modifications rectified. Plan should include a discussion of the plan to do this in a way that satisfies SPRWS
 - b. If any of the piloting equipment will be kept on as permanent test equipment, the plan should describe the transition process for that.
- 14. Schedule

3.2 General Pilot Requirements

Pilot Testing Administration and Management

The draft Pilot Test Plan must be submitted to the Owner and MDH within two weeks after receiving notice to proceed (NTP). Assume the Owner will take two weeks to provide responses to the draft test plan. Furthermore, assume that there will be a meeting and one-week review period with MDH in parallel with the review with Owner.

Within one week after receiving both Owner and MDH comments on the draft Pilot Test Plan, the DB shall lead a kickoff workshop with the Owner and its representatives discussing the details of plan implementation and any potential modifications to the draft Pilot Test Plan. The DB shall distribute meeting minutes following the workshop.

The DB shall submit a final Pilot Test Plan within two weeks after the kickoff workshop. The Owner will provide comments within one week of receiving the plan and it can be assumed that responses to comments will not be necessary unless significant issues remain in the final plan.

After achieving steady state as approved by the Owner, the pilot is anticipated to run for 12 months, and must capture spring runoff, summer temperature variations, fall turnover, and stabilized winter temperatures once ice has formed. Portions of the pilot testing may run longer or shorter than 12 months, as determined by MDH and SPRWS after results are obtained.

While the pilot facility is active, the DB shall provide monthly memoranda documenting key piloting activities, data analyses, any issues that have arisen, and their resolution. The pilot testing program will be considered complete when, at the end of twelve months, the pilot has generated performance data sufficient to indicate that the proposed full-scale design shall meet the water quality goals described in the Owner's Project Criteria under the different conditions also described in the Owner's Project Criteria. Should the pilot fail to provide performance data sufficient to indicate successful performance of the full-scale design, the pilot period shall be extended until this requirement is met, at no cost to the Owner.

Within three weeks of the completion of the Pilot Testing Period, the DB shall submit to the Owner a final report containing the following:

1. Pilot goals and background
2. Equipment and instrumentation used
3. Chemicals and other materials used
4. Operational procedures
5. Sampling schedule and methodology
6. Analytical methodology
7. Laboratory resources used
8. Quality control procedures
9. Data management procedures
10. Factors impacting raw water quality
11. Pilot Results, especially pertaining to water quality goals of this project and the parameters listed in Section 3.4 Base Concept Pilot Design.
12. Analyses of data which specifically include, but should not be limited to:
 - a. Specific analyses that address each objective
 - b. Correlations of operational parameters with water quality data
 - c. Dimensional analysis for each unit process to demonstrate how the hydraulic configuration would be scaled for full-scale design, which should include CFD modeling for critical hydraulic elements that require minimum contact time or mixing requirements
13. Recommendations including
 - a. Engineering design parameters for each unit process
 - b. Minimum and maximum ranges for process operation parameters
14. Appendices with all data generating for reporting requirements

Assume the Owner will take two weeks to provide comments. The DB shall provide responses to those comments within two weeks of receiving them. No further round of comments is anticipated unless significant issues remain in the final report.

3.2.1 General Technical Requirements

The DB is responsible for the following scope of work associated with the pilot:

1. Connecting to McCarrons' raw water facility and installing pipe to convey water to the pilot influent.
2. Installing pilot effluent pipework and conveying pilot effluent to the plant rapid mix chambers, or another location mutually established with the Owner
3. Erecting temporary shelter as required
 - a. The DB is responsible for confirming that the installation is compliant with all local, regional and national codes that may apply to the pilot.
 - b. The DB shall respond to reasonable comments from the Owner related to safety or site tidiness
4. Providing power and all other necessary utilities to the pilot from reasonable tie-in points at McCarrons

Further:

1. Proposer shall identify the redundancy approach for each item of equipment indicating if repair, a shelf spare, or a redundant installed item will be provided for the pilot so that the pilot is not out of service for more than 48 hours.
2. Each system shall have turndown and turnup to allow testing of at least 50% increases and decreases of the proposed design parameter
3. All chemical storage facilities for the pilot shall be sized such that chemical deliveries of no more than once every four days at pilot conditions are required.
4. The pilot must run continuously, although it is not expected to be staffed continuously. It is the responsibility of the DB to run the pilot, although SPRWS staff will observe operation in order to learn the different processes and equipment. The Proposer should state any assumptions about occasional operation and sampling to be done by SPRWS staff.
5. The DB assumes use of McCarrons lab resources as part of the piloting sample analysis as follows:
 - a. TOC/DOC, method USEPA 415.3
 - b. Lead and Copper, ICP-MS method 6020B
 - c. Calcium and magnesium hardness, Titrimetric method USEPA 130.2, 2340
 - d. Alkalinity, titrimetric method 2320
 - e. Heterotrophic plate counts (HPC), plating method 9215
 - f. UV254
 - g. Temperature
 - h. pH
 - i. Turbidity

- j. Iron
- k. Phosphate
- l. Total chlorine, free chlorine, monochloramines, and free ammonia
- m. ATP
- n. Total Trihalomethanes (TTHMs), Haloacetic Acids (HAAs), and Bromide will be sampled by SPRWS by analyzed by 3rd party laboratory at SPRWS’s expense

3.2.2 Treated Water Standards

At a minimum, the upgraded McCarrons process installed as part of this project shall show no decrease in plant performance compared to the pre-upgrades plant. The pilot must demonstrate performance indicating that the full-scale plant, once constructed, shall achieve the target water quality to the satisfaction of the DB, Owner, and MDH. Target water quality has been defined based on MDH regulatory requirements and McCarrons operational goals based on existing plant performance.

The water quality parameters that will be used to measure this performance are listed in Table 3 in the Preliminary Owner’s Project Criteria. These water quality targets apply to both the full-scale and pilot plant.

In addition to the water quality parameters listed in the Preliminary Owner’s Project Criteria (Exhibit A to the Agreement), the pilot must demonstrate that the chosen technology satisfies applicable drinking water regulations prescribed by MDH.

3.3 Schedule

The table below captures key pilot milestones discussed throughout this document:

Table 3. Key Pilot Milestones	
Milestone	Due Date
Draft Pilot Testing Plan	Within 2 weeks of NTP
Pilot Kickoff Meeting	Within 1 week of Owner comments on Draft Pilot Testing Plan
Final Pilot Testing Plan	Within 2 weeks of Pilot Kickoff Workshop
Pilot Commissioning	Within 3 weeks of installation
Steady State Flow Conditions	Within 3 weeks of installation of each unit operation, except for pipe loops.
Pilot Testing Completion	Within 12 months of Steady State flow being achieved, or a mutually agreeable duration to SPRWS, MDH and Jacobs
Draft Pilot Report	Within 3 weeks of Pilot Testing Completion
Final Pilot Report	Within 2 weeks of Owner comments on Draft Pilot Report

3.4 Base Concept Pilot Design

The pilot shall include all unit processes that are part of the upgrades to the full plant. The design listed below reflects the Base Case Concept discussed in the Owner's Project Criteria and should be used for pricing. As noted previously, SPRWS remains open to alternative treatment approaches. In the event that the Design-Builder proposes an alternative treatment approach, these piloting requirements will be modified to accommodate the differing approach.

Regardless of whether the Design-Builder adopts the base case design or proposes an alternative process, the requirements described in the remainder of this Section should be helpful in developing an understanding of the depth and breadth of piloting requirements anticipated for the project.

At a minimum, the pilot shall include:

1. A solids contact softening clarifier
2. A recarbonation train
3. Two parallel trains, one of which is for ozone and one of which is for ozone/hydrogen peroxide. Each should include BAC filter columns (2) using media from McCarrons WTP's existing BAC filters.
4. Control filter columns (2) to receive water directly from the McCarrons recarbonation basin to allow direct comparison of softening performance in the full-scale facility
5. Control filter columns (2) to receive water from the pilot recarbonation basin to serve as a pilot control for non-ozonated water.
6. Each of the 3 pilot test trains will include a disinfection process to simulate McCarrons disinfection process of free chlorine, pH adjustment, and chloramination. Following the disinfection train will include a pipe loop to test corrosion potential of lead, copper, and cast iron pipes with the addition of a corrosion inhibitor selected by SPRWS. A 4th parallel pipe loop will be provided for testing McCarron's finished water.

Figure 1 (below) shows the piloting arrangements anticipated following discussions with MDH, SPRWS, and Jacobs.

All unit processes shall be appropriately scaled to match full-scale flow characteristics and the optimal operating parameters determined through the pilot shall be representative of the indicated operating parameters in the post-upgrade full-scale plant.

The pilot shall be run for two different purposes, exploratory and compliance. The purpose of exploratory operation will be to determine optimal performance and operational parameters of the pilot equipment, with the ultimate aim of informing design decisions for the full-scale plant. Samples taken during exploratory operation testing will not be used to formally assess the ability of the pilot to meet the treatment goals.

The purpose of compliance operation will be to prove that, at pre-defined operational conditions, the treatment train meets applicable regulatory requirements, the overall performance requirements listed in the Owner's Project Criteria, and the individual unit process performance requirements set out in the remainder of this Section. Except where otherwise noted, during compliance testing, parameter targets listed in the remainder of this Section must be met in 95% of samples. Failure of the pilot to achieve the target parameters may result in extension of the pilot testing period at no additional cost to the Owner.

Saint Paul Regional Water Services—McCarron's Water Treatment Plant Process Improvement Project
Preliminary Scope of Phase 1 Services

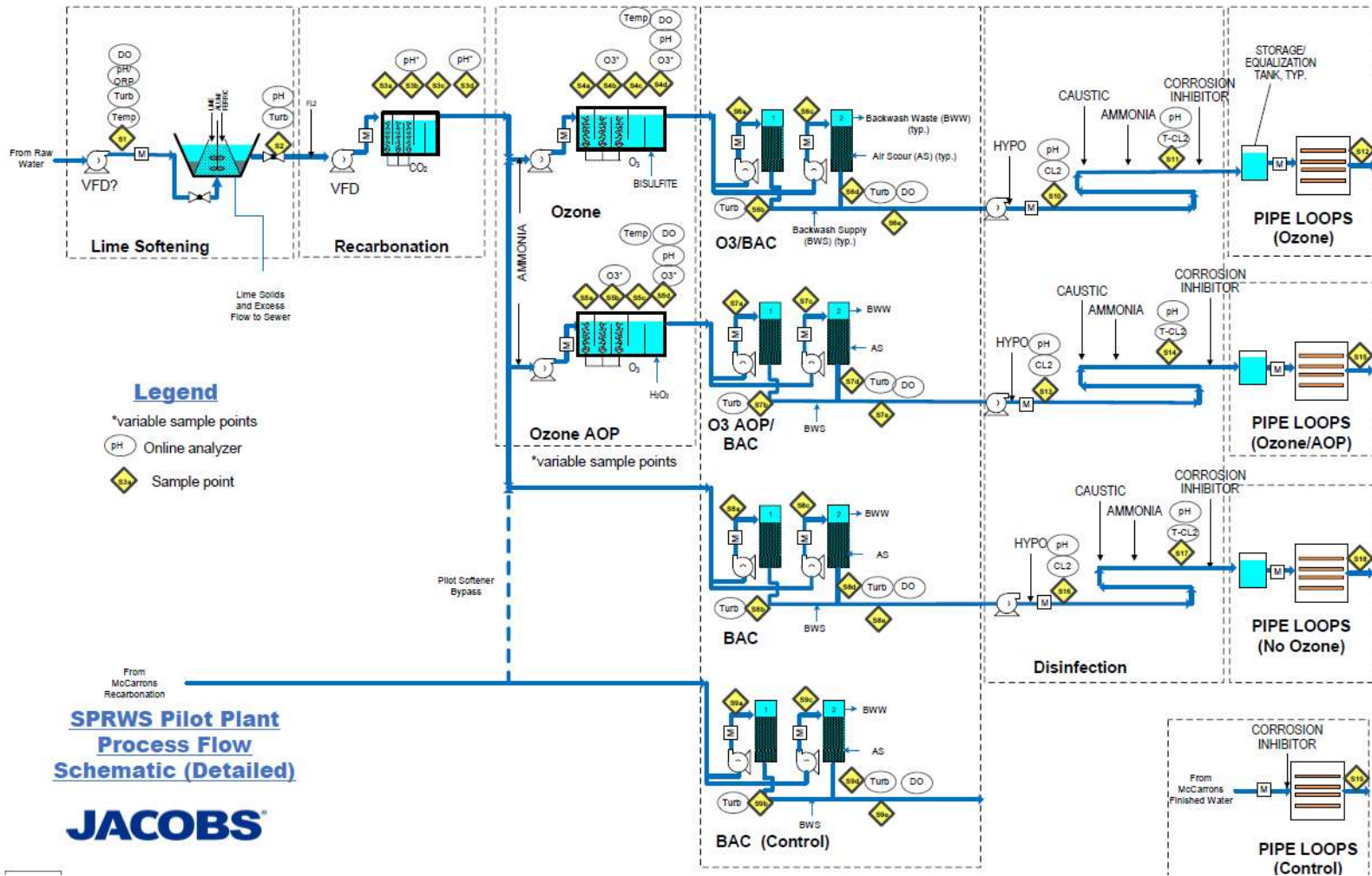


Figure 1. Pilot plant schematic including supplemental scope and based on SPRWS and MDH scope discussions.

3.4.1 Influent

Pilot feed water shall be taken from the influent terminal chambers or directly from raw water conduits.

3.4.2 Softening Clarifier

While smaller clarifier sizes will be considered by the Owner with justification from the Proposer, it is recommended that the clarifier be sized to at least 65 gpm, to avoid hydraulic short-circuiting. The Design-Builder is responsible for demonstrating that performance data from the chosen pilot clarifier will be sufficiently representative of the full-scale clarifier to make design decisions. It is anticipated that the softening clarifier will be equipped with Variable Frequency Drives (VFDs) to enable it to achieve the required turnup/turndown variances, but the DB is encouraged to consider other methods.

The pilot softening clarifier shall be sized so that at a 65 gpm flow rate, a surface loading rate equal to that recommended by the 10 States Standards for Water Treatment can be tested. As required, the pilot equipment shall be capable of varying at least +/- 50% from the design criteria. Because smaller flow rates are required for other pilot components, most of the effluent from the softening clarifier will bypass the downstream processes in the pilot and be returned to the plant headworks or discharged, as will the sludge generated by the clarifier.

SPRWS maintains a strong preference against the use of acrylamide-based polymers due to the potential for such polymers to lead to N-nitrosodimethylamine (NDMA) formation. As such, the softening clarifiers should operate without the use of acrylamide-based polymers unless SPRWS and the Design-Builder agree otherwise.

The pilot softening clarifier shall be used to determine, at minimum, the following operating parameters required to achieve noted effluent requirements:

1. All applicable chemical dose
2. Hydraulic residence time
3. Surface solids loading rate and hydraulic rise rates
4. Solids content of sludge effluent stream
5. Softening performance
6. Impact of softened water turbidity on filter performance

The pilot softening clarifier shall be designed to meet the performance standards noted in Table 4 of the Preliminary Owner's Project Criteria document.

3.4.3 Recarbonation

While the softening clarifier is to be sized at 65 gpm, the downstream units of the treatment train can be considerably smaller and still achieve representative performance. The recarbonation contact basin shall be sized at a minimum of 6 gpm and with a contact time of at least 20 minutes. The DB shall design the pilot recarbonation system to include the following:

1. CO₂ Storage Tank
2. CO₂ Injection System
3. Recarbonation Contact Basin with a minimum 20-minute contact time

The pilot recarbonation unit shall be used to determine, at a minimum, the following operating parameters required to achieve noted effluent requirements:

1. Required CO₂ dose to achieve pH target
2. Time required for stable pH reading
3. Impact of CO₂ dose on downstream treatment plant performance

The recarbonation system shall be designed to meet the performance standards noted in Table 5 of the Preliminary Owner's Project Criteria document.

3.4.4 Ozone and Ozone/Hydrogen Peroxide

Under the Base Case, SPRWS anticipates that two technologies, ozone and ozone/hydrogen peroxide, will be tested in parallel. Additionally, as noted in Section 3.2 General Pilot Requirements, a control test with water flowing straight from the pilot recarbonation chamber to a BAC filter column should run in parallel to these two technologies. The DB shall determine if a single ozone generator that feeds both pilot ozone trains can be used or if separate ozone generators will be provided. The ozone pilot shall include, at a minimum:

1. An oxygen supply system (air)
2. A complete ozone generation system
3. Ozone injection system
4. Hydrogen peroxide storage
5. Hydrogen peroxide injection
6. Ozone contact basin
7. Ozone quenching system
8. Ozone destruct equipment
9. Ability to fully monitor ozone equipment performance, including:
 - a. O₂ gas flow rate
 - b. O₃/O₂ ratio
10. All hydrogen peroxide, ozone and oxygen safety equipment required by code and industry best practice for a pilot scale operation

The primary goal of both processes is taste and odor control, with secondary goals of enhanced biological filtration, and management of Disinfection By-Products (DBP) and Contaminants of Emerging Concern (CECs).

The ozonation pilot trains shall be used to determine, at minimum, the following operating parameters required to achieve noted effluent requirements:

1. Ozone contact time
2. Applied ozone dose
3. Ozone residual at a minimum of three contact times
4. Hydrogen peroxide dose
5. pH
6. Temperature

Taste and Odor Challenge Testing

As Taste and Odor control is a primary driver of adding ozone to McCarrons’ treatment process, Geosmin and MIB spiking shall be conducted to ensure the pilot processes are tested under adverse conditions. The pilot shall include a total of 20 spiking trials with samples taken from each treatment train. The exact trials will be mutually agreed between the DB and the Owner in the preparation of the final Pilot Test Plan.

CECs and DBPs

During development of the Final Pilot Testing Plan, the DB shall determine with the Owner a representative set of CECs and DBPs to monitor. CEC monitoring may include synthetic organic compounds (SOCs) and endocrine disrupting chemicals (EDCs). The pilot shall include a total of 20 spiking trials with samples taken from each treatment train. The exact trials will be mutually agreed between the DB and the Owner in the preparation of the final Pilot Test Plan.

At a minimum, removal of the compounds in Table 4 below shall be evaluated and benchmarked to industry standards.

Table 4. DBP and CEC Compounds to be Tested	
Contaminant Class	Compound
DBPs	Total Trihalomethanes (TTHM)
	Trihaloaceticacids (THAA)
	N-Nitrosodimethylamine (NDMA)
	Bromate
CECs	1,4-dioxane
	Carbamazepine

The compounds in the table above were chosen for their well-documented treatment kinetics and relevance to human health. A final determination of which CECs should be tested may be determined through discussions between the Design-Builder and SPRWS.

Filter Performance

Impacts of ozone and ozone/hydrogen peroxide on filter performance shall be measured by comparing filter performance across the different pilot treatment trains. Measures of filter performance are listed in the Filtration section below. At a minimum, filter performance shall not be permitted to decrease below the performance in the McCarrons WTP prior to the Project.

Ozone Effluent Requirements

Each pilot train shall be designed in order to meet the performance standards noted in Table 6 of the Preliminary Owner’s Project Criteria document, except for ozone transfer efficiency.

3.4.5 Filtration

Filter columns shall mimic the full scale McCarrons WTP’s BAC filters and shall use media from those filters. Protocols for confirming similar biological performance between filter

columns during startup of the pilot shall be provided by the DB in the Pilot Test Plan. Filter parameters should match those of the plant filters in the following ways:

1. Type of filtration
2. Depth of filter media
3. Type of filter media
4. Size and gradation of filter media
5. Filtration rates
6. Backwash rate
7. Type of backwash water (chloraminated)
8. Empty bed contact time
9. Chemical addition
10. Maximum allowable filter headloss before backwash (6 ft.)

The pilot filters shall have ports for sampling filter media at various depths, as determined by the DB. The filter effluent shall be evaluated according to the performance standards noted in Table 3 of the Preliminary Owner’s Project Criteria document. Additionally, the Design-Builder shall document improvements in UV transmittance likely to be achieved by ozone to aid in the potential design of future post-filtration UV treatment.

3.4.6 Pipe Loop Study

A pipe loop study will be required to determine potential corrosion impacts of the new treatment process. The corrosion study will require the following:

1. Quarterly sulfate measurements
2. Quarterly chloride measurements
3. Quarterly alkalinity
4. Quarterly Ca and Mg Hardness measurements
5. Quarterly Pb corrosion calculations, including both particulate and dissolved lead calculations
6. Quarterly Cu corrosion calculations
7. Weekly free ammonia measurements
8. Weekly monochloramine, and free and total chlorine measurements
9. Weekly pH measurements

3.5 Sampling Requirements

Table 5 below, Pilot Sampling Requirements, details the minimum sampling scheme required by MDH, as well as select effluent requirements and sampling details. The number of data points required per testing scenario will be established by the Design-Builder with MDH during development of the Pilot Test Plan. Additional sampling is identified in the supplemental pilot scope of services and in the University of Minnesota services contract with SPRWS.

Sampling definitions:

Continuous monitoring = online analyzer, polling frequency to be determined in field (e.g. 1 min, 15 min)

Process monitoring = grab samples collected and analyzed by D/B team to check process operations.

Onsite MDH reporting = analysis onsite by benchtop analyzer at pilot plant or by SPRWS lab.

Off site MDH reporting = analysis by certified lab (UofM or 3rd party lab)

Table 5. Pilot Sampling Requirements						
Parameter	Location	Minimum Sampling Frequency	Sample Type			Comments
			Onsite Operational	Onsite MDH Reporting	Offsite MDH Reporting	
Flow Rate	Raw Water	Continuously	X	X		Can be by addition of each train
	Each Train Influent	Continuously	X	X		
Turbidity	Raw Water	Daily		X		
	Softener Effluent	Continuously		X		<4.0 NTU
	Each Filter Effluent	Continuously		X		<0.100 NTU
ORP	Raw Water	Continuously	X			
Ozone	Applied Ozone Dose	Continuously	X	X		Measure per train dosing ozone.
	Ozonation effluent	Continuously	X	X		
pH (measure on each train)	Raw Water	Daily	X	X		Continuous probes may be used as substitute for daily samples if desired.
	Recarbonation Effluent	Daily	X	X		
	Ozonation effluent	Continuously		X		
	Filter Influent	Daily		X		
	Filter Effluent	Daily		X		
Temperature	Raw Water	Daily		X		
	Softener Effluent	Daily		X		
	Ozonation effluent	Daily		X		
TOC	Source Water	Weekly		X		By certified lab

Table 5. Pilot Sampling Requirements						
Parameter	Location	Minimum Sampling Frequency	Sample Type			Comments
			Onsite Operational	Onsite MDH Reporting	Offsite MDH Reporting	
	Recarbonation Effluent	Weekly		X		By certified lab
	Each Filter Effluent	Weekly		X		By certified lab
DOC	Source Water	Weekly		X		By certified lab
	Recarbonation Effluent	Weekly		X		By certified lab
	Each Filter Effluent	Weekly		X		By certified lab
UV ₂₅₄	Source Water	Weekly			X	
	Recarbonation Effluent	Weekly			X	
	Filter Effluent	Weekly			X	
Geosmin	Pilot Influent	Monthly			X	
	Ozone Effluent	Monthly			X	
	Filter Effluent	Monthly			X	
	Spiking Trial	20 total samples			X	
MIB	Pilot Influent	Monthly			X	
	Ozone Effluent	Monthly			X	
	Filter Effluent	Monthly			X	
	Spiking Trial	20 total samples			X	
DBP	Pilot Influent	Monthly			X	Includes TTHM, THAA, NDMA

Table 5. Pilot Sampling Requirements						
Parameter	Location	Minimum Sampling Frequency	Sample Type			Comments
			Onsite Operational	Onsite MDH Reporting	Offsite MDH Reporting	
	Ozone Effluent	Monthly			X	Includes TTHM, THAA, NDMA
SDS DBP Test*	Filter Effluent	1 per train seasonally			X	Includes TTHM, THAA, NDMA
HPC	Filter Influent	Seasonally			X	High Temp, Low Temp, Spring Runoff, Fall Turnover
	Filter Effluent	Seasonally			X	High Temp, Low Temp, Spring Runoff, Fall Turnover
Bromide	Raw Water	Twice a Month			X	High Temp, Low Temp, Spring Runoff, Fall Turnover
Bromate	Filter Influent (each train)	Twice a Month			X	High Temp, Low Temp, Spring Runoff, Fall Turnover
Ozone Demand/Decay	Ozone Contactor	Twice (winter and summer)		X		
Representative CECs	Each Filter Effluent	Seasonally			X	High Temp, Low Temp, Spring Runoff, Fall Turnover. May include synthetic organic compounds and endocrine disruptors; exact nature of testing be discussed between DB and Owner.
	Pilot influent	Seasonally			X	To demonstrate any removal
	Spiking Trials	3/Season			X	1,4 dioxane
Alkalinity	Source Water	Weekly	X		X	
	Recarbonation Effluent	Weekly	X		X	
	Filter Effluent	Weekly	X		X	

Table 5. Pilot Sampling Requirements						
Parameter	Location	Minimum Sampling Frequency	Sample Type			Comments
			Onsite Operational	Onsite MDH Reporting	Offsite MDH Reporting	
DO	Raw Water	Continuously		X		
	Filter Influent	Continuously		X		
	Filter Effluent	Continuously		X		
Calcium Hardness	Softener Effluent	Weekly	X		X	
Magnesium Hardness	Softener Effluent	Weekly	X		X	

* Simulated distribution system (SDS) conditions include:

1. Contact time between chlorine and water samples typical of plant operations,
2. Chloramine residual between 2 and 3 mg/L after 3 days of contact,
3. pH value of the samples between 8.8 and 9.1, and
4. Water temperature of 20C for summer and 5C winter

Supplemental Pilot Scope

The following items are supplemental to the Base Pilot Scope. Associated costs have been added to Exhibit I.

<u>Scope Item</u>	<u>Description</u>
1. Additional Disinfection Byproduct (DBP) analyses	Conduct quarterly simulated distribution system (SDS) testing on BAC filter effluent from the four pilot treatment trains. Analyze for 7 other Nitrosamines beyond NDMA. Analyze for Haloacetonitriles.

	Assumes 200 DBP samples at \$150 per sample.
2. Particle size and volume analysis	Provide particle size and volume analysis on raw water, pilot post softening, pilot post ozone, pilot post ozone/AOP, pilot post O3-BAC, pilot post O3/AOP-BAC, pilot post BAC, full scale plant combined filter effluent (CFE). Eight rounds of sampling (two per season) and eight sample locations. Assumes 64 samples at \$350 per sample.
3. Molecular analysis of TOC	Characterize the TOC by molecular analysis. Sample locations include raw water, pilot post softening, pilot post ozone, pilot post ozone/AOP, pilot post O3-BAC, pilot post O3/AOP-BAC, pilot post BAC, full scale plant combined filter effluent (CFE). Eight rounds of sampling (two per season) and eight sample locations. Assumes 64 samples at \$385 per sample.
4. Intermediate ozone demand/decay and oxidation bench testing.	Determine ozone demand and decay of plant recarbonated water at two temperatures and two pH values. Spike recarbonated water with 100 ng/L of geosmin and MIB, and 1-4 dioxane (dose to be determined). <u>Analyze for the following parameters:</u> • Recarbonation effluent: pH, Temperature, TOC, UV254, bromide. • During ozone: geosmin, MIB, 1-4 dioxane at multiple applied ozone doses (4 doses, to be confirmed after ozone demand test). • Post ozone: pH, Temp, TOC, UV254, bromate.

	Assumes the following data are available from plant records on day of collection: Raw: pH, Temp, TOC, UV254, turbidity, hardness, alkalinity Recarb effluent: pH, Temp, TOC, UV254, turbidity, hardness, alkalinity
5. Two filter columns per pilot treatment train	Add one pilot filter column to each of the four pilot treatment trains. There will be two filter columns per treatment train or 8 filter columns total.
6. Copper pipe in pipe loops	Construct pipe loops to accommodate a section of new copper pipe, along with associated piping connections and valves, to each of the four pipe loop treatment trains. Copper pipe to be in series with the lead pipe segments in each pipe loop treatment train.
7. Pipe Scale Analysis	Analyze the internal lead pipe scale by scanning electron microscopy. One lead pipe section in each of the 4 trains before treatment and one after treatment. 8 total at \$1,500 each.
8. Additional Pipe Rack for 3 lead segments	Add two lead pipe segments to each treatment train for a total of three lead pipe segments per treatment train. Construct an additional pipe rack to accommodate the additional lead pipes.

The following scope of work is an allowance, and may or may not be executed based on Owner’s direction. The costs of this work are shown in Exhibit I.

1. Pre-ozone demand/decay bench testing	Determine ozone demand and decay of raw water at two temperatures. Spike raw water with 100 ng/L of geosmin and MIB, and 1-4 dioxane (dose to be determined). <u>Analyze for the following parameters:</u> • Before Ozone: pH, Temp, TOC, UV254, bromide • During ozone: geosmin, MIB, 1-4 dioxane at multiple applied doses (4 doses to be confirmed after ozone demand test). • After Ozone: pH, Temp, TOC, UV254, bromate Assumes the following data are available from plant records on day of collection: • Raw: pH, Temp, TOC, UV254, turbidity, hardness, alkalinity • Recarb effluent: pH, Temp, TOC, UV254, turbidity, hardness, alkalinity
2. Pre-ozone/intermediate ozone lime softening and filterability bench testing	Intermediate ozone: • Soften water in lab with constant lime dose, normal ferric dose and range of alum doses from 5 to 30 mg/L. • Recarbonate to pH of 8.7. • Ozonate softened water selected dose • Run filterability test with lab filter paper and compare to distilled water. Pre-ozone: • Ozonate raw water with selected dose • Softened ozonated water with constant lime and ferric dose and range of alum doses from 5 to 30 mg/L.

	• Recarbonate to pH of 8.7 • Run filterability test. Pre-ozone and intermediate ozone: • Ozonate raw water with selected dose • Softened water jar tests with constant lime and ferric dose and range of alum doses from 5 to 30 mg/L. • Ozonate select softened water with selected dose. • Run filterability test. <u>Analyze for the following parameters:</u> • Before ozone: pH, turbidity, Temperature, DOC, UV254, bromide. • After ozone: pH, turbidity, Temp, DOC, UV254, bromate. • After recarbonation: pH, temperature, turbidity, DOC, UV 254 • After filtration: turbidity
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This pilot scope of work assumes that the University of Minnesota will provide the pilot testing services described in their separate contract with SPRWS. On site pilot testing services by the University of Minnesota and pilot testing plan will be under the direction of Jacobs.

Exhibit C: Permitting and Regulatory Approvals Responsibilities

McCarron's Water Treatment Plant Improvements

Exhibit C. Permitting and Regulatory Approvals Responsibilities

The Design-Builder and the Owner will collaborate during Phase 1 of the Project to make sure that a full understanding of the permitting requirements of the project is developed. Permitting responsibilities may be added to this list and/or responsibility may be reallocated through mutual agreement by the Owner and the Design-Builder. A revision to this document is expected at the time of the Contract Price Amendment.

Name of Government Approval/Submittal	Issuing Entity	Permittee/ Approval Holder	Application Manager	Information Supply Responsibility	Fee Payment Responsibility
Stormwater Management Permit	Capital Region Watershed District (CRWD)	Design-Builder	Design-Builder	Design-Builder	Design-Builder to pay all permitting fees and be reimbursed by SPRWS
Erosion and Sediment Control Permit	CRWD	Design-Builder	Design-Builder	Design-Builder	
Illicit Discharge and Connection Permit	CRWD	Design-Builder	Design-Builder	Design-Builder	
Water and Sewerage Construction Permit	City of Maplewood	Design-Builder	Design-Builder	Design-Builder	
Fire Alarm, Sprinkler, and Suppression Permits	City of Maplewood	Design-Builder	Design-Builder	Design-Builder	
Electrical Permit	City of Maplewood	Design-Builder	Design-Builder	Design-Builder	
Building Permit	City of Maplewood	Design-Builder	Design-Builder	Design-Builder	
Grading Permit	City of Maplewood	Design-Builder	Design-Builder	Design-Builder	
Mechanical Permit	City of Maplewood	Design-Builder	Design-Builder	Design-Builder	
MDH Environmental Review Requirements	Minnesota Department of Health (MDH)	SPRWS	Design-Builder	SPRWS	
Water Treatment Plant Plan Review for Community Water Systems	MDH	SPRWS	Design-Builder	SPRWS	
Construction Stormwater Permit	Minnesota Pollution Control Agency	Design-Builder	Design-Builder	Design-Builder	
Plumbing Permit	Minnesota Department of Labor and Industry	Design-Builder	Design-Builder	Design-Builder	

Exhibit D : MN PFA Contract Packet

McCarron's Water Treatment Plant Improvements



Clean Water Revolving Fund Drinking Water Revolving Fund

CONTRACT PACKET

October & December 2020

This packet and the appropriate federal Davis Bacon and Minnesota prevailing wages must be PHYSICALLY included in all bidding solicitation and contract documents, including subcontracts.

Minnesota Public Facilities Authority

1st National Bank Building • 332 Minnesota St. • Suite W820 • Saint Paul, MN 55101-1378 • USA
651-259-7469 • 800-657-3858 TOLL FREE • 651-296-8833 FAX • mn.gov/pfa

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1 GENERAL INFORMATION

This packet lists required contract conditions that apply to Clean Water and Drinking Water Revolving Fund projects. Please review this packet prior to bidding. This packet and the appropriate federal Davis Bacon and Minnesota prevailing wages must be physically included in all bidding solicitations and contract documents, including subcontracts.

2 AMERICAN IRON AND STEEL

Sample American Iron and Steel Contract Language

The AIS language below is a sample from the Environmental Protection Agency's March 20, 2014 memorandum (http://water.epa.gov/grants_funding/aisrequirement.cfm). Include actual AIS language into project specifications and construction contracts and sub-contracts.

PER EPA: ALL CONTRACTS MUST HAVE A CLAUSE REQUIRING COMPLIANCE WITH THE AIS REQUIREMENT. THIS IS AN EXAMPLE OF WHAT COULD BE INCLUDED IN ALL CONTRACTS IN PROJECTS THAT USE STATE REVOLVING FUNDS (SRF). EPA MAKES NO CLAIMS REGARDING THE LEGALITY OF THIS CLAUSE WITH RESPECT TO STATE OR LOCAL LAW:

The Contractor acknowledges to and for the benefit of the City of _____ ("Purchaser") and the Minnesota Public Facilities Authority (the "Authority") that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund and/or Drinking Water State Revolving Fund that have statutory requirements commonly known as "American Iron and Steel;" that requires that all of the iron and steel products used in the project to be produced in the United States ("American Iron and Steel Requirement") including iron and steel products provided by the Contractor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Purchaser and the Authority that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the Authority. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or the Authority to recover as damages against the Contractor any loss, expense or cost (including without limitation attorneys' fees) incurred by the Purchaser or the Authority resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the Authority or any damages owed to the Authority by the Purchaser). While the Contractor has no direct contractual privity with the Authority, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the Authority is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the Authority.

2.1 AMERICAN IRON AND STEEL DE MINIMIS WAIVER TRACKING FORM

The Environmental Protection Agency (EPA) granted a [national waiver for de minimis incidental components](#) of eligible water infrastructure projects

To use the de minimis waiver, SRF recipients “should in consultation with their contractors determine the items to be covered by this waiver and must retain relevant documentation (i.e. invoices) as to those items in their project files.” Borrowers must maintain documentation (i.e., invoices) for the de minimis items in the project file and submit a summary report to the PFA at project conclusion, or sooner, if available. An example tracking form for AIS de minimis is included on the next page.

Minnesota State Revolving Funds (CWRF and DWRF)
Use of American Iron and Steel - De Minimis Final Utilization and Certification Form

The Clean Water Act, as amended and HR 244 the Consolidated Appropriations Act of 2018 requires the use of American Iron & Steel in CWRF and DWRF-funded projects. The Environmental Protection Agency has issued a public interest waiver for De Minimis incidental components. The assistance recipient wishing to use this waiver should consult with their contractor(s) to maintain an itemized list of components covered under De Minimis. At the conclusion of the project, this form must be completed and retained in the assistance recipient's project files and a copy provided to the Public Facilities Authority. **It is strongly recommended that you maintain a list as the project progresses.** Please print clearly or type. EPA De Minimis Waiver:

<http://www.epa.gov/cwsrf/de-minimis-waiver-pursuant-section-436-pl-113-76-consolidated-appropriations-act>

PFA Borrower: _____ Loan #: _____

Project Name: _____

NOTE: The De Minimis waiver is only applicable to the cost of materials for the entire project. Do not include other project costs (labor, installation costs, etc.) in the "Total Cost of Materials". The cost of a material must include delivery to the site and any applicable tax.

Must have sufficient documentation to support all costs included in this calculation.

Funds used for de minimis incidental components cumulatively may comprise no more than a total of 5 percent of the total cost of the materials used in and incorporated into a project; the cost of an individual item may not exceed 1 percent of the total cost of the materials used in and incorporated into a project.

Total Cost of Materials: _____ 5% Limit: _____ 1% limit: _____

Manufacturer & Component Description	Part/Model #	Quantity (if applicable)	Cost per Unit (if applicable)	Component's Total Cost	How is Cost Documented?*

Use additional sheets as necessary

**Total Cost of Components
deemed to be De Minimis:**

If approaching the 5%
or 1% limits, contact
PFA immediately

* Documentation must demonstrate confirmation of the components' actual costs (invoice, etc.).

Completed by:

Name: _____ Title: _____

Signature: _____ Date: _____

2.2 AMERICAN IRON AND STEEL DOCUMENTATION

Contractors must comply with and provide documentation that shows compliance with AIS requirements. Product certifications letters need to include the following five items:

1. Identify the product. The letter should list the specific product(s) delivered to the project site.
2. Identify where the product was made. The letter should include the location(s) of the foundry/mill/factory where the product was manufactured (City and State).
3. To whom was the product delivered? The letter should include the name of the project and the jurisdiction where the product was delivered.
4. The signature of a company representative.
5. Specifically reference the American Iron and Steel requirements.

3 DISADVANTAGED BUSINESS ENTERPRISES (DBE)

3.1 GOOD FAITH EFFORTS

Borrowers and their prime contractors must follow, document, and maintain documentation of their good faith efforts as listed below to ensure that Disadvantage Business Enterprises (DBEs) have the opportunity to participate in the project by increasing DBE awareness of procurement efforts and outreach. This applies to procurement for construction, equipment, supplies and services.

1. Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities; including placing DBEs on solicitation lists and soliciting them whenever they are potential sources.
2. Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitation for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
3. Consider in the contracting process whether firms competing for large contracts could be subcontracted with DBEs. This will include dividing total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.
4. Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.
5. Use the services and assistance of the Small Business Administration and the Minority Business Development Agency of the U. S. Department of Commerce.
6. If the prime contractor awards subcontracts, require the prime contractor to take the steps in numbers 1 through 5 above.

3.2 CERTIFIED M/WBE FIRMS

M/WBE firms certified by the Minnesota Unified Certification Program, the Small Business Administration (SBA) of the Department of Transportation can be counted towards the M/WBE reporting to PFA. See “How do I find information on DOT’s and SBA’s certification programs?”

<https://www.epa.gov/grants/frequently-asked-questions-disadvantaged-business-enterprises#q17>

To see whether a firm is a certified firm eligible to be counted as a M/WBE firm, check the *Minnesota Unified Certification Program Directory* or the *SBA Dynamic Small Business Search Directory*. Links are listed below.

Minnesota Unified Certification Program: <http://mnucp.metc.state.mn.us/> includes a free search engine that lists certified DBE contractors and suppliers. Links to this directory are also on the MN Department of Transportation website: <http://www.dot.state.mn.us/civilrights/>

Small Business Administration **Dynamic Small Business Search** – search engine that lists businesses with 8(a) Certifications; Small Disadvantaged Business Certifications; HUBZone Certifications and DBE Certifications. Check contractor detail to see what current certifications are in place. http://dsbs.sba.gov/dsbs/search/dsp_dsbs.cfm

3.3 OTHER MINORITY/WOMEN BUSINESS ENTERPRISES RESOURCES

- Association of Women Contractors <http://www.awcmn.org/>
- Diversity Information Resources, Inc. www.diversityinforesources.com
- Metropolitan Economic Development Association <http://www.meda.net/>
- Minority Business Development Agency (U. S. Department of Commerce) <http://www.mbda.gov/>
- MN Department of Administration (at this time the MN Dept. of Administration listings are not certified and cannot be counted as M/WBE vendors by the EPA). www.mmd.admin.state.mn.us

3.4 DEFINITIONS

Disadvantaged Business Enterprise (DBE) – an entity owned or controlled by a socially and economically disadvantaged individual as described by Public Law 102-389 (42 U.S.C. 4370d) or an entity owned and controlled by a socially and economically disadvantaged individual as described by Title X of the Clean Air Act Amendments of 1990 (42 U.S.C. 7601 note); a Small Business Enterprise (SBE); a Small business in a Rural Area (SBRA); or a Labor Surplus Area Firm (LSAF), a Historically Underutilized business (HUB) Zone Small Business Concern, or a concern under a successor program.

HUBZone – a historically underutilized business zone, which is an area located within one or more qualified census tracts, qualified metropolitan counties, or lands within the external boundaries of an Indian Reservation.

HUBZone Small Business – a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.

Labor Surplus Area Firm (LSAF) – a concern that together with its first-tier subcontractors will perform substantially in labor surplus areas (as identified by the Department of Labor in accordance with 20 CFR Part 654). Performance is substantially in labor surplus areas if the costs incurred under the contract on account of manufacturing, production or performance of approximate services in labor surplus areas exceed 50 percent of the contract price.

Minority Business Enterprise (MBE) – a Disadvantaged Business Enterprise (DBE) other than a Small Business Enterprise (SBE), a Labor Surplus Area Firm (LSAF), a Small Business in Rural Areas (SBRA), or a Women's Business Enterprise (WBE). See section on Certified M/WBE Firms, below.

Procurement – the acquisition through order, purchase, lease or barter of supplies, equipment, construction or services needed to accomplish Federal assistance programs.

Small Business in a Rural Area (SBRA) – a small business operating in an area identified as a rural county with a code 6 to 9 in the Rural-Urban Continuum Classification Code developed by the United States Department of Agriculture in 1980.

Small Business, Small Business Concern or Small Business Enterprise (SBE) a concern, including its affiliates, that is independently owned and operated, not dominate in the field of operation in which it is bidding, and qualified as a small business under the criteria and size standards in 13 CFR part 121.

Women's Business Enterprise (WBE) – a business concern which is at least 51% owned or controlled by women for purposes of EPA's 8% statute or a business concern which is at least 51% owned and controlled by women for purposes for EPA's 10% statute. Determination of ownership by a married woman in a community property jurisdiction will not be affected by her husband's 50% interest in her share. Similarly, a business concern which is more that 50% owned by a married man will not become a qualified WBE by virtue of his wife's 50% interest in his share. See section on Certified M/WBE Firms, below.

4 FEDERAL AND STATE PREVAILING WAGES

Both Federal Davis Bacon prevailing wages and State of Minnesota prevailing wages (Minnesota Statute, sections 177.41-177.43) apply to this project. Payment of the wages, fringe benefits and overtime rates that are most beneficial to the employees are required. **All worker classifications must have a state and federal prevailing wage.** Overtime is governed by Minnesota Prevailing Wage Statutes at M.S. 177.42 which requires overtime for over 8 hours per day and for more than 40 hours per week, thus any employee working more than 8 hours in one day is entitled to overtime.

Both the proper Federal (Davis-Bacon) and State of Minnesota Prevailing Wage rates and contract conditions must be physically incorporated into the bidding and contract documents.

Required State posters can be obtained at the Minnesota Department of Labor and Industry at <http://www.dli.mn.gov/about-department/workplace-posters>

Federal posters can be obtained at <http://www.dol.gov/whd/regs/compliance/posters/davis.htm>

Weekly certified payroll submittal is required under the Federal Davis Bacon laws.

5 GENERAL REQUIRED CONTRACT CONDITIONS

This project is being financed in whole or in part by the Minnesota Public Facilities Authority through the Clean Water or Drinking Water Revolving Fund. The PFA recipient is required to comply with certain state and federal laws, rules and regulations and to ensure that their contractor(s) also complies with these laws, regulations, rules, including, but not limited to the items below which will be included in all contracts and subcontracts.

1. Title VI of the Civil Rights Act of 1964 (P.L. 88-352), the Rehabilitation Act of 1973 (P.L. 93-1123, 87 Stat. 355, 29 U.S.C. Sec. 794), the Older Americans Amendments of 1975 (P.L. 94-135 Sec. 303, 89 Stat. 713, 728, 42 U.S.C. Sec. 6102), and subsequent regulations, ensures access to facilities or programs regardless of race, color, national origin, sex, age or handicap.
2. Executive Orders 11246, as amended by Executive Orders 11375 and 12086 and subsequent regulations. Prohibits employment discrimination on the basis of race, color, religion, sex or national origin. Inclusion of the seven clauses in Section 202 of E. O. 11246 as amended by E. O. 11375 and 12086 are required in all project related contracts and subcontracts over \$10,000.
3. Executive Orders 11625, 12138 and 12432; 40 CFR part 33; Section 129 of P. L. 100-590 Small Businesses Reauthorization & Amendment Act of 1988; Public Law 102-389 (42 U.S.C. 437d); a 1993 appropriations act; Public Law 101-549, Title X of the Clean Air Acts Amendments of 1990 (42 U.S.C. 7601 note). Encourages recipients to award construction, supply and professional service contracts to minority and women's business enterprises (MBE/WBE) and small businesses and requires recipients to utilize affirmative steps in procurement.
4. 40 CFR Part 33 Participation by Disadvantaged Business Enterprises in Procurement under Environmental Protection Agency (EPA) Financial Assistance Agreements.
5. Executive Orders 12549 and 12689, 2 CFR Part 180, and 2 CFR Part 1532, Subparts B and C. Prohibits entering into contracts or sub-contracts with individuals or businesses who are debarred or suspended. Before contracts are awarded, borrowers are required to check the

status of all contractors (construction and professional services) and must require contractors to check the status of subcontractors and suppliers for contracts expected to be equal to or over \$25,000 via the U. S. General Services Administration System for Award Management website <https://www.sam.gov/> or search the internet for sam.gov.

6. Executive Order 13502, use of Project Labor Agreements for Federal Construction Projects.
7. Section 602(b)(6) of the Federal Water Pollution Control Act, as amended and section 1450(e) of the Safe Drinking Water Act (42 U.S.C. 300j-9(e)). Requires that all laborers and mechanics employed by contractors or subcontractors be paid wages at rates not less than those prevailing for the same type of work as determined by the U. S. Secretary of Labor in accordance with the Davis-Bacon Act (46 Stat. 1494; 40 U.S.C., sec. 276a through 276a-5). Reorganization Plan Number 14 of 1950 (15 F.R. 3176) and section 2 of the Davis-Bacon Act of June 13, 1934, as amended (48 Stat. 948; 40 U.S.C. 276c).
8. Section 608 of the Federal Clean Water Act, as amended and the Safe Drinking Water Act, as amended by America's Water Infrastructure Act of 2018 that requires all of the iron and steel products used in the CWSRF and DWSRF Projects are to be produced in the United States ("Use of American Iron and Steel Requirement"), unless (i) the Borrower has requested and obtained a waiver from the Environmental Protection Agency pertaining to the Project or (ii) the PFA has otherwise advised the Borrower in writing that the American Iron and Steel Requirement is not applicable to the project.
9. 2 CFR 200.216 Prohibition on certain telecommunications and video surveillance services or equipment (implementing Section 889 of Public Law 115-232).
10. Minnesota Statutes, Section 471.345, Uniform Municipal Contracting Law.
11. Minnesota Statutes, Section 574.26 to 574.32, the Public Contractors' Performance and Payment Bond Act, as applicable
12. Minnesota Statutes sections 176.181-176.182. Requires recipients and subcontractors to have worker's compensation insurance coverage.

13. Minnesota Statutes sections 177.41-177.43 and Minnesota Rules 5200.1000 to 5200.1120 (prevailing wage rate law and rules). Requires that contractors pay laborers and mechanics prevailing wages established by the Minnesota Department of Labor and Industry for public works projects.
14. Minnesota Statutes 290.9705. Requires that 8 percent of payments made to out-of-state contractors be withheld once cumulative payments made to the contractor for work done in Minnesota exceed \$50,000 in a calendar year, unless an exemption is granted by the Department of Revenue.
15. Minnesota Statutes, Chapter 16C.285, Responsible Contractor Requirements.

6 AMERICAN IRON AND STEEL CONTRACT CONDITIONS

Insert American Iron and Steel Contract Language here for the Project

7 DISADVANTAGED BUSINESS ENTERPRISES (DBE) REQUIRED CONTRACT CONDITIONS

7.1 GOOD FAITH EFFORTS

Borrowers and their prime contractors must follow, document, and maintain documentation of their good faith efforts as listed below to ensure that Disadvantage Business Enterprises (DBEs) have the opportunity to participate in the project by increasing DBE awareness of procurement efforts and outreach. This applies to procurement for **construction, equipment, supplies and services**.

1. Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities; including placing DBEs on solicitation lists and soliciting them whenever they are potential sources.
2. Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitation for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
3. Consider in the contracting process whether firms competing for large contracts could be subcontracted with DBEs. This will include dividing total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.
4. Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.
5. Use the services and assistance of the Small Business Administration and the Minority Business Development Agency of the U. S. Department of Commerce.
6. If the prime contractor awards subcontracts, require the prime contractor to take the steps in numbers 1 through 5 above.

7.2 REQUIRED CONTRACT CONDITIONS

These conditions must be included in all procurement contracts entered into by the Borrower for all DWRF and CWRP projects:

1. The prime contractor must pay its subcontractor for satisfactory performance no more than 30 days from the prime contractor's receipt of payment from the owner.

2. The prime contractor must notify the owner in writing prior to the termination of any Disadvantage Business Enterprise subcontractor for convenience by the prime contractor.
3. If a Disadvantage Business Enterprise contractor fails to complete work under the subcontract for any reason, the prime contractor must employ the six good faith efforts if soliciting a replacement contractor.
4. The prime contractor must continue to employ the six good faith efforts even if the prime contractor has achieved its fair share objectives.
5. A Borrower must ensure that each procurement contract it awards contains the following terms and conditions:

The contractor shall not discriminate on the basis of race, color, national origin or sex in the performance of this contract. The contractor shall carry out applicable requirements of 40 CFR Part 33 in the award and administration of contracts awarded under EPA financial assistance agreements. Failure by the contractor to carry out these requirements is a material breach of this contract which may result in the termination of this contract or other legally available remedies.

8 EQUAL EMPLOYMENT REQUIRED CONTRACT CONDITIONS FOR CONTRACTS & SUBCONTRACTS OVER \$10,000

Inclusion of these seven clauses (excerpt from Executive Order No. 11246, Section 202 as amended by Executive Order 11375 and 12086) is required in all CWRP and DWRP project related contracts and subcontracts over \$10,000:

During the performance of this contract, the contractor agrees as follows:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin. 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, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment 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 to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or worker's representative of the contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The contractor will comply with all provisions of Executive Order No. 11246 of Sept. 24, 1965, and all of the rules, regulations, and relevant orders of the Secretary of Labor.

(5) The contractor will furnish all information and reports required by Executive Order No. 11246 of Sept. 24, 1965, and by the rules, regulations and orders of the Secretary of Labor, or pursuant

thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(6) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of Sept. 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of Sept. 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(7) The contractor will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of Sept. 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: *Provided, however*, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

9 FEDERAL DAVIS BACON PREVAILING WAGES – REQUIRED CONTRACT CONDITIONS

PLEASE NOTE: Both federal Davis Bacon prevailing wages and State of Minnesota prevailing wages (Minnesota Statute, sections 177.41-177.43) apply to this project. Payment of the wages, fringe benefits and overtime rates that are most beneficial to the employees are required.

Federal posters can be obtained at <http://www.dol.gov/whd/regs/compliance/posters/davis.htm>

The “recipient” referred to throughout the Davis Bacon contract conditions is the PFA Borrower. The “PFA” is the Minnesota Public Facilities Authority.

This language must be included in all Davis Bacon covered construction contracts and subcontracts. (29 CFR Part 5.5)

(a) The Recipient shall insert in full in any contract in excess of \$2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a treatment work under the CWRP or a construction project under the DWRP, financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in Sec. 5.1 the following clauses:

(1) **Minimum wages.** (i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in Sec. 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Recipients may obtain wage determinations from the U. S. Department of Labor's web site, <https://beta.sam.gov/>.

(ii)(A) The Recipient, on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The Recipient's award official shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the Recipient agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the

Recipient to the Administrator of the Wage and Hour Division, Conformance and CBA Update public email address:

WHD-CBACONFORMANCE_INCOMING@dol.gov and to the EPA DB Regional Coordinator concurrently at (USEPA REGION 5, 77 West Jackson Boulevard Mail Code: MC-10J, Chicago, IL 60604-3507. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the Recipient or will notify the Recipient within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the Recipient do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the award official shall refer the request and the local wage determination, including the views of all interested parties and the recommendation of the Recipient's award official, to the Administrator for determination. The request shall be sent to the EPA DB Coordinator concurrently. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) **Withholding.** The Recipient shall upon its own action or upon written request of the PFA, EPA award official or an authorized representative of the Department of Labor withhold or

cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the Recipient may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) **Payrolls and basic records.** (i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Recipient. Such documentation shall be available on request of the PFA or EPA. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), **except that full social security numbers and home addresses shall not be included on weekly payrolls.** Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. [Optional Form WH-347](#) and [instructions](#) are available for

this purpose from the Wage and Hour Division Web site at <https://www.dol.gov/whd/forms/index.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the Recipient for transmission to the PFA or EPA, if requested by EPA, the PFA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the Recipient.

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under Sec. 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under Sec. 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the PFA, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency or PFA may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees-(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe

benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

(6) **Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) **Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) **Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) **Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the Recipient, PFA, EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) **Certification of eligibility.** (i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(b) Contract Work Hours and Safety Standards Act. The Recipient shall insert the following clauses set forth in paragraphs (b)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR Sec. 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The Recipient, upon its own action or upon written request of the PFA, EPA Award Official or an authorized representative of the Department of Labor shall withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) **Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

(c) In addition to the clauses contained in paragraph (b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR Sec. 5.1, the Recipient shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Recipient shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the PFA, EPA and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

10 U. S. DEPARTMENT OF LABOR WAGE AND HOUR DIVISION DAVIS-BACON PREVAILING WAGES

Insert applicable federal Davis-Bacon Prevailing Wages here

11 STATE OF MINNESOTA PREVAILING WAGES – REQUIRED CONTRACT CONDITIONS

Pursuant to Minnesota Statutes 177.41 to 177.44 and corresponding Minnesota Rules 5200.1000 to 5200.1120, this contract is subject to the prevailing wages as established by the Minnesota Department of Labor and Industry. Specifically, all contractors and subcontractors must pay all laborers and mechanics the established prevailing wages for work performed under the contract. Failure to comply with the aforementioned may result in civil or criminal penalties. The applicable wage determination must be incorporated into proposals and all contracts.

Payrolls/Records

The contractor and subcontractor shall furnish to the OWNER copies of any or all payrolls not more than 14 days after the end of each pay period. The payrolls must contain all of the data required by Minnesota Statutes Section 177.30. Subcontractors must furnish payrolls to the contractor. The OWNER may examine all records relating to wages paid laborers or mechanics on work to which Minnesota Statutes Sections 177.41 to 177.44 apply.

Posting of Wage Rates/Required Posters

Each contractor and subcontractor performing work on a public project shall post on the project the applicable prevailing wage rates and hourly basic rates of pay for the county or area within which the project is being performed, including the effective date of any changes thereof, in at least one conspicuous place for the information of the employees working on the project. The information so posted shall include a breakdown of contributions for health and welfare benefits, vacation benefits, pension benefits, and any other economic benefits required to be paid.

For more information regarding prevailing wage and its application, contact:

Minnesota Department of Labor and Industry
Prevailing Wage unit
443 Lafayette Road North
St. Paul, MN 55155
Phone: (651) 284-5091
E-mail: dli.prevwage@state.mn.us
Web: www.dli.mn.gov

12 MN DEPARTMENT OF LABOR AND INDUSTRY PREVAILING WAGES FOR STATE FUNDED CONSTRUCTION PROJECTS

Insert applicable Minnesota Prevailing Wages here

Exhibit E : Labor Standards

McCarron's Water Treatment Plant Improvements

Note: Federal and state prevailing wage rates apply to the project. Prevailing wage rates are subject to update until the Board of Water Commissioners approves the contract (Anticipated on Jan. 12, 2021.)

If construction does not begin within 90 days of contract signing, wage rates are subject to update until construction starts.



CITY OF SAINT PAUL FEDERAL LABOR STANDARDS

LABOR STANDARDS REQUIREMENTS

Developers, general contractors, subcontractors and lower-tier subcontractors shall comply with any of the following regulations as may be applicable:

Davis-Bacon Act, 40 U.S.C. 276(a) – 276(a)(7)
Davis-Bacon Related Acts, 29 CFR Part 5
Copeland Act, 40 U.S.C. X276C and 18 U.S.C. § 874
Contract Work Hours and Safety Standards Act, 40 U.S.C. § 327-333
Minnesota Statutes § 177.41 - 177.44
Minnesota Rules 5200.1000-5200.1120
City of Saint Paul § 82.07

Davis-Bacon compliance requirements include, but are not limited to, the following:

- 1) All workers performing labor on site must be paid the minimum prevailing wages established by the U.S. DOL and/or MN/DLI. Payment shall be paid on a weekly basis to all onsite workers. The developer and/or prime contractor is responsible to ensure that all onsite workers are compensated according to the U.S. DOL federal wage decision, and (if applicable) the MN/DLI state prevailing wage determination, incorporated into and found elsewhere in this contract, **whichever is greater.**
- 2) A contractor shall not permit or require a worker to work longer than the prevailing hours of labor unless the worker is paid for all hours in excess of the prevailing hours at a rate of a least 1½ times the base hourly rate of pay. The prevailing hours of labor is defined as not more than 40 hours per week (and 8 hours per day if applicable).
- 3) Apprentices/trainees are the only workers allowed to work at a lesser rate if registered in an approved apprenticeship/training programs. Proof of apprenticeship must be provided before an employee begins work on site.
- 4) The prime contractor and all applicable subcontractors are required to **submit certified payroll reports electronically through LCPTracker.**
- 5) The following must be physically attached to all bid documents and contract agreements pertaining to this project:
 - Labor Standards Requirements
 - Federal Labor Standards Provisions (HUD 4010)
 - Apprentice/Trainee Guidelines
 - Wage Decision(s)
- 6) The Labor Standards posters and Wage Decision(s) must be posted at the construction site in a visible location and be protected from the elements.

Please contact the Labor Standards Specialist with Davis Bacon questions:
Alex Dumke | 651-266-8969 | alexander.dumke@ci.stpaul.mn.us



CITY OF SAINT PAUL FEDERAL LABOR STANDARDS

LABOR STANDARDS FACT SHEET

- Applicable projects in excess of \$2,000 require weekly payment of the prevailing rate (wage + fringes) to all on-site workers, based on the actual type of work performed and regardless of skill
- Contracts cannot be awarded to businesses debarred or suspended by federal, state, or city authorities
- Payrolls must be certified and submitted using LCPTtracker. Payroll reports are due within seven (7) days after the payroll period.
- Business owners working with their crew must report their wage information and can certify the payroll. Business owners working alone cannot certify payment of their own prevailing wage; instead, they are reported on a weekly payroll prepared and certified by their engaging contractor (wage information must be reported). **There are no Davis-Bacon exceptions for owners of businesses, sole proprietors, salaried employees, self-employed owners, partners, corporate officers, or others.**
- Workers must be paid overtime (time and one-half times the basic rate of pay plus the fringe benefit amount) for all hours worked in excess of 40 per week, and over 8 hours in a day (**if applicable**).
- Apprentices/trainees registered in approved programs may be paid less than the wage rate in the wage decision for their work classification. Apprentice program ratio requirements are applied hour-for-hour to the project site. Out-of-ratio apprentices must be paid the prevailing wage rate for the classification of work performed.
- Developer/prime contractor submits ID of Prime and Subs which is to be kept current
- General contractor/subcontractors/lower-tier subcontractors must submit the Contractor Profile prior to starting work
- Verification of employee wage receipt may include contacting the trade local, benefit fund administrator, submission of cancelled paychecks, stubs, time cards and interview responses
- Employers shall permit authorized representatives to interview workers at the project site (on company time) to verify payment of the prevailing rate for the classification of work they are performing
- Cleaning performed during construction is subject to prevailing wage provisions. In the absence of a specific wage rate for cleaning classification, the cleaners must be paid the predetermined wage rate for laborers. Demolition related to the project is also subject to prevailing wage provisions.
- Contractors must keep a complete set of their project payrolls and other basic records (tax records, time cards, work logs, payroll checks and stubs, evidence of fringe payments, etc.) for a period of 3 years after project close-out

Please contact the Labor Standards Specialist with Davis Bacon questions:
Alex Dumke | 651-266-8969 | alexander.dumke@ci.stpaul.mn.us



CITY OF SAINT PAUL FEDERAL LABOR STANDARDS

APPRENTICES/TRAINEES

WAGES	An Apprentice/Trainee can be paid less than the wage rate listed in the wage decision for his/her work classification if he/she is registered in an approved apprenticeship/training program.
PROGRAMS	Approved programs are registered with the Department of Labor (DOL) or a DOL recognized State Apprenticeship Agency (SAC). Apprentices/trainees are paid wage rates in accordance with the wage schedule in the approved program.
REQUIREMENTS	If using apprentices as part of your on-site workforce, submit the following to your engaging contractor or other designee: • A copy of the Apprenticeship Agreement; • The current level of advancement (include “apprentice” and the hour or percentage level with the work classification on your payroll reports); and • A copy of YOUR registered/approved program wage rates and ratios.
LIMITATIONS	The maximum number of apprentices/trainees you can use on the job site cannot exceed the ratio of apprentices/trainees to journey workers allowed in the approved program. Ratios are applied hour-for-hour at the project site. You will be required to pay wage restitution for ratio violations.

PROBATIONARY APPRENTICES

Probationary Apprentices can be paid as an apprentice **if**:

- The DOL or SAC has certified that the person is eligible for probationary employment as an apprentice; and
- verification is submitted to the city.

PRE APPRENTICES (an individual not registered in a program)

A Pre-apprentice must be paid the full journey worker rate on the wage decision for the classification of work they perform.

HELPERS/ASSISTANTS

Helpers are not allowed to work at a lesser rate of pay on State and Federally-funded projects.

Please contact the Labor Standards Specialist with Davis Bacon questions:
Alex Dumke | 651-266-8969 | alexander.dumke@ci.stpaul.mn.us

Applicability

The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

A. 1. (i) Minimum Wages. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section I(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible, place where it can be easily seen by the workers.

(ii) (a) Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefor only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(b) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)

(c) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(d) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii)(b) or (c) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part

of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

2. Withholding. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work, all or part of the wages required by the contract, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the contractor, disburse such amounts withheld for and on account of the contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

3. (i) Payrolls and basic records. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1(b)(2)(B) of the Davis-bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5 (a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been

communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017.)

(ii) (a) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i) except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this subparagraph for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to HUD or its designee. (Approved by the Office of Management and Budget under OMB Control Number 1215-0149.)

(b) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5 (a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph A.3.(ii)(b).

(d) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under subparagraph A.3.(i) available for inspection, copying, or transcription by authorized representatives of HUD or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and Trainees.

(i) **Apprentices.** Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who

is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) **Trainees.** Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by

the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under 29 CFR Part 5 shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract

6. Subcontracts. The contractor or subcontractor will insert in any subcontracts the clauses contained in subparagraphs 1 through 11 in this paragraph A and such other clauses as HUD or its designee may by appropriate instructions require, and a copy of the applicable prevailing wage decision, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this paragraph.

7. Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and HUD or its designee, the U.S. Department of Labor, or the employees or their representatives.

10. (i) Certification of Eligibility. By entering into this contract the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be

awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1 01 0, Title 18, U.S.C., "Federal Housing Administration transactions", provides in part: "Whoever, for the purpose of . . . influencing in any way the action of such Administration..... makes, utters or publishes any statement knowing the same to be false..... shall be fined not more than \$5,000 or imprisoned not more than two years, or both."

11. Complaints, Proceedings, or Testimony by Employees. No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to his employer.

B. Contract Work Hours and Safety Standards Act. The provisions of this paragraph B are applicable where the amount of the prime contract exceeds \$100,000. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (1) of this paragraph, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in subparagraph (1) of this paragraph.

(3) Withholding for unpaid wages and liquidated damages. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contract, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act which is held by the same prime contractor such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (2) of this paragraph.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

C. Health and Safety. The provisions of this paragraph C are applicable where the amount of the prime contract exceeds \$100,000.

(1) No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

(2) The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, (Public Law 91-54, 83 Stat 96). 40 USC 3701 et seq.

(3) The contractor shall include the provisions of this paragraph in every subcontract so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontractor as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.



CONTRACTOR PROFILE

Project Name: _____

Business Name: _____ **Federal Tax ID #:** _____

Address: _____

Phone #: _____ **Fax #:** _____

Our agreement/contract dated _____ is with _____ in the amount of \$ _____

For _____
(Identify specific contract work)

Will you sub out any of your contract work? _____ If yes, please identify subs: _____

Person authorized to certify (sign) payroll reports: _____

Person submitting electronic payroll reports: _____ Email: _____

Identify work classifications (as listed in project wage decision) you anticipate using, base rate of pay, and total wage payment:

<u>Work Classification</u> (Group #, if applicable. Add pages if necessary)	<u>Base Rate of Pay</u>	<u>Total Wage Payment</u> (base +fringes)
_____	\$ _____	\$ _____
_____	\$ _____	\$ _____
_____	\$ _____	\$ _____

Check (A), (B) or (C) identifying how fringe benefits are paid to your workers:

- (A) _____ included with pay check in the amount of \$ _____;
- (B) _____ funded (with trustee or third party) fringe benefit plan in the hourly amounts indicated below:
- (C) _____ unfunded* (company-paid) fringe benefit plan in the hourly amounts indicated below
(identify for each employee working on the project, include: hourly fringe amounts, provider/company name if applicable, & how often contribution is made):

<u>*Holiday</u>	<u>*Vacation</u>	<u>*Sick Leave</u>	<u>Health</u>	<u>Dental</u>	<u>Life</u>	<u>Pension</u>	<u>Other</u> (identify)	<u>TOTAL HOURLY FRINGE RATE</u>
\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____ =	\$ _____
\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____ =	\$ _____

Benefit funds are deposited into Account #(s) _____ and are maintained by (agency name & address):

_____ Phone #: _____

IF FUNDS ARE MAINTAINED BY A THIRD PARTY FRINGE BENEFIT PLAN, PLEASE ATTACH A CURRENT LETTER FROM THE FUND ADMINISTRATOR.

Owner/Principal Officer & Title (PLEASE PRINT) _____

Owner/Principal Officer Signature _____

Date _____

IS THIS A SOLE PROPRIETORSHIP OR PARTNERSHIP BUSINESS?

☐ Yes

☐ No

IDENTIFICATION OF PRIME CONTRACTOR AND SUBCONTRACTORS (INCLUDING MATERIAL SUPPLIERS)



Form required for Labor Standards, AA/EEO, HUD Section 3, and Vendor Outreach

Submit completed form to:

Contract Compliance & Business Development

15 West Kellogg Blvd, Room 280

Saint Paul, MN 55102-1681

Phone: 651-266-8900, Fax: 651-266-8919

Email: contractcompliance@stpaul.gov

Project: _____ Bid #: _____ Est. Construction Cost: _____ VOP Goal: \$ _____ %

Please identify all sub-contractors (including material suppliers) you intend to utilize on this project. Identify all suppliers with an (S).
Identify Minority Owned, Women Owned, Small, and Section 3 businesses with **MBE, WBE, SBE, or Sec 3** respectively. Please identify Certified Vendors.
Form must be updated and submitted when you add, delete, or make other changes to the list.

PRIME:

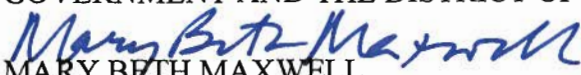
	Name, Address, Contact Person, and Phone Number	CERT W/M/S/BE Vendor	Section 3 Certified Vendor	Nature of Work	Date Work to Begin	Date Work Completed	Contract Amount
	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____
SUBS: 1	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____
2	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____
3	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____
4	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____
5	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____
6	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____
7	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____
8	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____



MAR 22 2013

MEMORANDUM NO. 213

TO: ALL CONTRACTING AGENCIES OF THE FEDERAL
GOVERNMENT AND THE DISTRICT OF COLUMBIA

FROM: 
MARY BETH MAXWELL
Acting Deputy Administrator

SUBJECT: Application of the Davis-Bacon and Related Acts requirement that wage rates for additional classifications, when "conformed" to an existing wage determination, bear a "reasonable relationship" to the wage rates in that wage determination

This Memorandum is notification from the Department of Labor's Wage and Hour Division (WHD) of the proper application of the Davis-Bacon and Related Acts (DBRA) requirements for wage rates for additional classifications that are "conformed" to an existing wage determination by agency contracting officers. The regulations at 29 C.F.R. § 5.5(a)(1)(ii)(A) provide that contracting officers shall approve an additional classification and its proposed wage rate in conformance with an existing wage determination only when the work to be performed by the proposed classification is not performed by a classification in the wage determination and the proposed wage rate bears a "reasonable relationship" to the wages rates in the wage determination. Although this Memorandum primarily focuses on the "reasonable relationship" requirement, it is essential at the threshold to reiterate that a conformance is not appropriate when the work of the proposed classification is already performed by a classification on the wage determination. The conformance process is narrow in scope and has the limited purpose of establishing a new classification when it is necessary to do so because work needed to perform the contract is not performed by an existing classification. *See Cambridge Plaza*, ARB Case No. 07-102 (ARB Oct. 29, 2009). Accordingly, the WHD will not add a new classification through a conformance action unless the first criterion for issuance of a conformance is satisfied, i.e., the proposed work in question is not performed by any classification in the existing wage determination. 29 C.F.R. § 5.5(a)(1)(ii)(A)(1).

In those circumstances in which the duties of the proposed classification are not performed by any classification in the existing wage determination, the WHD will consider whether the proposed wage rate bears a "reasonable relationship" to the wage rates in the wage determination. In the past, WHD has generally approved proposed wage rates for a conformed skilled craft and a power equipment operator when such rates were not less than the rate for the lowest classification in the respective category on the contract wage determination. The practice of using the lowest rate in the relevant category as a benchmark also occurred on occasion with laborers and truck drivers. In keeping with the remedial purpose of the DBRA and the governing

regulations, the wage rate of the lowest skilled craft, laborer, power equipment operator, or truck driver classification on the contract wage determination has no longer been an automatic benchmark when reviewing conformance requests. WHD's approach of not using the lowest wage rate as a benchmark has been progressively implemented over the last year.

The Conformance Process

In accordance with 29 C.F.R. § 5.5(a)(1)(ii)(A), the contracting officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and a wage rate (including fringe benefits) for the classification only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

Further, if the contractor, the laborers or mechanics (if known) to be employed in the classification or their representatives, and the contracting agency agree on the classification and wage rate proposed, a report of the action taken is sent by the contracting officer to the Administrator of WHD for approval, denial, or modification. The Administrator (or an authorized representative) shall respond within 30 days of receipt, or the contracting officer will be notified that more time is necessary. *See* 29 C.F.R. § 5.5(a)(1)(ii)(B). In the event that the contractor, the laborers or mechanics (if known) to be employed in the classification or their representatives, and the contracting agency do not agree on the classification and wage rate proposed, the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator of WHD for determination. The Administrator (or an authorized representative) shall issue a determination within 30 days of receipt and so advise the contracting officer, or the contracting officer will be notified that more time is necessary. *See* 29 C.F.R. § 5.5(a)(1)(ii)(C).

"Reasonable Relationship"

WHD previously typically approved conformance requests from contracting officers for wage rates (including fringe benefits) for skilled classifications and power equipment operators by automatically using as a benchmark the lowest rate for a skilled classification or power equipment operator, respectively, in the applicable wage determination. The practice of using the lowest rate in the relevant category as a benchmark also occurred on occasion with laborers and truck drivers. WHD has concluded, however, that it better reflects the regulatory requirement that "the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination" to consider the entirety of the rates within the relevant category on the wage determination and to not generally use as a benchmark the lowest rate within that category. The regulation at 29 C.F.R. §

5.5(a)(1)(ii)(A)(3) requires that the proposed wage rate bear a reasonable relationship to the “wage rates” on the wage determination and not to a particular rate or the lowest rate.

The category in which the requested additional classification falls is relevant to the reasonable relationship analysis. As background, classifications in wage determinations fall into four general categories: skilled crafts, laborers, power equipment operators, and truck drivers. To determine a “reasonable relationship,” the requested additional classification is compared to the classifications on the applicable wage determination within the same category. A proposed skilled craft classification is compared to skilled classifications in the wage determination; a proposed laborer classification is compared to existing laborer classifications; a proposed power equipment operator classification is compared to existing power equipment operator classifications; and a proposed truck driver classification is compared to existing truck driver classifications. See *Mistick Construction*, ARB Case No. 02-004 (June 24, 2003); *Tower Construction*, WAB Case No. 94-17 (Feb. 28, 1995).¹ Thus, when considering a conformance request for a skilled classification, WHD generally considers the entirety of the rates for the skilled classifications on the applicable wage determination and looks to where the proposed wage rate falls within the rates listed on the wage determination. Occasionally, however, a wage determination may contain some wage rates for laborer classifications that are higher than some wage rates for the skilled classifications or power equipment operators (likely because the laborers’ rates reflect union prevailing rates and the skilled crafts’ or power equipment operators’ rates reflect weighted average prevailing rates). On such occasions, the contracting officer should look to those skilled classifications whose rates are higher than the laborer classifications’ rates. See *M.Z. Contractors Co.*, WAB Case No. 92-06 (Aug. 25, 1992). If, however, most of the skilled classifications’ or power equipment operators’ rates are lower than the laborer classifications’ rates, then it may be reasonable to propose a rate that reflects the skilled classifications’ rates even if they are lower than the laborer classifications’ rates.

Additionally, whether the wage rates in the applicable category (skilled craft, laborer, power equipment operator, truck driver) in the wage determination are predominantly union prevailing wage rates or predominantly weighted average prevailing wage rates should be considered when proposing rates for an additional classification. For example, if a wage determination contains predominantly union prevailing wage rates for skilled classifications, it typically would be appropriate to look to the union sector skilled classifications in the wage determination and the rates for those classifications when proposing a wage rate for the additional classification. Conversely, if a wage determination contains predominantly weighted average prevailing wage rates for skilled classifications, it typically would be appropriate to look to the weighted average/non-union sector skilled classifications in the wage determination and the rates for those classifications when proposing a wage rate for the additional classification. If the wage rates in the applicable category are roughly half union prevailing rates and half weighted average prevailing rates, it would typically be appropriate to look to the lowest union rate and the highest weighted average rate (assuming the union rates are higher than the weighted average rates) when proposing a wage rate.

¹ Copies of Administrative Review Board (ARB) and Wage Appeals Board (WAB) decisions can be obtained from: www.oalj.dol.gov/libdba.htm.

While the majority of conformance requests are within the skilled classification category, the governing regulations and the principles outlined in this Memorandum apply to the other categories of workers – laborers, power equipment operators, and truck drivers. To meet the “reasonable relationship” test for a conformed power equipment operator or truck driver classification, the proposed wage rate should bear a reasonable relationship to the entirety of rates within the respective classification, and in particular to the union or weighted average rates in the classification (assuming union or weighted average rates prevail for the classification). When a conformance for a laborer classification is requested, WHD generally continues to use the common laborer rate already existing in the wage determination as a benchmark for the proposed rate.

Each conformance request and corresponding wage determination involves particular circumstances and therefore should be evaluated as such. The full range of wage rates on the wage determination for the appropriate category should be reviewed in the manner discussed above. When seeking conformed classifications and wage rates, the contractor and the contracting officer should not rely on a wage determination or conformance granted to another party regardless of the similarity of the work in question. *See, e.g., Inland Waters Pollution Control, Inc.*, WAB Case No. 94-12 (Sept. 30, 1994). Moreover, the contractor and the contracting officer should not prospectively rely on WHD’s prior approval of rates for application to a contract performed at the same location. *See E&M Sales, Inc.*, WAB Case No. 91-17 (Oct. 4, 1991). Although atypical, use of the “lowest skilled” rate may of course be appropriate when that rate in fact bears a reasonable relationship to the wage rates contained in the wage determination for the appropriate category. *See, e.g., Tower Construction*, WAB Case No. 94-17 (Feb. 28, 1995) (conformed wage rate, which equaled lowest skilled rate on wage determination, was reasonable).

In sum, contracting agencies should take the following steps when proposing a wage rate for a classification to be conformed to an existing wage determination:

- First, the contracting agency should determine the category (skilled crafts, laborers, power equipment operators, or truck drivers) of the classification which is being conformed.
- Second, the contracting agency should determine for that category whether union or weighted average/non-union sector rates prevail in the existing wage determination.
- Third, after reviewing the entirety of the rates within the appropriate sector in the applicable category, the contracting agency should determine a rate that bears a reasonable relationship to those rates on the wage determination.
- Fourth, the contracting agency should determine whether any of the considerations identified in this Memorandum apply (or whether any other relevant considerations apply). For example, if the classification being conformed is a skilled classification and some of the wage rates for skilled classifications in the wage determination are lower than the rates for laborer classifications, then the contracting agency should use those existing skilled classification rates that are higher than the laborer rates to determine the

proposed rate. And if the classification which is being conformed is a laborer classification, the proposed wage rate should generally use the existing common laborer wage rate as a benchmark.

Conclusion

The WHD Administrator has historically maintained broad discretion under the regulations to make determinations regarding proposed wage rates for additional classifications that are conformed to existing wage determinations. This broad discretion has been confirmed by the ARB and its predecessors, as illustrated by the decisions cited in this Memorandum, among others. In exercising that discretion, WHD ensures that wage rates (including fringe benefits) for the classification to be conformed bear a reasonable relationship to the range of rates for the classifications in the wage determination in the same category (skilled classifications, power equipment operators, laborers, and truck drivers), and not automatically to the lowest rate in the applicable category. Consistent with the governing regulations, contracting agencies should ensure that they request wage rates (including fringe benefits) for additional classifications in accordance with the principles set forth in this Memorandum. By following the guidance in this AAM, contracting agencies and contractors will benefit by receiving approvals from WHD that ensure consistency in conformed wage rates and increase efficiencies in government.

In conjunction with the guidance provided in this AAM, WHD has posted on www.dol.gov/whd/govcontracts/dbra.htm a series of frequently asked questions that include examples which will provide additional guidance regarding the reasonable relationship requirement in the conformance process. WHD also is updating its Prevailing Wage Resource Book and will provide compliance assistance on DBRA conformances at future Prevailing Wage Conferences. In addition, WHD's Branch of Construction Wage Determinations is available to assist with any questions.

EMPLOYEE RIGHTS UNDER THE DAVIS-BACON ACT

FOR LABORERS AND MECHANICS EMPLOYED ON FEDERAL OR FEDERALLY ASSISTED CONSTRUCTION PROJECTS

THE UNITED STATES DEPARTMENT OF LABOR WAGE AND HOUR DIVISION

PREVAILING WAGES

You must be paid not less than the wage rate listed in the Davis-Bacon Wage Decision posted with this Notice for the work you perform.

OVERTIME

You must be paid not less than one and one-half times your basic rate of pay for all hours worked over 40 in a work week. There are few exceptions.

ENFORCEMENT

Contract payments can be withheld to ensure workers receive wages and overtime pay due, and liquidated damages may apply if overtime pay requirements are not met. Davis-Bacon contract clauses allow contract termination and debarment of contractors from future federal contracts for up to three years. A contractor who falsifies certified payroll records or induces wage kickbacks may be subject to civil or criminal prosecution, fines and/or imprisonment.

APPRENTICES

Apprentice rates apply only to apprentices properly registered under approved Federal or State apprenticeship programs.

PROPER PAY

If you do not receive proper pay, or require further information on the applicable wages, contact the Contracting Officer listed below:



Federal Labor Standards Compliance
City of Saint Paul
651-266-8900
www.stpaul.gov/federallaborstandards

or contact the U.S. Department of Labor's Wage and Hour Division.



For additional information:

1-866-4-USWAGE

(1-866-487-9243) TTY: 1-877-889-5627



WWW.WAGEHOUR.DOL.GOV

DERECHOS DEL EMPLEADO BAJO LA LEY DAVIS-BACON

PARA OBREROS Y MECÁNICOS EMPLEADOS EN PROYECTOS DE CONSTRUCCIÓN FEDERAL O CON ASISTENCIA FEDERAL

LA SECCIÓN DE HORAS Y SUELDOS DEL DEPARTAMENTO DE TRABAJO DE EEUU

SALARIOS PREVALECIENTES

No se le puede pagar menos de la tasa de pago indicada en la Decisión de Salarios Davis-Bacon fijada con este Aviso para el trabajo que Ud. desempeña.

SOBRETIEMPO

Se le ha de pagar no menos de tiempo y medio de su tasa básica de pago por todas las horas trabajadas en exceso de 40 en una semana laboral. Existen pocas excepciones.

CUMPLIMIENTO

Se pueden retener pagos por contratos para asegurarse que los obreros reciban los salarios y el pago de sobretiempo debidos, y se podría aplicar daños y perjuicios si no se cumple con las exigencias del pago de sobretiempo. Las cláusulas contractuales de Davis-Bacon permiten la terminación y exclusión de contratistas para efectuar futuros contratos federales hasta tres años. El contratista que falsifique los registros certificados de las nóminas de pago o induzca devoluciones de salarios puede ser sujeto a procesamiento civil o criminal, multas y/o encarcelamiento.

APRENDICES

Las tasas de aprendices sólo se aplican a aprendices correctamente inscritos bajo programas federales o estatales aprobados.

PAGO APROPIADO

Si Ud. no recibe el pago apropiado, o precisa de información adicional sobre los salarios aplicables, póngase en contacto con el Contratista Oficial que aparece abajo:



Las Normas Laborales Federales
La Ciudad de Saint Paul
651-266-8900
www.stpaul.gov/federallaborstandards

o póngase en contacto con la Sección de Horas y Sueldos del Departamento de Trabajo de EEUU.



Para obtener información adicional:

1-866-4-USWAGE

(1-866-487-9243) TTY: 1-877-889-5627

WWW.WAGEHOUR.DOL.GOV



**THE FOLLOWING WAGE DECISION(S) SHALL BE USED FOR
BIDDING OF THE PROJECT. WAGE RATES ARE SUBJECT TO
CHANGE.**

**WAGE DECISION(S) MUST BE UPDATED UP TO CONTRACT SIGNING
WITH DEVOLPER.**

**WAGE DECISION(S) IN EFFECT ON CONTRACT SIGNING, WILL BE
LOCKED IN FOR PROJECT DURATION, PROVIDED CONSTRUCTION
BEGINS WITHIN 90 DAYS OF CONTRACT SIGNING.**

**IF CONSTRUCTION BEGINS AFTER 90 DAYS OF CONTRACT
SIGNING, WAGE DECISION(S) WILL BE UPDATED UP TO
CONSTRUCTION START DATE.**

**THIS WAGE DECISION MAY OR MAY NOT BE LOCKED INTO THE
CONTRACT.**

"General Decision Number: MN20200125 11/06/2020

Superseded General Decision Number: MN20190125

State: Minnesota

Construction Type: Building

County: Ramsey County in Minnesota.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.80 for calendar year 2020 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.80 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2020. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/03/2020
1	02/14/2020
2	05/15/2020
3	06/12/2020
4	07/10/2020
5	08/14/2020
6	09/25/2020
7	10/16/2020
8	10/23/2020
9	11/06/2020

ASBE0034-001 06/01/2020

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR.....	\$ 39.25	34.90

BOIL0647-008 03/01/2018

	Rates	Fringes
BOILERMAKER.....	\$ 37.22	27.14

BRMN0001-003 05/01/2018

	Rates	Fringes
BRICKLAYER.....	\$ 38.76	20.87

BRMN0001-018 05/01/2018

	Rates	Fringes
TERRAZZO FINISHER.....	\$ 36.90	19.41
TERRAZZO WORKER/SETTER.....	\$ 38.91	19.40
TILE FINISHER.....	\$ 25.13	5.54
TILE SETTER.....	\$ 33.55	24.65

CARP0068-006 05/01/2020

	Rates	Fringes
LATHER.....	\$ 39.47	21.18

CARP0068-010 05/01/2019

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 38.84	20.19

CARP0322-018 04/29/2019

	Rates	Fringes
CARPENTER (Including Acoustical Ceiling Installation, Batt and Foam Installation, Drywall Hanging, Hardwood Floor Laying, Form Work, Metal Roofing, and Scaffold Building, and Excluding Soft Floor Layer).....	\$ 38.18	22.45

CARP0548-003 05/01/2019

	Rates	Fringes
MILLWRIGHT.....	\$ 37.23	26.33

CARP1847-001 04/29/2019

	Rates	Fringes
PILEDRIVERMAN.....	\$ 38.18	22.45

ELEC0110-007 05/01/2020

	Rates	Fringes
ELECTRICIAN Excludes Low Voltage Wiring.	\$ 46.00	31.20
Low Voltage Wiring Only.....	\$ 38.97	17.14

ENGI0049-017 05/01/2020

Rates	Fringes
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POWER EQUIPMENT OPERATOR

Backhoe/Excavator/Trackhoe..	\$ 42.35	21.70
Bobcat/Skid Steer/Skid		
Loader.....	\$ 40.93	21.70
Bulldozer.....	\$ 40.93	21.70
Crane.....	\$ 42.35	21.70
Drill.....	\$ 40.93	21.70
Forklift.....	\$ 40.93	21.70
Loader.....	\$ 40.93	21.70
Oiler.....	\$ 38.30	21.70
Roller.....	\$ 40.93	21.70
Tractor.....	\$ 40.93	21.70

IRON0512-029 05/03/2020

Rates Fringes

IRONWORKER (Reinforcing and Structural).....	\$ 38.35	30.70
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LAB00563-059 06/01/2020

Rates Fringes

LABORER

ASBESTOS ABATEMENT Removal from Ceilings, Floors and Walls.....	\$ 36.25	18.19
Blaster, Demolition.....	\$ 36.41	18.54
Bottom Person.....	\$ 34.68	17.34
Common or General.....	\$ 36.41	18.54
Concrete Saw (Handheld/Walk Behind).....	\$ 36.41	18.54
Driller.....	\$ 36.41	18.54
Fireproofer.....	\$ 36.41	18.54
Landscape.....	\$ 26.30	14.66
Mason Tender- Brick/Cement/Concrete.....	\$ 36.41	18.54
Pipelayer.....	\$ 36.45	17.34
Plaster Tender.....	\$ 35.97	17.21
Top Person.....	\$ 33.95	17.34

PAIN0386-003 05/06/2019

Rates Fringes

DRYWALL FINISHER/TAPER.....	\$ 35.40	23.54
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PAIN0386-008 05/06/2019

Rates Fringes

PAINTER

Brush & Roller.....	\$ 37.20	22.86
Spray.....	\$ 37.20	22.86

PAIN0880-002 06/01/2018

Rates Fringes

PAINTER (Sign Installer).....	\$ 29.05	14.77
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PAIN1324-001 06/01/2020

Rates Fringes

GLAZIER.....\$ 43.00 20.37

PLAS0265-001 06/01/2018

Rates Fringes

PLASTERER.....\$ 33.32 23.45

PLAS0633-005 05/01/2019

Rates Fringes

CEMENT MASON/CONCRETE FINISHER...\$ 39.81 20.42

PLUM0034-003 05/01/2020

Rates Fringes

PLUMBER (Excludes HVAC Pipe
and Unit Installation).....\$ 44.10 28.93

PLUM0455-015 05/01/2018

Rates Fringes

PIPEFITTER (Excludes HVAC
Pipe and Unit Installation).....\$ 39.70 26.15

PLUM0539-005 05/01/2020

Rates Fringes

PIPEFITTER (HVAC Pipe
Installation Only).....\$ 41.84 34.67

ROOF0096-018 05/01/2020

Rates Fringes

ROOFER.....\$ 39.30 18.95

* SFMN0417-001 06/01/2020

Rates Fringes

SPRINKLER FITTER (Fire
Sprinklers).....\$ 46.38 28.20

SHEE0010-041 05/08/2018

Rates Fringes

SHEET METAL WORKER (Includes
HVAC Duct Installation and
Unit Installation).....\$ 43.31 27.69

SUMN2015-060 06/22/2018

Rates Fringes

HVAC MECHANIC: HVAC UNIT
INSTALLATION.....\$ 34.61 19.42

TRUCK DRIVER: Dump Truck.....\$ 23.43 12.33

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor

200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

MINNESOTA DEPARTMENT OF LABOR AND INDUSTRY PREVAILING WAGES FOR STATE FUNDED CONSTRUCTION PROJECTS



THIS NOTICE MUST BE POSTED ON THE JOBSITE IN A CONSPICUOUS PLACE

Construction Type: Commercial

County Number: 62

County Name: RAMSEY

Effective: 2020-11-16

This project is covered by Minnesota prevailing wage statutes. Wage rates listed below are the minimum hourly rates to be paid on this project.

All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at a rate of one and one half (1 1/2) times the basic hourly rate. *Note: Overtime pay after eight (8) hours on the project must be paid even if the worker does not exceed forty (40) hours in the work week.*

Violations should be reported to:

Department of Labor and Industry
Prevailing Wage Section
443 Lafayette Road N
St Paul, MN 55155
(651) 284-5091
DLI.PrevWage@state.mn.us

* Indicates that adjacent county rates were used for the labor class listed.

County: RAMSEY (62)

LABOR CODE AND CLASS		EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
LABORERS (101 - 112) (SPECIAL CRAFTS 701 - 730)					
101	LABORER, COMMON (GENERAL LABOR WORK)	2020-11-16	36.66	21.24	57.90
		2021-05-01	38.06	21.84	59.90
102	LABORER, SKILLED (ASSISTING SKILLED CRAFT JOURNEYMAN)	2020-11-16	36.66	21.24	57.90
		2021-05-01	38.06	21.84	59.90
103	LABORER, LANDSCAPING (GARDENER, SOD LAYER AND NURSERY OPERATOR)	2020-11-16	25.00	17.46	42.46
		2021-05-01	25.75	18.70	44.45
104	FLAG PERSON	2020-11-16	36.66	21.24	57.90
		2021-05-01	38.06	21.84	59.90
105	WATCH PERSON	2020-11-16	33.03	20.89	53.92

LABOR CODE AND CLASS		EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
		2021-05-01	34.43	21.49	55.92
106*	BLASTER	2020-11-16	34.15	19.64	53.79
107	PIPELAYER (WATER, SEWER AND GAS)	2020-11-16	37.05	21.24	58.29
		2021-05-01	39.00	21.84	60.84
108*	TUNNEL MINER	2020-11-16	35.15	21.24	56.39
		2021-05-01	37.00	21.84	58.84
109	UNDERGROUND AND OPEN DITCH LABORER (EIGHT FEET BELOW STARTING GRADE LEVEL)	2020-11-16	35.15	21.24	56.39
		2021-05-01	37.00	21.84	58.84
110	SURVEY FIELD TECHNICIAN (OPERATE TOTAL STATION, GPS RECEIVER, LEVEL, ROD OR RANGE POLES, STEEL TAPE MEASUREMENT; MARK AND DRIVE STAKES; HAND OR POWER DIGGING FOR AND IDENTIFICATION OF MARKERS OR MONUMENTS; PERFORM AND CHECK CALCULATIONS; REVIEW AND UNDERSTAND CONSTRUCTION PLANS AND LAND SURVEY MATERIALS). THIS CLASSIFICATION DOES NOT APPLY TO THE WORK PERFORMED ON A PREVAILING WAGE PROJECT BY A LAND SURVEYOR WHO IS LICENSED PURSUANT TO MINNESOTA STATUTES, SECTIONS 326.02 TO 326.15.	2020-11-16	36.66	21.24	57.90
		2021-05-01	38.06	21.84	59.90
111	TRAFFIC CONTROL PERSON (TEMPORARY SIGNAGE)	2020-11-16	36.66	21.24	57.90
		2021-05-01	38.06	21.84	59.90
SPECIAL EQUIPMENT (201 - 204)					
201*	ARTICULATED HAULER	2020-11-16	38.13	20.30	58.43
202*	BOOM TRUCK	2020-11-16	38.13	20.30	58.43
203		2020-11-16	25.00	17.46	42.46

LABOR CODE AND CLASS		EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
	LANDSCAPING EQUIPMENT, INCLUDES HYDRO SEEDER OR MULCHER, SOD ROLLER, FARM TRACTOR WITH ATTACHMENT SPECIFICALLY SEEDING, SODDING, OR PLANT, AND TWO-FRAMED FORKLIFT (EXCLUDING FRONT, POSIT-TRACK, AND SKID STEER LOADERS), NO EARTHWORK OR GRADING FOR ELEVATIONS	2021-05-01	25.75	18.70	44.45
204*	OFF-ROAD TRUCK	2020-11-16	37.83	18.65	56.48
205*	PAVEMENT MARKING OR MARKING REMOVAL EQUIPMENT (ONE OR TWO PERSON OPERATORS); SELF-PROPELLED TRUCK OR TRAILER MOUNTED UNITS.	2020-11-16	37.05	19.39	56.44
HIGHWAY/HEAVY POWER EQUIPMENT OPERATOR					
GROUP 2 *		2020-11-16	39.84	18.91	58.75
306	GRADER OR MOTOR PATROL				
308	TUGBOAT 100 H.P. AND OVER WHEN LICENSE REQUIRED (HIGHWAY AND HEAVY ONLY)				
GROUP 3 *		2020-11-16	39.19	21.55	60.74
		2021-05-03	40.34	22.55	62.89
309	ASPHALT BITUMINOUS STABILIZER PLANT				
310	CABLEWAY				
312	DERRICK (GUY OR STIFFLEG)(POWER)(SKIDS OR STATIONARY) (HIGHWAY AND HEAVY ONLY)				
314	DREDGE OR ENGINEERS, DREDGE (POWER) AND ENGINEER				
316	LOCOMOTIVE CRANE OPERATOR				
320	TANDEM SCRAPER				
322	TUGBOAT 100 H.P AND OVER (HIGHWAY AND HEAVY ONLY)				
GROUP 4		2020-11-16	38.89	21.55	60.44
		2021-05-03	40.04	22.55	62.59
323	AIR TRACK ROCK DRILL				
324	AUTOMATIC ROAD MACHINE (CMI OR SIMILAR) (HIGHWAY AND HEAVY ONLY)				
325	BACKFILLER OPERATOR				
327	BITUMINOUS ROLLERS, RUBBER TIRED OR STEEL DRUMMED (EIGHT TONS AND OVER)				
328	BITUMINOUS SPREADER AND FINISHING MACHINES (POWER), INCLUDING PAVERS, MACRO SURFACING AND MICRO SURFACING, OR SIMILAR TYPES (OPERATOR AND SCREED PERSON)				

LABOR CODE AND CLASS	EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
329	BROKK OR R.T.C. REMOTE CONTROL OR SIMILAR TYPE WITH ALL ATTACHMENTS			
330	CAT CHALLENGER TRACTORS OR SIMILAR TYPES PULLING ROCK WAGONS, BULLDOZERS AND SCRAPERS			
331	CHIP HARVESTER AND TREE CUTTER			
332	CONCRETE DISTRIBUTOR AND SPREADER FINISHING MACHINE, LONGITUDINAL FLOAT, JOINT MACHINE, AND SPRAY MACHINE			
334	CONCRETE MOBIL (HIGHWAY AND HEAVY ONLY)			
335	CRUSHING PLANT (GRAVEL AND STONE) OR GRAVEL WASHING, CRUSHING AND SCREENING PLANT			
336	CURB MACHINE			
337	DIRECTIONAL BORING MACHINE			
338	DOPE MACHINE (PIPELINE)			
340	DUAL TRACTOR			
341	ELEVATING GRADER			
345	GPS REMOTE OPERATING OF EQUIPMENT			
347	HYDRAULIC TREE PLANTER			
348	LAUNCHER PERSON (TANKER PERSON OR PILOT LICENSE)			
349	LOCOMOTIVE (HIGHWAY AND HEAVY ONLY)			
350	MILLING, GRINDING, PLANNING, FINE GRADE, OR TRIMMER MACHINE			
352	PAVEMENT BREAKER OR TAMPING MACHINE (POWER DRIVEN) MIGHTY MITE OR SIMILAR TYPE			
354	PIPELINE WRAPPING, CLEANING OR BENDING MACHINE			
356	POWER ACTUATED HORIZONTAL BORING MACHINE, OVER SIX INCHES			
357	PUGMILL			
359	RUBBER-TIRED FARM TRACTOR WITH BACKHOE INCLUDING ATTACHMENTS (HIGHWAY AND HEAVY ONLY)			
360	SCRAPER			
361	SELF-PROPELLED SOIL STABILIZER			
362	SLIP FORM (POWER DRIVEN) (PAVING)			
363	TIE TAMPER AND BALLAST MACHINE			
365	TRACTOR, WHEEL TYPE, OVER 50 H.P. WITH PTO UNRELATED TO LANDSCAPING (HIGHWAY AND HEAVY ONLY)			
367	TUB GRINDER, MORBARK, OR SIMILAR TYPE			
GROUP 5 *	2020-11-16	34.75	20.50	55.25
370	BITUMINOUS ROLLER (UNDER EIGHT TONS)			
371	CONCRETE SAW (MULTIPLE BLADE) (POWER OPERATED)			
372	FORM TRENCH DIGGER (POWER)			
375	HYDRAULIC LOG SPLITTER			
376	LOADER (BARBER GREENE OR SIMILAR TYPE)			
377	POST HOLE DRIVING MACHINE/POST HOLE AUGER			
379	POWER ACTUATED JACK			
381	SELF-PROPELLED CHIP SPREADER (FLAHERTY OR SIMILAR)			

LABOR CODE AND CLASS	EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
382	SHEEP FOOT COMPACTOR WITH BLADE . 200 H.P. AND OVER			
383	SHOULDERING MACHINE (POWER) APS CO OR SIMILAR TYPE INCLUDING SELF-PROPELLED SAND AND CHIP SPREADER			
384	STUMP CHIPPER AND TREE CHIPPER			
385	TREE FARMER (MACHINE)			
GROUP 6 *	2020-11-16	34.64	21.55	56.19
	2021-05-03	35.79	22.55	58.34
387	CAT, CHALLENGER, OR SIMILAR TYPE OF TRACTORS, WHEN PULLING DISK OR ROLLER			
389	DREDGE DECK HAND			
391	GRAVEL SCREENING PLANT (PORTABLE NOT CRUSHING OR WASHING)			
393	LEVER PERSON			
395	POWER SWEEPER			
396	SHEEP FOOT ROLLER AND ROLLERS ON GRAVEL COMPACTION, INCLUDING VIBRATING ROLLERS			
397	TRACTOR, WHEEL TYPE, OVER 50 H.P., UNRELATED TO LANDSCAPING			
COMMERCIAL POWER EQUIPMENT OPERATOR				
GROUP 1	2020-11-16	44.44	21.70	66.14
	2021-05-03	45.24	22.85	68.09
501	HELICOPTER PILOT (COMMERCIAL CONSTRUCTION ONLY)			
502	TOWER CRANE 250 FEET AND OVER (COMMERCIAL CONSTRUCTION ONLY)			
503	TRUCK CRAWLER CRANE WITH 200 FEET OF BOOM AND OVER, INCLUDING JIB (COMMERCIAL CONSTRUCTION ONLY)			
GROUP 2	2020-11-16	44.10	21.70	65.80
	2021-05-03	44.90	22.85	67.75
504	CONCRETE PUMP WITH 50 METERS/164 FEET OF BOOM AND OVER (COMMERCIAL CONSTRUCTION ONLY)			
505	PILE DRIVING WHEN THREE DRUMS IN USE (COMMERCIAL CONSTRUCTION ONLY)			
506	TOWER CRANE 200 FEET AND OVER (COMMERCIAL CONSTRUCTION ONLY)			
507	TRUCK OR CRAWLER CRANE WITH 150 FEET OF BOOM UP TO AND NOT INCLUDING 200 FEET, INCLUDING JIB (COMMERCIAL CONSTRUCTION ONLY)			
GROUP 3	2020-11-16	42.69	21.70	64.39
	2021-05-03	43.49	22.85	66.34
508	ALL-TERRAIN VEHICLE CRANES (COMMERCIAL CONSTRUCTION ONLY)			
509	CONCRETE PUMP 32-49 METERS/102-164 FEET (COMMERCIAL CONSTRUCTION ONLY)			
510	DERRICK (GUY & STIFFLEG) (COMMERCIAL CONSTRUCTION ONLY)			
511	STATIONARY TOWER CRANE UP TO 200 FEET			
512	SELF-ERECTING TOWER CRANE 100 FEET AND OVER MEASURED FROM BOOM FOOT PIN (COMMERCIAL CONSTRUCTION ONLY)			

LABOR CODE AND CLASS	EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
513				
514				
GROUP 4	2020-11-16	42.35	21.70	64.05
	2021-05-03	43.15	22.85	66.00
515				
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520				
GROUP 5	2020-11-16	40.93	21.70	62.63
	2021-05-03	41.73	22.85	64.58
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531				
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534				
GROUP 6	2020-11-16	39.42	21.70	61.12
	2021-05-03	40.22	22.85	63.07
535				
536				
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539				
540				

LABOR CODE AND CLASS		EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
GROUP 7		2020-11-16	38.30	21.70	60.00
		2021-05-03	39.10	22.85	61.95
541	AIR COMPRESSOR 600 CFM OR OVER (COMMERCIAL CONSTRUCTION ONLY)				
542	BRAKEPERSON (COMMERCIAL CONSTRUCTION ONLY)				
543	CONCRETE PUMP/PUMPCRETE OR COMPLACO TYPE (COMMERCIAL CONSTRUCTION ONLY)				
544	FIREPERSON, TEMPORARY HEAT SECOND CLASS BOILER LICENSE (COMMERCIAL CONSTRUCTION ONLY)				
545	OILER (POWER SHOVEL, CRANE, TRUCK CRANE, DRAGLINE, CRUSHERS AND MILLING MACHINES, OR OTHER SIMILAR POWER EQUIPMENT) (COMMERCIAL CONSTRUCTION ONLY)				
546	PICK UP SWEEPER (ONE CUBIC YARD HOPPER CAPACITY) (COMMERCIAL CONSTRUCTION ONLY)				
547	PUMP AND/OR CONVEYOR (COMMERCIAL CONSTRUCTION ONLY)				
GROUP 8		2020-11-16	36.29	21.70	57.99
		2021-05-03	37.09	22.85	59.94
548	ELEVATOR OPERATOR (COMMERCIAL CONSTRUCTION ONLY)				
549	GREASER (COMMERCIAL CONSTRUCTION ONLY)				
550	MECHANICAL SPACE HEATER (TEMPORARY HEAT NO BOILER LICENSE REQUIRED) (COMMERCIAL CONSTRUCTION ONLY)				
TRUCK DRIVERS					
GROUP 1		2020-11-16	45.32	9.48	54.80
601	MECHANIC . WELDER				
602	TRACTOR TRAILER DRIVER				
603	TRUCK DRIVER (HAULING MACHINERY INCLUDING OPERATION OF HAND AND POWER OPERATED WINCHES)				
GROUP 2		2020-11-16	25.50	3.14	28.64
604	FOUR OR MORE AXLE UNIT, STRAIGHT BODY TRUCK				
GROUP 3 *		2020-11-16	22.50	6.50	29.00
605	BITUMINOUS DISTRIBUTOR DRIVER				
606	BITUMINOUS DISTRIBUTOR (ONE PERSON OPERATION)				
607	THREE AXLE UNITS				
GROUP 4 *		2020-11-16	28.00	9.56	37.56
608	BITUMINOUS DISTRIBUTOR SPRAY OPERATOR (REAR AND OILER)				
609	DUMP PERSON				
610	GREASER				
611	PILOT CAR DRIVER				

LABOR CODE AND CLASS		EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
612	RUBBER-TIRED, SELF-PROPELLED PACKER UNDER 8 TONS				
613	TWO AXLE UNIT				
614	SLURRY OPERATOR				
615	TANK TRUCK HELPER (GAS, OIL, ROAD OIL, AND WATER)				
616	TRACTOR OPERATOR, UNDER 50 H.P.				
SPECIAL CRAFTS					
701	HEATING AND FROST INSULATORS	2020-11-16	46.79	27.26	74.05
702	BOILERMAKERS	2020-11-16	39.69	28.82	68.51
		2021-01-01	41.39	28.82	70.21
703	BRICKLAYERS	2020-11-16	40.99	22.51	63.50
		2021-05-01	43.04	22.51	65.55
704	CARPENTERS	2020-11-16	38.68	25.15	63.83
		2021-05-01	40.68	25.15	65.83
705	CARPET LAYERS (LINOLEUM)	2020-11-16	39.34	21.84	61.18
		2021-05-01	41.34	21.84	63.18
706	CEMENT MASONS	2020-11-16	40.76	21.47	62.23
		2021-05-01	42.76	21.47	64.23
707	ELECTRICIANS	2020-11-16	46.00	31.20	77.20
708	ELEVATOR CONSTRUCTORS	2020-11-16	51.55	40.48	92.03
		2021-01-01	53.28	41.79	95.07
709	GLAZIERS	2020-11-16	43.00	21.08	64.08
		2021-06-07	45.05	21.08	66.13
710	LATHERS	2020-11-16	39.97	22.83	62.80
		2021-05-01	41.97	22.83	64.80
712	IRONWORKERS	2020-11-16	38.35	30.70	69.05
		2021-05-02	40.45	30.70	71.15
714	MILLWRIGHT	2020-11-16	36.13	29.18	65.31
		2021-05-01	38.23	29.18	67.41

LABOR CODE AND CLASS		EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
715	PAINTERS (INCLUDING HAND BRUSHED, HAND SPRAYED, AND THE TAPING OF PAVEMENT MARKINGS)	2020-11-16	37.70	24.63	62.33
		2021-05-03	39.70	24.63	64.33
716	PILEDRIIVER (INCLUDING VIBRATORY DRIVER OR EXTRACTOR FOR PILING AND SHEETING OPERATIONS)	2020-11-16	38.96	25.03	63.99
		2021-05-01	41.01	25.03	66.04
717	PIPEFITTERS . STEAMFITTERS	2020-11-16	50.19	27.75	77.94
		2021-05-01	52.69	27.75	80.44
718	PLASTERERS	2020-11-16	41.00	21.57	62.57
		2021-06-01	43.05	21.57	64.62
719	PLUMBERS	2020-11-16	50.47	25.73	76.20
720	ROOFER	2020-11-16	39.30	18.89	58.19
		2021-05-01	41.30	18.89	60.19
721	SHEET METAL WORKERS	2020-11-16	46.06	30.22	76.28
722	SPRINKLER FITTERS	2020-11-16	48.88	28.65	77.53
723	TERRAZZO WORKERS	2020-11-16	41.68	20.73	62.41
		2021-05-03	43.73	20.73	64.46
724	TILE SETTERS	2020-11-16	37.06	25.80	62.86
		2021-05-03	39.11	25.80	64.91
725	TILE FINISHERS	2020-11-16	30.58	20.65	51.23
		2021-05-03	32.22	20.65	52.87
726	DRYWALL TAPER	2020-11-16	35.75	24.52	60.27
727	WIRING SYSTEM TECHNICIAN	2020-11-16	41.42	18.16	59.58
728	WIRING SYSTEMS INSTALLER	2020-11-16	29.02	15.34	44.36

LABOR CODE AND CLASS		EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
729	ASBESTOS ABATEMENT WORKER	2020-11-16	33.75	20.69	54.44
		2021-01-01	34.85	21.64	56.49
730	SIGN ERECTOR	2020-11-16	30.03	16.79	46.82

MINNESOTA DEPARTMENT OF LABOR AND INDUSTRY PREVAILING WAGES FOR STATE FUNDED CONSTRUCTION PROJECTS



THIS NOTICE MUST BE POSTED ON THE JOBSITE IN A CONSPICUOUS PLACE

Construction Type: Commercial

County Number: 62

County Name: RAMSEY

Effective: 2020-11-16

This project is covered by Minnesota prevailing wage statutes. Wage rates listed below are the minimum hourly rates to be paid on this project.

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Violations should be reported to:

Department of Labor and Industry
Prevailing Wage Section
443 Lafayette Road N
St Paul, MN 55155
(651) 284-5091
DLI.PrevWage@state.mn.us

* Indicates that adjacent county rates were used for the labor class listed.

County: RAMSEY (62)

LABOR CODE AND CLASS		EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
LABORERS (101 - 112) (SPECIAL CRAFTS 701 - 730)					
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		2021-05-01	38.06	21.84	59.90
102	LABORER, SKILLED (ASSISTING SKILLED CRAFT JOURNEYMAN)	2020-11-16	36.66	21.24	57.90
		2021-05-01	38.06	21.84	59.90
103	LABORER, LANDSCAPING (GARDENER, SOD LAYER AND NURSERY OPERATOR)	2020-11-16	25.00	17.46	42.46
		2021-05-01	25.75	18.70	44.45
104	FLAG PERSON	2020-11-16	36.66	21.24	57.90
		2021-05-01	38.06	21.84	59.90
105	WATCH PERSON	2020-11-16	33.03	20.89	53.92

LABOR CODE AND CLASS		EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
		2021-05-01	34.43	21.49	55.92
106*	BLASTER	2020-11-16	34.15	19.64	53.79
107	PIPELAYER (WATER, SEWER AND GAS)	2020-11-16	37.05	21.24	58.29
		2021-05-01	39.00	21.84	60.84
108*	TUNNEL MINER	2020-11-16	35.15	21.24	56.39
		2021-05-01	37.00	21.84	58.84
109	UNDERGROUND AND OPEN DITCH LABORER (EIGHT FEET BELOW STARTING GRADE LEVEL)	2020-11-16	35.15	21.24	56.39
		2021-05-01	37.00	21.84	58.84
110	SURVEY FIELD TECHNICIAN (OPERATE TOTAL STATION, GPS RECEIVER, LEVEL, ROD OR RANGE POLES, STEEL TAPE MEASUREMENT; MARK AND DRIVE STAKES; HAND OR POWER DIGGING FOR AND IDENTIFICATION OF MARKERS OR MONUMENTS; PERFORM AND CHECK CALCULATIONS; REVIEW AND UNDERSTAND CONSTRUCTION PLANS AND LAND SURVEY MATERIALS). THIS CLASSIFICATION DOES NOT APPLY TO THE WORK PERFORMED ON A PREVAILING WAGE PROJECT BY A LAND SURVEYOR WHO IS LICENSED PURSUANT TO MINNESOTA STATUTES, SECTIONS 326.02 TO 326.15.	2020-11-16	36.66	21.24	57.90
		2021-05-01	38.06	21.84	59.90
111	TRAFFIC CONTROL PERSON (TEMPORARY SIGNAGE)	2020-11-16	36.66	21.24	57.90
		2021-05-01	38.06	21.84	59.90
SPECIAL EQUIPMENT (201 - 204)					
201*	ARTICULATED HAULER	2020-11-16	38.13	20.30	58.43
202*	BOOM TRUCK	2020-11-16	38.13	20.30	58.43
203		2020-11-16	25.00	17.46	42.46

LABOR CODE AND CLASS		EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
	LANDSCAPING EQUIPMENT, INCLUDES HYDRO SEEDER OR MULCHER, SOD ROLLER, FARM TRACTOR WITH ATTACHMENT SPECIFICALLY SEEDING, SODDING, OR PLANT, AND TWO-FRAMED FORKLIFT (EXCLUDING FRONT, POSIT-TRACK, AND SKID STEER LOADERS), NO EARTHWORK OR GRADING FOR ELEVATIONS	2021-05-01	25.75	18.70	44.45
204*	OFF-ROAD TRUCK	2020-11-16	37.83	18.65	56.48
205*	PAVEMENT MARKING OR MARKING REMOVAL EQUIPMENT (ONE OR TWO PERSON OPERATORS); SELF-PROPELLED TRUCK OR TRAILER MOUNTED UNITS.	2020-11-16	37.05	19.39	56.44
HIGHWAY/HEAVY POWER EQUIPMENT OPERATOR					
GROUP 2 *		2020-11-16	39.84	18.91	58.75
306	GRADER OR MOTOR PATROL				
308	TUGBOAT 100 H.P. AND OVER WHEN LICENSE REQUIRED (HIGHWAY AND HEAVY ONLY)				
GROUP 3 *		2020-11-16	39.19	21.55	60.74
		2021-05-03	40.34	22.55	62.89
309	ASPHALT BITUMINOUS STABILIZER PLANT				
310	CABLEWAY				
312	DERRICK (GUY OR STIFFLEG)(POWER)(SKIDS OR STATIONARY) (HIGHWAY AND HEAVY ONLY)				
314	DREDGE OR ENGINEERS, DREDGE (POWER) AND ENGINEER				
316	LOCOMOTIVE CRANE OPERATOR				
320	TANDEM SCRAPER				
322	TUGBOAT 100 H.P AND OVER (HIGHWAY AND HEAVY ONLY)				
GROUP 4		2020-11-16	38.89	21.55	60.44
		2021-05-03	40.04	22.55	62.59
323	AIR TRACK ROCK DRILL				
324	AUTOMATIC ROAD MACHINE (CMI OR SIMILAR) (HIGHWAY AND HEAVY ONLY)				
325	BACKFILLER OPERATOR				
327	BITUMINOUS ROLLERS, RUBBER TIERED OR STEEL DRUMMED (EIGHT TONS AND OVER)				
328	BITUMINOUS SPREADER AND FINISHING MACHINES (POWER), INCLUDING PAVERS, MACRO SURFACING AND MICRO SURFACING, OR SIMILAR TYPES (OPERATOR AND SCREED PERSON)				

LABOR CODE AND CLASS	EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
329	BROKK OR R.T.C. REMOTE CONTROL OR SIMILAR TYPE WITH ALL ATTACHMENTS			
330	CAT CHALLENGER TRACTORS OR SIMILAR TYPES PULLING ROCK WAGONS, BULLDOZERS AND SCRAPERS			
331	CHIP HARVESTER AND TREE CUTTER			
332	CONCRETE DISTRIBUTOR AND SPREADER FINISHING MACHINE, LONGITUDINAL FLOAT, JOINT MACHINE, AND SPRAY MACHINE			
334	CONCRETE MOBIL (HIGHWAY AND HEAVY ONLY)			
335	CRUSHING PLANT (GRAVEL AND STONE) OR GRAVEL WASHING, CRUSHING AND SCREENING PLANT			
336	CURB MACHINE			
337	DIRECTIONAL BORING MACHINE			
338	DOPE MACHINE (PIPELINE)			
340	DUAL TRACTOR			
341	ELEVATING GRADER			
345	GPS REMOTE OPERATING OF EQUIPMENT			
347	HYDRAULIC TREE PLANTER			
348	LAUNCHER PERSON (TANKER PERSON OR PILOT LICENSE)			
349	LOCOMOTIVE (HIGHWAY AND HEAVY ONLY)			
350	MILLING, GRINDING, PLANNING, FINE GRADE, OR TRIMMER MACHINE			
352	PAVEMENT BREAKER OR TAMPING MACHINE (POWER DRIVEN) MIGHTY MITE OR SIMILAR TYPE			
354	PIPELINE WRAPPING, CLEANING OR BENDING MACHINE			
356	POWER ACTUATED HORIZONTAL BORING MACHINE, OVER SIX INCHES			
357	PUGMILL			
359	RUBBER-TIRED FARM TRACTOR WITH BACKHOE INCLUDING ATTACHMENTS (HIGHWAY AND HEAVY ONLY)			
360	SCRAPER			
361	SELF-PROPELLED SOIL STABILIZER			
362	SLIP FORM (POWER DRIVEN) (PAVING)			
363	TIE TAMPER AND BALLAST MACHINE			
365	TRACTOR, WHEEL TYPE, OVER 50 H.P. WITH PTO UNRELATED TO LANDSCAPING (HIGHWAY AND HEAVY ONLY)			
367	TUB GRINDER, MORBARK, OR SIMILAR TYPE			
GROUP 5 *	2020-11-16	34.75	20.50	55.25
370	BITUMINOUS ROLLER (UNDER EIGHT TONS)			
371	CONCRETE SAW (MULTIPLE BLADE) (POWER OPERATED)			
372	FORM TRENCH DIGGER (POWER)			
375	HYDRAULIC LOG SPLITTER			
376	LOADER (BARBER GREENE OR SIMILAR TYPE)			
377	POST HOLE DRIVING MACHINE/POST HOLE AUGER			
379	POWER ACTUATED JACK			
381	SELF-PROPELLED CHIP SPREADER (FLAHERTY OR SIMILAR)			

LABOR CODE AND CLASS	EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
382	SHEEP FOOT COMPACTOR WITH BLADE . 200 H.P. AND OVER			
383	SHOULDERING MACHINE (POWER) APSCO OR SIMILAR TYPE INCLUDING SELF-PROPELLED SAND AND CHIP SPREADER			
384	STUMP CHIPPER AND TREE CHIPPER			
385	TREE FARMER (MACHINE)			
GROUP 6 *	2020-11-16	34.64	21.55	56.19
	2021-05-03	35.79	22.55	58.34
387	CAT, CHALLENGER, OR SIMILAR TYPE OF TRACTORS, WHEN PULLING DISK OR ROLLER			
389	DREDGE DECK HAND			
391	GRAVEL SCREENING PLANT (PORTABLE NOT CRUSHING OR WASHING)			
393	LEVER PERSON			
395	POWER SWEEPER			
396	SHEEP FOOT ROLLER AND ROLLERS ON GRAVEL COMPACTION, INCLUDING VIBRATING ROLLERS			
397	TRACTOR, WHEEL TYPE, OVER 50 H.P., UNRELATED TO LANDSCAPING			
COMMERCIAL POWER EQUIPMENT OPERATOR				
GROUP 1	2020-11-16	44.44	21.70	66.14
	2021-05-03	45.24	22.85	68.09
501	HELICOPTER PILOT (COMMERCIAL CONSTRUCTION ONLY)			
502	TOWER CRANE 250 FEET AND OVER (COMMERCIAL CONSTRUCTION ONLY)			
503	TRUCK CRAWLER CRANE WITH 200 FEET OF BOOM AND OVER, INCLUDING JIB (COMMERCIAL CONSTRUCTION ONLY)			
GROUP 2	2020-11-16	44.10	21.70	65.80
	2021-05-03	44.90	22.85	67.75
504	CONCRETE PUMP WITH 50 METERS/164 FEET OF BOOM AND OVER (COMMERCIAL CONSTRUCTION ONLY)			
505	PILE DRIVING WHEN THREE DRUMS IN USE (COMMERCIAL CONSTRUCTION ONLY)			
506	TOWER CRANE 200 FEET AND OVER (COMMERCIAL CONSTRUCTION ONLY)			
507	TRUCK OR CRAWLER CRANE WITH 150 FEET OF BOOM UP TO AND NOT INCLUDING 200 FEET, INCLUDING JIB (COMMERCIAL CONSTRUCTION ONLY)			
GROUP 3	2020-11-16	42.69	21.70	64.39
	2021-05-03	43.49	22.85	66.34
508	ALL-TERRAIN VEHICLE CRANES (COMMERCIAL CONSTRUCTION ONLY)			
509	CONCRETE PUMP 32-49 METERS/102-164 FEET (COMMERCIAL CONSTRUCTION ONLY)			
510	DERRICK (GUY & STIFFLEG) (COMMERCIAL CONSTRUCTION ONLY)			
511	STATIONARY TOWER CRANE UP TO 200 FEET			
512	SELF-ERECTING TOWER CRANE 100 FEET AND OVER MEASURED FROM BOOM FOOT PIN (COMMERCIAL CONSTRUCTION ONLY)			

LABOR CODE AND CLASS	EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
513				
514				
GROUP 4	2020-11-16	42.35	21.70	64.05
	2021-05-03	43.15	22.85	66.00
515				
516				
517				
518				
519				
520				
GROUP 5	2020-11-16	40.93	21.70	62.63
	2021-05-03	41.73	22.85	64.58
521				
522				
523				
524				
525				
526				
527				
528				
529				
530				
531				
532				
533				
534				
GROUP 6	2020-11-16	39.42	21.70	61.12
	2021-05-03	40.22	22.85	63.07
535				
536				
537				
538				
539				
540				

LABOR CODE AND CLASS		EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
GROUP 7		2020-11-16	38.30	21.70	60.00
		2021-05-03	39.10	22.85	61.95
541	AIR COMPRESSOR 600 CFM OR OVER (COMMERCIAL CONSTRUCTION ONLY)				
542	BRAKEPERSON (COMMERCIAL CONSTRUCTION ONLY)				
543	CONCRETE PUMP/PUMPCRETE OR COMPLACO TYPE (COMMERCIAL CONSTRUCTION ONLY)				
544	FIREPERSON, TEMPORARY HEAT SECOND CLASS BOILER LICENSE (COMMERCIAL CONSTRUCTION ONLY)				
545	OILER (POWER SHOVEL, CRANE, TRUCK CRANE, DRAGLINE, CRUSHERS AND MILLING MACHINES, OR OTHER SIMILAR POWER EQUIPMENT) (COMMERCIAL CONSTRUCTION ONLY)				
546	PICK UP SWEEPER (ONE CUBIC YARD HOPPER CAPACITY) (COMMERCIAL CONSTRUCTION ONLY)				
547	PUMP AND/OR CONVEYOR (COMMERCIAL CONSTRUCTION ONLY)				
GROUP 8		2020-11-16	36.29	21.70	57.99
		2021-05-03	37.09	22.85	59.94
548	ELEVATOR OPERATOR (COMMERCIAL CONSTRUCTION ONLY)				
549	GREASER (COMMERCIAL CONSTRUCTION ONLY)				
550	MECHANICAL SPACE HEATER (TEMPORARY HEAT NO BOILER LICENSE REQUIRED) (COMMERCIAL CONSTRUCTION ONLY)				
TRUCK DRIVERS					
GROUP 1		2020-11-16	45.32	9.48	54.80
601	MECHANIC . WELDER				
602	TRACTOR TRAILER DRIVER				
603	TRUCK DRIVER (HAULING MACHINERY INCLUDING OPERATION OF HAND AND POWER OPERATED WINCHES)				
GROUP 2		2020-11-16	25.50	3.14	28.64
604	FOUR OR MORE AXLE UNIT, STRAIGHT BODY TRUCK				
GROUP 3 *		2020-11-16	22.50	6.50	29.00
605	BITUMINOUS DISTRIBUTOR DRIVER				
606	BITUMINOUS DISTRIBUTOR (ONE PERSON OPERATION)				
607	THREE AXLE UNITS				
GROUP 4 *		2020-11-16	28.00	9.56	37.56
608	BITUMINOUS DISTRIBUTOR SPRAY OPERATOR (REAR AND OILER)				
609	DUMP PERSON				
610	GREASER				
611	PILOT CAR DRIVER				

LABOR CODE AND CLASS		EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
612	RUBBER-TIRED, SELF-PROPELLED PACKER UNDER 8 TONS				
613	TWO AXLE UNIT				
614	SLURRY OPERATOR				
615	TANK TRUCK HELPER (GAS, OIL, ROAD OIL, AND WATER)				
616	TRACTOR OPERATOR, UNDER 50 H.P.				
SPECIAL CRAFTS					
701	HEATING AND FROST INSULATORS	2020-11-16	46.79	27.26	74.05
702	BOILERMAKERS	2020-11-16	39.69	28.82	68.51
		2021-01-01	41.39	28.82	70.21
703	BRICKLAYERS	2020-11-16	40.99	22.51	63.50
		2021-05-01	43.04	22.51	65.55
704	CARPENTERS	2020-11-16	38.68	25.15	63.83
		2021-05-01	40.68	25.15	65.83
705	CARPET LAYERS (LINOLEUM)	2020-11-16	39.34	21.84	61.18
		2021-05-01	41.34	21.84	63.18
706	CEMENT MASONS	2020-11-16	40.76	21.47	62.23
		2021-05-01	42.76	21.47	64.23
707	ELECTRICIANS	2020-11-16	46.00	31.20	77.20
708	ELEVATOR CONSTRUCTORS	2020-11-16	51.55	40.48	92.03
		2021-01-01	53.28	41.79	95.07
709	GLAZIERS	2020-11-16	43.00	21.08	64.08
		2021-06-07	45.05	21.08	66.13
710	LATHERS	2020-11-16	39.97	22.83	62.80
		2021-05-01	41.97	22.83	64.80
712	IRONWORKERS	2020-11-16	38.35	30.70	69.05
		2021-05-02	40.45	30.70	71.15
714	MILLWRIGHT	2020-11-16	36.13	29.18	65.31
		2021-05-01	38.23	29.18	67.41

LABOR CODE AND CLASS		EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
715	PAINTERS (INCLUDING HAND BRUSHED, HAND SPRAYED, AND THE TAPING OF PAVEMENT MARKINGS)	2020-11-16	37.70	24.63	62.33
		2021-05-03	39.70	24.63	64.33
716	PILEDRIIVER (INCLUDING VIBRATORY DRIVER OR EXTRACTOR FOR PILING AND SHEETING OPERATIONS)	2020-11-16	38.96	25.03	63.99
		2021-05-01	41.01	25.03	66.04
717	PIPEFITTERS . STEAMFITTERS	2020-11-16	50.19	27.75	77.94
		2021-05-01	52.69	27.75	80.44
718	PLASTERERS	2020-11-16	41.00	21.57	62.57
		2021-06-01	43.05	21.57	64.62
719	PLUMBERS	2020-11-16	50.47	25.73	76.20
720	ROOFER	2020-11-16	39.30	18.89	58.19
		2021-05-01	41.30	18.89	60.19
721	SHEET METAL WORKERS	2020-11-16	46.06	30.22	76.28
722	SPRINKLER FITTERS	2020-11-16	48.88	28.65	77.53
723	TERRAZZO WORKERS	2020-11-16	41.68	20.73	62.41
		2021-05-03	43.73	20.73	64.46
724	TILE SETTERS	2020-11-16	37.06	25.80	62.86
		2021-05-03	39.11	25.80	64.91
725	TILE FINISHERS	2020-11-16	30.58	20.65	51.23
		2021-05-03	32.22	20.65	52.87
726	DRYWALL TAPER	2020-11-16	35.75	24.52	60.27
727	WIRING SYSTEM TECHNICIAN	2020-11-16	41.42	18.16	59.58
728	WIRING SYSTEMS INSTALLER	2020-11-16	29.02	15.34	44.36

LABOR CODE AND CLASS		EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
729	ASBESTOS ABATEMENT WORKER	2020-11-16	33.75	20.69	54.44
		2021-01-01	34.85	21.64	56.49
730	SIGN ERECTOR	2020-11-16	30.03	16.79	46.82

Exhibit F : Key Firms and Key Personnel

McCarron's Water Treatment Plant Improvements

Exhibit F: Key Firms and Key Personnel

Jacobs is responsible for all aspects of project delivery for SPRWS with support during design and construction by key firms PCL Construction and Magney Construction. The table below lists the anticipated responsibilities of the key firms for self-performed work.

Self-performed and Subcontracted scope may be reallocated during Phase 1 through mutual agreement by the Owner and Design-Builder.

At the time of the Guaranteed Price submittal, the Owner will review the costs of all self-performed work to ensure that the Design-Builder has sufficiently demonstrated cost competitiveness on all self-performed scope.

<i>CSI Division (2016 format)</i>	Self-Performed			Subcontracted
	Jacobs	Magney	PCL	
<i>01 General Requirements</i>	X	X	X	As applicable to their respective scopes of work.
<i>02 Existing Conditions</i>				X
<i>03.30 Cast-In-Place Concrete</i>			X	
<i>03.40 Precast Concrete</i>				X (Prestressed concrete tanks)
<i>04 Masonry</i>				X
<i>05 Metals</i>			X (embedded metals)	X
<i>06 Wood, Plastics, Composites</i>				X
<i>07 Thermal and Moisture Protection</i>				X
<i>08 Openings</i>				X
<i>09 Finishes</i>				X
<i>10 Specialties</i>				X
<i>12 Furnishings</i>				X
<i>21 Fire Suppression</i>				X
<i>22 Plumbing</i>				X
<i>23 HVAC</i>				X
<i>26 Electrical</i>				X
<i>31 Earthwork</i>				X
<i>32 Site Improvements</i>				X
<i>33 Utilities</i>		X yard pipe		
<i>40 Process Mechanical</i>		X		
<i>40 I&C</i>	X (programming)			X (Panel fabrication and hardware and instrument installation)
<i>46 Equipment Procurement</i>	X (Purchasing)			X (equipment supplied by Vendors)
<i>46 Equipment Installation</i>		X		X (electrical)

Key Personnel for the project are shown below. Per the General Conditions of the contract, the individuals identified herein shall not be replaced without the mutual agreement of the Owner and the Design-Builder.

Role	Name
Project Director	Steve Patterson, PE
Phase 1 Design and Preconstruction Lead / Treatment Process Lead / Process Startup	Tony Myers, PE
Phase 2 Construction Lead	Leslie Sjobom
Project Definition Lead/MDH Coordination	Roger Scharf, PE
Pilot Lead / Process Startup / Resident Engineer	Todd Elliot, PE
Design Manager	Doug Cayko, PE
Process Mechanical	Linda Mohr, PE
Electrical	Robert Wood, PE
Structural	Del Lange, PE
Preconstruction Manager	Kristian Benson
Lead Estimator	Eric Schield
Safety Manager	Matt Smith, STS
Quality Manager / DBE Coordination	John Borghesi, PE
Construction Manager – Concrete	Mike Maloney
Construction Manager – Mechanical	Gary Disch
Commissioning Manager	Ashley Currey, PE. LEED AP

Exhibit G: Phase 1 Milestone Schedule

McCarron's Water Treatment Plant Improvements

Exhibit G - Phase 1 Milestone Schedule

Task	Description	Deliverable Date	Comments
209	PDR & 30% Design	August-2021	Incorporating the appropriate deliverables of tasks 101-109 and 201-208 as described in Exhibit B.
210	60% Design	January-2022	Includes 90% design for Early Site Work Package
211	P2 GP Submittal	April-2022	Note: This assumes that the GP submittal is tied to 60% design completion. Timeline may be adjusted in accordance with contract terms.
212	Final Design	June-2022	Assumes Final Design starts when 60% comments are resolved prior to GP Negotiation. If FD waits for GP Negotiation this is 9/10/2022

Note: Other deliverable requirements and deadlines are specified in the Phase 1 Scope document. In most instances, these deadlines specify the allowable time period between two events (ex. Initial Cost Estimate to be submitted within 90 days of the Notice to Proceed.) All schedule requirements specified in the Phase 1 Scope document are also contractually binding.

Exhibit H: Insurance Requirements

McCarron's Water Treatment Plant Improvements

Exhibit H - Insurance Requirements

Note: The insurance limits set below have been developed through a good faith effort to anticipate project scope and associated insurance needs. As the project scope is further developed, adjustments to these anticipated insurance requirements may become necessary. Insurance requirements may be updated, as necessary, at the Contract Price Amendment.

Type of Coverage	Recommended Limits	Carried By
Builder’s Risk	Amount of project	Main Contractor OR City
General Liability	\$2M/\$5M or higher	Design-Builder
Auto Liability	\$1M combined single limit	Design-Builder
Professional Liability (Includes Errors & Omissions)	\$5M aggregate coverage	Design-Builder
Worker’s Compensation	Per statute	Design-Builder All Sub-Contractors
Property Insurance	Value of DB firm’s property on site	Design-Builder
Umbrella or Excess Policy (to go over General Liability)	\$10M (due to proximity to existing treatment plant)	Design-Builder
Pollution Liability	\$5M aggregate coverage	Design-Builder

Note: Per St. Paul city policy, all Certificates of Insurance must contain the following language in the “Description of Operations” section:

City of Saint Paul, its officials, employees, agents and representatives and the Board of Water Commissioners of the City of Saint Paul, its officials, employees, agents and representatives are Additional insured.

Exhibit I: Billing Rates, Phase 1 Costs, and Phase 2 Markups

McCarron's Water Treatment Plant Improvements

Exhibit I - Phase 1 Billing Rate Schedules

Engineering	
Staff Categories	Billing Rate
Senior Technical Consultant Project Director	\$ 290
Senior Project Manager 2 Senior Engineer	\$ 250
Senior Project Manager 1 Engineer 5	\$ 225
Project Manager Engineer 4	\$ 200
Engineer 3 Technician 5	\$ 160
Engineer 2 Technician 4	\$ 135
Engineer 1 Technician 3	\$ 120
Support 4 Technician 2	\$ 110
Support 3 Technician 1	\$ 100
Support 2	\$ 95
Support 1	\$ 90

Jacobs Preconstruction	
Staff Categories	Billing Rate
Senior Construction Project Director	\$ 220
Senior Construction Project Manager Senior Estimator	\$ 170
Construction Project Manager	\$ 150
Construction Professional 3	\$ 140
Construction Professional 2	\$ 125
Construction Professional 1	\$ 110

PCL Preconstruction	
Staff Categories	Billing Rate
Senior Project Manager	\$ 140
Superintendent	\$ 135
Estimator	\$ 120

Magney Construction Preconstruction	
Staff Categories	Billing Rate
Project Manager	\$ 130
Project Engineer/Superintendent	\$ 110
Estimator	\$ 100

Exhibit I. Phase 1 Costs

Design and Pre-Construction Phase Price	
Total Not-to-Exceed Price for Design and Preconstruction Phase	\$ 13,666,427.00
<i>Sum of Preconstruction Services Price + Design Price</i>	
Preconstruction Services Price (for all non-design related scope prior to Guaranteed Price Amendment)	\$ 1,564,162.00
<i>Evaluated: Not to exceed preconstruction services price (sum of items below)</i>	
Task 101. Mobilization and Project Setup	\$ 115,577.00
Task 102. Preconstruction Management and Administration for Design and Preconstruction Phase	\$ 86,127.00
Task 103. Constructability Reviews, Construction Planning, and all Required Deliverables	\$ 57,007.00
Task 104. Cost Modeling and Estimates	\$ 867,028.00
Task 105. Scheduling	\$ 190,403.00
Task 106. Design and Construction Phasing Plan	\$ 102,734.00
Task 107. Subcontract and Equipment Procurement	\$ 50,017.00
Task 108. Project Labor Agreement (PLA) Negotiation	\$ 43,271.00
Task 109. Preconstruction Contingency to Accommodate Iterative Design-Build Process	\$ 51,998.00
Design Price	\$ 12,102,265.00
<i>Evaluated: Not to exceed design price (sum of items below)</i>	
Task 201: Phase 1 Project Management	\$ 696,838.00
Task 202. Meetings and Workshops	\$ 376,677.00
Task 203. Background Document and Record Drawing Review and Validation	\$ 108,645.00
Task 204. Geotechnical investigations and analysis	\$ 158,482.00
Task 205. Surveying, Mapping and Site Investigations	\$ 170,200.00
Task 206. Permitting and Approvals	\$ 169,788.00
Task 207. Stakeholder and Public Outreach Planning and Support (Budget Allowance)	\$ 50,000.00 ¹
Task 208. Engineering Studies	\$ 227,710.00
Task 209. Preliminary Design Report and 30 Percent Design Package	\$ 1,296,143.00
Task 210. 60 Percent Design Package	\$ 2,144,590.00
Task 211. Phase 2 Guaranteed Price Submittal(s) and Phase 2 Amendment	\$ 928,843.00
Task 212. Final Design (Ready for Design-Build Construction)	\$ 2,528,007.00
Task 213. 100 Percent Design (Bid Documents in Case of Off-Ramp, at SPRWS's Option)	\$ 686,961.00
Task 214. Design contingency to accommodate iterative design-build process	\$ 290,000.00
Task 215. Design of Ammonia and Chlorine Warning System (at SPRWS's Option)	\$ 180,000.00
Task 300. Pilot Testing	\$ 1,839,881.00
Task 300. Pilot Testing (Allowances to be utilized at SPRWS's option)	\$ 39,500.00
Task 300. Pilot Testing Contingencies (To account for possible further definitions of scope/equipment)	\$ 210,000.00

Notes:

1. Pre-defined budget allotment for all Respondents.

Exhibit I. Phase 2 Cost Basis

Construction Phase Fees			
Guaranteed Maximum Price Option			
1.	Fee for Self-Performed Scope. A total Percent (%) markup for combined overhead and profit on work to be self-performed by the as-qualified Design-Build Team (i.e. Key Firms) applied to approved Construction Phase Work in the Contract Price Amendment (see Note 1 below)	9.50	%
2.	Fee for Subcontracted Scope and Purchases. A total Percent (%) markup for all other Work not included in item 1, anticipated to be subcontracted or directly purchased by a member of the Design-Build Team, based on a purchase order or subcontract amount, as applied to approved Cost of Work in the Contract Price Amendment.	5.00	%
3.	Shared savings ratio, representing the disbursement of any unspent costs at the end of the project below the Guaranteed Maximum Price. Combined Percentages must equal 100%. The minimum percentage for either party shall be 25%.		
	SPRWS	75.00	%
	Design-Builder	25.00	%
Lump Sum Price Option			
<i>Evaluated: Adjusted fee to be applied to estimated construction cost should SPRWS elect to exercise the Guaranteed Price on a Lump Sum basis.</i>			
1a.	Self-Performed Scope. Percent (%) discount on listed Guaranteed Maximum Price fee (listed in Item 1 above) should SPRWS elect to exercise the Guaranteed Price on a Lump Sum basis:		
	Discount on Fee for Self-Performed Scope	0.60	%
1b.	Math check:		
	GMP Fee (from GMP option Item 1 above)	9.50	%
	minus		
	Lump Sum discount	0.60	%
	Equals	8.90	%
2a.	Subcontracted Scope and Purchases. Percent (%) discount on listed Guaranteed Maximum Price fee (listed in Item 2 above) should SPRWS elect to exercise the Guaranteed Price on a Lump Sum basis:		
	Discount on Fee for Subcontracted Scope and Purchases	0.00	%
2b.	Math check:		
	GMP Fee (from GMP option Item 2 above)	5.00	%
	minus		
	Lump Sum discount	0.00	%
	Equals	5.00	%

Exhibit I. Phase 2 Cost Basis

Fee Detail. Provide a breakout of overhead, as a component of the above percent markup.

Not evaluated: Note that this fee detail may be required to support funding agreement disclosure requirements. Respondents are advised that funding requirements may require additional disclosure and documentation for overhead rates.

1. Percent (%) markup allocated for overhead, as included in both the Self-Performed Scope fee and the Subcontracted Scope and Purchases Fee, to be applied to approved construction costs:	Self-Perform: 4.70 Subcontracted: 2.00	%
2. Math check: Provide the non-overhead component of the above percent markups (e.g. profit or other)		
GMP Price Option		
(The percentage for the Self-Performed Scope option plus the overhead percentage should equal the total fee indicated above for the Self-Performed Scope GMP option, and vice-versa for the Subcontracted Scope and Purchases option)		
– Self-Performed Scope	4.80	%
– Subcontracted Scope and Purchases	3.00	%
Lump Sum Price Option		
(The percentage for the Self-Performed Scope option plus the overhead percentage should equal the total fee indicated above for the Self-Performed Scope LS option, and vice-versa for the Subcontracted Scope and Purchases option)		
– Self-Performed Scope	4.20	%
– Subcontracted Scope and Purchases	3.00	%

Labor Cost Multipliers

Not evaluated: Provide a breakdown for on-site and off-site salaried staff (for all staff not subject to prevailing wage rates)

1. Proposed labor cost multipliers	
On-site salaried staff multiplier	Construction Staff: 1.60 Engineering Staff: 3.10
Off-site salaried staff multiplier	Construction Staff: 2.00 Engineering Staff: 3.10

Instructions for How Design-Builder's Fees may be Applied to the Actual, Verifiable Costs of Phase 2 Construction Work

Based on as-proposed fee included on Form 2 Progressive Design-Builder Price Proposal.

- As-proposed Design-Builder's fee may be applied to the actual, verifiable cost of Phase 2 Construction Work, which include the following:
 - Construction and professional services subcontracts procured with entities outside of the Design-Build Team
 - Equipment and materials purchases made directly by any member of the Design-Build Team.
 - Rental contracts made directly by any member of the Design-Build Team
 - All other services with verifiable contracts and invoices
 - All Design-Build Team members' labor costs (as defined in contract documents), inclusive of project management and self-performed construction work
- Based on the above, the Design-Builder's fee shall be calculated by multiplying the actual, verifiable cost of Phase 2 Construction Work by the Design-Builder's as-proposed fees. The results of this calculation will be added as a fixed dollar amount to the Design-Builder's Phase 2 (Construction) cost model, to result in the GP.
 - As delineated in the attached Owner Approved Cost Model, certain cost items (e.g., insurance and bonds, among others) are designated as pass-through costs and will not be subject to application of fee.
 - This fixed dollar amount represents the maximum total fee available for Phase 2 (Construction) to the members of the Design-Build Team, and shall be billed proportionally to the cost of work being billed.
 - Other than the approved fees designated for Self-Performed Scope or Subcontracted Scope and Purchases, no additional markup or fees are to be included on Phase 2 Construction Work incurred for any member of the Design-Build Team.
 - Each Design-Builder is responsible for allocating available Phase 2 (Construction) fee to its Design-Build Team members.

Exhibit I. Phase 2 Cost Basis

Instructions for How Design-Builder's Fees may be Applied to the Actual, Verifiable Costs of Phase 2 Construction Work

- Design-Build Team members are considered pre-selected for self-performed scope may not otherwise compete for subcontracted scope in Phase 2 (Construction).
- For the development of all iterations of the draft Contract Price Amendment, all members of the Design-Build Team are required to document costs in open-book format.

Therefore, such Design-Build Team members providing subcontracted scope and purchases are not eligible to apply their own mark-up or fee to their scope's cost of work in addition to the as-proposed Design-Builder's fee on cost - e.g., there is no double-mark up allowed for Respondent's Key Firm(s).

— Owner Approved Cost Model Template

- The selected Design-Builder will be required to develop its GP estimate, and all subsequent GP iterations in accordance with the level of detail set forth in the Owner Approved Cost Model Template (provided in Attachment L).
- The markup for the Design-Builder's Construction Phase fee (overhead and profit) shall be applied to the actual, verifiable cost of Phase 2 Construction Work, including self-performed and sub-contracted work as shown in the Owner Approved Cost Model Template.
- Variations of how the Design-Builder's fee is applied to costs, from the Owner Approved Cost Model Template, will not be allowed without express written approval by SPRWS.
- Modifications to the Owner Approved Cost Model Template that do not affect how fee is applied (e.g. specific line items and organization of construction scope) will be allowed, and will be developed collaboratively with SPRWS, upon selection.

Exhibit J: Cost Model

McCarron's Water Treatment Plant Improvements

Note: The pages contained herein are print outs from the Cost Model, which has been provided to the Design-Builder in an Excel format. The Excel document contains additional information, including formulas which cannot easily be included herein. As such, the Excel document provided during the Procurement Process (through Addendum 1 to the RFP) shall be considered the actual contract document. The pages included herein as Exhibit J are included solely for reference and are intended to ensure both the Owner and the Design-Builder fully understand which spreadsheet is referred to when using the term Cost Model.

<INSERT Project Title>
<Insert Scope Description
Project No. <insert WS number(s)>
<State the deliverable (i.e., Engineer Est, 30%, 60%, etc.)>

<Insert Date>
Estimate Summary Sheet

DESIGN BUILD SERVICES			
DIRECT COSTS			Total
A	Division 2 - Site Work		\$0.00
B	Division 3 - Concrete		\$0.00
C	Buildings		\$0.00
D	Division 4 - Masonry - Non-Building		\$0.00
E.	Division 5 - Metal (Non-Building)		\$0.00
F	Division 6 - Woods and Plastics (Non-Building)		\$0.00
G	Division 7 - Thermal and Moisture Protection (Non-Building)		\$0.00
H	Division 9 - Finishes (Non-Building)		\$0.00
I	Division 10 - Specialties (Non-Building)		\$0.00
J1	Division 11 - Equipment (Non-building) - Subcontractor Cost		\$0.00
J2	Division 11 - Equipment (Non-building) - Permanent Materials Cost		
K.	Division 13 - Special Construction		\$0.00
L	Division 14 - Conveying Systems		\$0.00
M	Division 15 - Mechanical		\$0.00
N	Division 16 - Electrical		\$0.00
O	Division 17 - Instrumentation		\$0.00
P	Division 18 - Security		\$0.00
Q	Start-up and Commissioning		\$0.00
R	OTHER		\$0.00
S		SUBTOTAL DIRECT COSTS	\$0.00
INDIRECT COSTS		CALCULATED RATE:	
T	General Conditions	#DIV/0!	\$0.00
U	Contingency	#DIV/0!	\$0.00
V		SUBTOTAL GENERAL CONDITIONS COSTS	\$0.00
W		SUBTOTAL DIRECT AND INDIRECT COSTS	\$0.00
X1	Design-Builder Fee on Work Self-Performed by Team (Overhead & Profit)	0.00%	NA
X2	Design-Builder Fee on Subcontracts and Div 11 POs (Overhead & Profit)	0.00%	NA
X3	Total Design-Builder Fee for all Work (Overhead and Profit)		\$0.00
Y		SUBTOTAL DIRECT AND INDIRECT COSTS (INCLUDING FEE)	\$0.00
Z	Insurance		\$0.00
AA	Bonds		\$0.00
AB	Rework Contingency		\$0.00
AC	Sales Tax		\$0.00
AD	Incentives		\$0.00
AD		SUBTOTAL PASS THROUGH COMMERCIAL COSTS	\$0.00
Application of Design-Builder's Fee on Allowance items will be agreed to on a case-by-case basis, dependent on scope of work, timing, and implementation of the Guaranteed Price as a GMP or LS.			AE. Total GP
			\$0.00
			AF. Phase 1 Price
			\$0.00
			AG. Total Prior Change Orders
			\$0.00
			AH. Total Contract Amount
			\$0.00

McCarron's Water Treatment Plant Improvements

ITEM No.	DESCRIPTION	QTY	UNIT	Labor Cost	Permanent Material Cost*	ST&S Cost	Subcontractor Cost**	Construction Equipment	Other Cost/Unit	Total Cost	NOTES
* Permanent Materials Cost for Division 11 accrues to the design-builder's "Subcontracts / Purchase Orders" fee basis. ** Subcontractor Cost for all Divisions accrues to the design-builder's "Subcontracts / Purchase Orders" fee basis.											
SUMMARY											
Direct Costs Subtotal				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Project Indirect Costs Subtotal				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
TOTAL COST				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
DIRECT COSTS DETAIL											
2	Division 2 - Site Work	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Division 2 to include items from the Division 2 series of technical specifications including, but not limited to, mass excavation/fill, rough grading, excavation, backfill, erosion and sediment control, general site preparation, access gate(s), roads, utilities, etc.
2.1	Site Remediation & Demolition,		LS							\$ -	Demo of existing structures, utilities, concrete, asphalt, landscaping, etc. shall be broken out in multiple line items.
2.2	Site Preparation/Clearing		Acre							\$ -	
2.3	Grading		SY							\$ -	
2.4	Excavation & Backfill		CY							\$ -	
2.5	Deep Foundations		EA							\$ -	Any kind of deep foundation, piles, micro piles, drilled shafts, caissons, etc
2.6	Erosion & Sedimentation Control		LS							\$ -	
2.7	Paving		SY							\$ -	Any aggregate and paving activities for new or replacement roads. Temp roads for construction use only should be in the general conditions under temp work
2.8	Landscaping & Architectural Features		LS							\$ -	includes any landscaping, planting, decorative retaining walls, or other architectural features not part of buildings
2.9	Permanent Fencing/ Perimeter Barrier		LF							\$ -	
2.10	Site restoration and Rehabilitation		LS							\$ -	
2.11	Other Division 2 Activities									\$ -	ADD DESCRIPTION IF THIS LINE IS USED
3	Division 3 - Concrete	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Division 3 to include items from the Division 3 series of technical specifications including, but not limited to, foundations, slabs, equipment pads, transformer pads, chemical containment, etc. Each separate pad shall be broken out into individual line items.
3.1	"Slab on grade" Concrete		CY	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	horizontal concrete (does not include deep foundation concrete), includes all formwork, blockouts, embeds, placing of concrete, stripping etc. to build the foundation. DOES NOT include rebar
3.11	NAME Foundation		CY							\$ -	add additional lines for each major foundation. Insert below this line to keep formulas intact
3.12	NAME Foundation		CY							\$ -	
3.13	Misc small foundations, stoops, etc		CY							\$ -	
3.2	Concrete Structures		CY	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Any elevated or concrete structure that includes walls etc. Includes all work to build the structure. DOES NOT include rebar
3.11	NAME Foundation		CY							\$ -	add additional lines for each major foundation. Insert below this line to keep formulas intact
3.12	NAME Foundation		CY							\$ -	
3.3	Rebar		TN							\$ -	All rebar for project
3.4	Other Division 3 Activities									\$ -	ADD DESCRIPTION IF THIS LINE IS USED
4a	Buildings	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	This line is a sum of all lines below it. ***If additional buildings are added, update formulas in this line
4a.1	Building 1- subtotal			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Repeat for each building on site. Scope applicable to specific building only
4a.1.1	Division 4 - Masonry for buildings only									\$ -	includes masonry applicable to specific building only, does not apply to general site or process equipment/structures

McCarron's Water Treatment Plant Improvements

ITEM No.	DESCRIPTION	QTY	UNIT	Labor Cost	Permanent Material Cost*	ST&S Cost	Subcontractor Cost**	Construction Equipment	Other Cost/Unit	Total Cost	NOTES
											* Permanent Materials Cost for Division 11 accrues to the design-builder's "Subcontracts / Purchase Orders" fee basis. ** Subcontractor Cost for all Divisions accrues to the design-builder's "Subcontracts / Purchase Orders" fee basis.
4a.1.2	Division 5 - Metals for buildings only									\$ -	includes metals applicable to specific building only (structural steel framing for building, or steel to support maintenance activities such as davit arms or bridge cranes, etc) Does not apply to general site or process equipment/structures
4a.1.3	Division 6 - Wood and Plastics									\$ -	
4a.1.4	Division 7 - Thermal and Moisture Protection									\$ -	Roofing, Insulation,
4a.1.5	Division 8 - Doors and Windows									\$ -	
4a.1.6	Division 9 - Finishes									\$ -	
4a.1.7	Division 10 - Specialties									\$ -	
4a.1.8	Division 11 - Equipment									\$ -	
4a.1.9	Division 12 - Furnishings									\$ -	
4a.1.10	Division 13 - Special Construction									\$ -	ADD Description
4a.1.11	Division 15 - Mechanical									\$ -	Mechanical applicable to building only, such as sewer, potable water, etc or such things typically in a building subcontractors scope. Explicitly DOES NOT include any process piping
4a.1.12	Division 15 - Electrical									\$ -	Electrical applicable to building only, such as lighting, communications, house power for outlets etc. Explicitly DOES NOT include any power or controls to process equipment
4a.1.13	Division 21 - Fire Suppression									\$ -	all aspects of building specific fire protection/detection/alarm
4a.1.14	Division 23 - HVAC									\$ -	
4a.1.15	Division 27 - Communications									\$ -	
4a.1.16	Division 28 - Electronic Safety and Security									\$ -	
4a.2	Building 2- subtotal			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Repeat for each building on site. Scope applicable to specific building only
4a.2.1	Division 4 - Masonry for buildings only									\$ -	includes masonry applicable to specific building only, does not apply to general site or process equipment/structures
4a.2.2	Division 5 - Metals for buildings only									\$ -	includes metals applicable to specific building only (structural steel framing for building, or steel to support maintenance activities such as davit arms or bridge cranes, etc) Does not apply to general site or process equipment/structures
4a.2.3	Division 6 - Wood and Plastics									\$ -	
4a.2.4	Division 7 - Thermal and Moisture Protection									\$ -	Roofing, Insulation,
4a.2.5	Division 8 - Doors and Windows									\$ -	
4a.2.6	Division 9 - Finishes									\$ -	
4a.2.7	Division 10 - Specialties									\$ -	
4a.2.8	Division 11 - Equipment									\$ -	
4a.2.9	Division 12 - Furnishings									\$ -	
4a.2.10	Division 13 - Special Construction									\$ -	ADD Description
4a.2.11	Division 15 - Mechanical									\$ -	Mechanical applicable to building only, such as sewer, potable water, etc or such things typically in a building subcontractors scope. Explicitly DOES NOT include any process piping
4a.2.12	Division 15 - Electrical									\$ -	Electrical applicable to building only, such as lighting, communications, house power for outlets etc. Explicitly DOES NOT include any power or controls to process equipment
4a.1.13	Division 21 - Fire Suppression									\$ -	all aspects of building specific fire protection/detection/alarm
4a.1.14	Division 23 - HVAC									\$ -	
4a.1.15	Division 27 - Communications									\$ -	
4a.1.16	Division 28 - Electronic Safety and Security									\$ -	
4b	Division 4 - Masonry - Non-Building	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
4b.1	Any non-building masonry		LS							\$ -	masonry retaining walls or other masonry not associated with a building

McCarron's Water Treatment Plant Improvements

ITEM No.	DESCRIPTION	QTY	UNIT	Labor Cost	Permanent Material Cost*	ST&S Cost	Subcontractor Cost**	Construction Equipment	Other Cost/Unit	Total Cost	NOTES * Permanent Materials Cost for Division 11 accrues to the design-builder's "Subcontracts / Purchase Orders" fee basis. ** Subcontractor Cost for all Divisions accrues to the design-builder's "Subcontracts / Purchase Orders" fee basis.
5	Division 5 - Metal (Non-Building)	0	Ton	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Division 5 to include Non-building items from the Division 5 series of technical specifications to include, but not limited to, structural supports, bollards, grating, metal barriers on top of walls, shade canopy, etc.
5.1	Structural Steel and Connections		Ton							\$ -	Includes, steel framing (non-building), pipe racks, significant support structures, canopies etc
5.2	Misc Access steel		Ton							\$ -	Includes stairs, handrails, grating, decking,
5.3	Other Division 5 Activities		Ton							\$ -	ADD DESCRIPTION IF THIS LINE IS USED
6	Division 6 - Woods and Plastics (Non-Building)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
6.1	Any non-building or concrete wood and plastics		LS							\$ -	
7	Division 7 - Thermal and Moisture Protection (Non-Building)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
7.1	Pipe Thermal Protection		LF							\$ -	
7.2	Non-building Fire and Smoke Protection/Detection/Alarm		LS							\$ -	scope typically provided by a specialty fire protection sub, fire main or fire water loop should be in underground pipe
7.3	Other Division 6 Activities									\$ -	ADD DESCRIPTION IF THIS LINE IS USED
9	Division 9 - Finishes (Non-Building)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Division 9 to include items from the Division 9 series of technical specifications to include, but not limited to, coating systems, lining systems, etc.
9.1	Concrete Coatings		SF							\$ -	
9.2	Painting (steel, pipe, etc)		LS							\$ -	
9.3	Other Division 9 Activities		LS							\$ -	ADD DESCRIPTION IF THIS LINE IS USED
10	Division 10 - Specialties (Non-Building)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Division 10 to include items from the Division 10 series of technical specifications including, but not limited to, identification signs, warning signs, etc.
10.1	Permanent Signage		LS							\$ -	Any permanent signage required by the project
10.2	Other Division 10 Activities		LS							\$ -	ADD DESCRIPTION IF THIS LINE IS USED
11	Division 11 - Equipment (Non-building)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Division 11 to include items from the Division 11 series of technical specifications to include, but not limited to, pumps, surge tanks, chemical storage/metering pumps, compressors, etc. Line items shall be broken out by equipment/ system being supplied (pumps, control valves, filters, UV, ozone, compressors, transformers, MCCs etc.). See note above regarding application of Permanent Material Cost to the design-builder's fee basis.
11.1	LIST EACH PIECE OF EQUIPMENT (redundancy captured in qty)		EA							\$ -	
11.2			EA							\$ -	
11.3			EA							\$ -	
11.4			EA							\$ -	
11.5			EA							\$ -	
11.6			EA							\$ -	
11.7			EA							\$ -	
11.8			EA							\$ -	
11.9			EA							\$ -	
11.10			EA							\$ -	
11.11			EA							\$ -	
11.12			EA							\$ -	
11.13			EA							\$ -	add additional lines for each piece of equipment. Insert below this line to keep formulas intact
11.14			EA							\$ -	

McCarron's Water Treatment Plant Improvements

ITEM No.	DESCRIPTION	QTY	UNIT	Labor Cost	Permanent Material Cost*	ST&S Cost	Subcontractor Cost**	Construction Equipment	Other Cost/Unit	Total Cost	NOTES * Permanent Materials Cost for Division 11 accrues to the design-builder's "Subcontracts / Purchase Orders" fee basis. ** Subcontractor Cost for all Divisions accrues to the design-builder's "Subcontracts / Purchase Orders" fee basis.
13	Division 13 - Special Construction	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Division 13 to include items from the Division 13 series of technical specifications to include, but not limited to, cathodic protection systems, acoustic enclosures, etc. Line items shall be broken out by equipment/ system being supplied. ***NOTE: all process equipment to be included in Division 11*** ***NOTE: all instrumentation to be included in Division 17***
13.1	Sound, Vibration, and seismic control (non-building)		LS							\$ -	
13.2	Lightning Protection		LS							\$ -	not included in building subcontractor's scope
13.3	Cathodic Protection		LF							\$ -	
13.4	Field Erected Tanks (non-concrete)		EA							\$ -	Shop fabricated tanks should be listed above in Equipment
13.5	Hazardous Material Remediation, if necessary		LS							\$ -	
13.6	Other Division 13 Activities		LS							\$ -	ADD DESCRIPTION IF THIS LINE IS USED
14	Division 14 - Conveying Systems	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Division 14 to include items from the section 14 series of CSI division. ***NOTE: temp scaffolding is to be included in Division 1 - temp work***
14.1	Material Handling									\$ -	
14.2	Hoists, Bridge Cranes, etc									\$ -	
14.3	Other Division 14 Activities		LS							\$ -	ADD DESCRIPTION IF THIS LINE IS USED
15	Division 15 - Mechanical	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Division 15 to include items from the Division 15 series of technical specifications to include, but not limited to, pipe, valves, fittings, hangers and supports, testing, disinfection, and flushing for all piping systems, etc.
15.1	Above ground pipe	0	LF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
15.1.1	Above ground metal pipe large bore (greater than 2" dia)		LF							\$ -	
15.1.2	Above ground plastic pipe large bore (greater than 2" dia)		LF							\$ -	
15.1.3	Above ground fiberglass pipe large bore (greater than 2" dia)		LF							\$ -	
15.1.4	Above ground metal pipe small bore (2" dia or smaller)		LF							\$ -	
15.1.5	Above ground plastic pipe small bore (2" dia or smaller)		LF							\$ -	
15.1.6	Above ground fiberglass pipe small bore (2" dia or smaller)		LF							\$ -	
15.1	Underground pipe	0	LF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
15.1.1	Underground metal pipe large bore (greater than 2" dia)		LF							\$ -	
15.1.2	Underground plastic pipe large bore (greater than 2" dia)		LF							\$ -	
15.1.3	Underground fiberglass pipe large bore (greater than 2" dia)		LF							\$ -	
15.1.4	Underground metal pipe small bore (2" dia or smaller)		LF							\$ -	
15.1.5	Underground plastic pipe small bore (2" dia or smaller)		LF							\$ -	
15.1.6	Underground fiberglass pipe small bore (2" dia or smaller)		LF							\$ -	
16	Division 16 - Electrical	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Division 16 to include items from the Division 16 series of technical specifications to include, but not limited to, electrical equipment, conduit, wire, duct bank, terminations, building receptacles, building lighting, site lighting, VFDs (if not provided with equipment), power studies, etc.
16.1	Ductbank		LF							\$ -	All-inclusive, except excavation and back-fill and wiring
16.2	Raceway		LF							\$ -	conduit (except what is in ductbank), cable tray
16.3	Wiring & Terminations		LF							\$ -	power and control wire
16.4	Grounding		LF							\$ -	ground grid and stingers
16.5	Lighting		EA							\$ -	
16.6	Heat trace		LF							\$ -	
16.7	Misc Small Electrical Equipment		LS							\$ -	Lighting panels, power panels, etc
16.8	Other Division 16 Activities		LS							\$ -	ADD DESCRIPTION IF THIS LINE IS USED
17	Division 17 - Instrumentation	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Division 17 to include items from the Division 17 series of technical specifications to include, but not limited to, instruments, PLC and hardware, software, programming, testing, etc.

McCarron's Water Treatment Plant Improvements

ITEM No.	DESCRIPTION	QTY	UNIT	Labor Cost	Permanent Material Cost*	ST&S Cost	Subcontractor Cost**	Construction Equipment	Other Cost/Unit	Total Cost	NOTES
											* Permanent Materials Cost for Division 11 accrues to the design-builder's "Subcontracts / Purchase Orders" fee basis. ** Subcontractor Cost for all Divisions accrues to the design-builder's "Subcontracts / Purchase Orders" fee basis.
17.1	Instruments		Ea							\$ -	
17.2	DCS/ PLCs		LS							\$ -	
17.3	Programming		LS							\$ -	
17.4	Instrument Calibration and Testing		LS							\$ -	
17.5	Other Division 17 Activities		LS							\$ -	ADD DESCRIPTION IF THIS LINE IS USED
18	Division 18 - Security	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
18.1	Permanent Facility Security		LS							\$ -	inclusive of gates, card readers, cameras, motion detection, security guard shacks etc
18.2	Other Division 17 Activities		LS							\$ -	ADD DESCRIPTION IF THIS LINE IS USED
19	Start-up and Commissioning	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
19.1	Pre-Commissioning	1	LS							\$ -	all activities to ensure plant is ready to receive process water
19.2	Commissioning & Testing	1	LS							\$ -	
20	Allowances	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
20.1	ADD Description of Allowance									\$ -	
20.2	ADD Description of Allowance									\$ -	
21	OTHER	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
21.1	ADD Description of other direct costs not captured above									\$ -	
21.2	ADD Description of other direct costs not captured above									\$ -	
INDIRECT COSTS (OVERALL PROJECT)											
1	Division 1 - General Conditions	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	This line is a sum of all lines below it.
1.1	Commercial Costs			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
1.11	Licenses, Permits, Fees									\$ -	fees, special licenses, permit costs specific to project and required by 3rd party agencies
1.12	Subcontractor markup		%				\$ -				
1.13	Other Commercial Costs (not listed below in "pass through"		LS							\$ -	ADD DESCRIPTION IF THIS LINE IS USED
1.2	Site Staff - not included in Direct Work			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	payroll costs and expenses for project manager or construction manager for work conducted at the site; superintendent, general foremen, Office Staff (scheduler, cost control, payroll etc) other management personnel working on the site
1.21	Supervision									\$ -	Project Manager, Construction Manager, Superintendents, Field Engineers, General Foreman
1.22	Office/Support Staff									\$ -	Office Engineer, Project Engineer, Scheduler, Payroll, Warehouse, Purchasing, Maintenance etc
1.23	Safety									\$ -	Includes staff, incentives, safety supplies etc
1.24	Quality									\$ -	Includes staff, incentives, quality supplies, testing etc
1.25	Environmental, if required									\$ -	Includes staff, supplies, testing etc
1.26	Survey									\$ -	Includes staff, supplies, testing etc
1.27	Other									\$ -	INCLUDE DESCRIPTION IF THIS FIELD IS USED
1.3	Mobilization/ Demobilization									\$ -	
1.4	Temp Facilities									\$ -	offices and temporary facilities including office materials, office supplies, office equipment, minor office expenses; utilities, fuel, sanitary facilities, construction related electrical and telephone services at the site, security, land/misc facilities rentals, temp warehouse etc
1.5	Temp Work									\$ -	All work necessary to support the site, but not considered direct work (scaffolding, dust control, material handling, maintenance of temp roads and access, falsework, traffic control etc)
1.6	Duration Based Construction Equipment									\$ -	Any equipment that is not assigned to specific work, generators, welding machines, cranes, forklifts etc
1.7	Engineering									\$ -	Engineering costs to complete design, engineering during construction services, inspections etc
2	Contingency	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	Labor Contingency									\$ -	

McCarron's Water Treatment Plant Improvements

ITEM No.	DESCRIPTION	QTY	UNIT	Labor Cost	Permanent Material Cost*	ST&S Cost	Subcontractor Cost**	Construction Equipment	Other Cost/Unit	Total Cost	NOTES
	Procurement Contingency									\$ -	buy-out of subs, materials, and equipment
	ADD Description of other contingencies									\$ -	
	ADD Description of other contingencies									\$ -	
	ADD Description of other contingencies									\$ -	
	ADD Description of other contingencies									\$ -	
	ADD Description of other contingencies									\$ -	Insert below this line to keep formulas intact
	ADD Description of other contingencies									\$ -	

Exhibit K: Parent Guaranty Agreement

McCarron's Water Treatment Plant Improvements

GUARANTY AGREEMENT

This Guaranty Agreement (“**Guaranty**”) is entered into as of January 13, 2021 between Jacobs Engineering Group Inc., a corporation organized and existing under the laws of Delaware (together with any permitted successors and assigns hereunder, “**Guarantor**”), and the Board of Water Commissioners (doing business as: Saint Paul Regional Water Services) (“**Owner**”).

RECITALS

The Owner and CH2M HILL Engineers, Inc. (“**Company**”) have entered into that certain Design-Build Agreement dated January 13, 2021 (“**Agreement**”) for the design and construction of the McCarron’s Treatment Plant Improvements (“**Project**”), whereby the Company has agreed to design, obtain governmental approvals, construct, start up, acceptance test, warranty and perform other related and ancillary responsibilities, as more particularly described in the Agreement.

The Company is affiliated with the Guarantor.

The Owner will enter into the Agreement only if the Guarantor guarantees the performance by the Company of all of the Company’s responsibilities and obligations under the Agreement as set forth in this Guaranty. For purposes of this Guaranty, “responsibilities and obligations” means the amounts payable by, and the covenants and agreements of, the Company pursuant to the terms of the Agreement.

In order to induce the execution and delivery of the Agreement by the Owner and in consideration thereof, the Guarantor agrees as follows:

ARTICLE I

Definitions and Interpretation

Section 1.1 Capitalized Terms. For the purposes of this Guaranty, any capitalized word or term used but not defined herein is used as defined in the Agreement.

Section 1.2. Interpretation. In this Guaranty, unless the context otherwise requires:

- (A) References to the terms “hereby”, “hereof”, “herein”, “hereunder” and any similar terms refer to this Guaranty, and the term “hereafter” means after, and the term “heretofore” means before, the date of execution and delivery of this Guaranty.
- (B) Words of the masculine gender mean and include correlative words of the feminine and neuter genders and words importing the singular number mean and include the plural number and vice versa.
- (C) References to persons include firms, companies, associations, general partnerships, limited partnerships, trusts, business trusts, corporations and other legal entities, including public bodies, as well as individuals.
- (D) Any heading preceding the text of the Articles, Sections, and subsections of this Guaranty shall be solely for convenience of reference and shall not constitute a part of this Guaranty, nor shall they affect its meaning, construction or effect.

(E) This Guaranty constitutes the entire agreement between the parties hereto with respect to the transactions contemplated by this Guaranty. Nothing in this Guaranty is intended to confer on any person other than the Guarantor, the Owner and their permitted successors and assigns hereunder any rights or remedies under or by reason of the Guaranty.

(F) This Guaranty may be executed in any number of original counterparts. All such counterparts shall constitute but one and the same Guaranty.

(G) This Guaranty shall be governed by and construed in accordance with the laws of the state of Minnesota.

(H) If any clause, provision, subsection, Section or Article of this Guaranty shall be ruled invalid by any court of competent jurisdiction, the invalidity of any such clause, provision, subsection, Section or Article shall not affect any of the remaining provisions hereof, and this Guaranty shall be construed and enforced as if such invalid portion did not exist provided that such construction and enforcement shall not increase the Guarantor's liability beyond that expressly set forth herein.

(I) All approvals, consents and acceptances required to be given or made by any party hereto shall be at the sole discretion of the party whose approval, consent or acceptance is required

(J) All payments required to be made by the Guarantor hereunder shall be made in lawful money of the United States of America.

ARTICLE II

Representations and Warranties of the Guarantor

Section 2.1. *Representations and Warranties of the Guarantor.* The Guarantor hereby represents and warrants that:

(A) The Guarantor is duly organized and validly existing as a corporation under the laws of Delaware with full legal right, power and authority to enter into and perform its obligations under this Guaranty.

(B) The Guarantor has duly authorized the execution and delivery of this Guaranty, and this Guaranty has been duly executed and delivered by the Guarantor and constitutes the legal, valid and binding obligation of the Guarantor, enforceable against the Guarantor in accordance with its terms except insofar as such enforcement may be affected by bankruptcy, insolvency, or moratorium or by general equity principles of reorganization and other similar laws affecting creditors' rights generally and general principals of equity.

(C) Neither the execution or delivery by the Guarantor of this Guaranty nor the performance by the Guarantor of its obligations hereunder (a) to the Guarantor's knowledge conflict with, violate or result in a breach of any law or governmental regulation applicable to the Guarantor, (b) conflict with, violate or result in a material breach of any term or condition of the Guarantor's corporate charter or by-laws or any judgement, decree, agreement or instrument to which the Guarantor is a party or by which the Guarantor or any of its properties or assets are bound, or constitutes a default under any such judgment, decree, agreement or instrument, or (c) will result in the creation or imposition of any material encumbrance of any nature whatsoever upon any of the properties or assets of the Guarantor except as permitted hereby or by the Agreement.

(D) No approval, authorization, order or consent of, or declaration, registration or filing with, any governmental authority is required of the Guarantor for the valid execution and delivery by the Guarantor of this Guaranty, except such as shall have been duly obtained or made.

(E) Except as disclosed in the Guarantor's filings with the Securities and Exchange Commission pursuant to the requirements of the Securities Exchange Act of 1934, as amended, there is no action, suit or other proceeding, at law or in equity, before or by any court or governmental authority, pending or threatened against the Guarantor which has a likelihood of an unfavorable decision, ruling or finding that would materially and adversely affect the validity or enforceability of this Guaranty.

(F) The Guarantor has no knowledge of any Legal Requirement in effect on the date this Guaranty is executed by it which would prohibit the performance by the Guarantor of this Guaranty and the transactions contemplated by this Guaranty.

(G) The Guarantor is fully aware of the terms and conditions of the Agreement.

(H) This Guaranty is made in furtherance of the purposes for which the Guarantor has been organized, and the assumption by the Guarantor of its obligations hereunder will result in a material benefit to the Guarantor.

ARTICLE III

Guaranty Covenants

Section 3.1. *Guaranty to the Owner.* The Guarantor hereby absolutely, presently, irrevocably and unconditionally guarantees to the Owner for the benefit of the Owner (1) the full and prompt payment when due of each and all of the payments required to be credited or made by the Company under the Agreement (including all amendments and supplements thereto) to, or for the account of, the Owner, when the same shall become due and payable pursuant to the Agreement, and (2) the full and prompt performance and observance of each and all of the responsibilities and obligations. Notwithstanding the unconditional nature of the Guarantor's obligations as set forth herein, the Guarantor shall have the right to (1) assert the defenses provided in Section 3.4 hereof against claims made under this Guaranty, and (2) utilize properly licensed and registered corporate affiliates to effectuate the obligations set forth herein.

Section 3.2. *Right of Owner to Proceed Against Guarantor.* This Guaranty shall constitute a guaranty of payment and of performance and not of collection, and the Guarantor specifically agrees that in the event of a failure by the Company to pay or perform any responsibility and obligation guaranteed hereunder, the Owner shall have the right to proceed first and directly

against the Guarantor under this Guaranty and without proceeding against the Company or exhausting any other remedies against the Company which the Owner may have. Without limiting the foregoing, the Guarantor agrees that it shall not be necessary, and that the Guarantor shall not be entitled to require, as a condition of enforcing the liability of the Guarantor hereunder, that the Owner (1) file suit or proceed to obtain a judgment against the Company or any other person that may be liable for the responsibilities and obligations or any party of the responsibilities and obligations, (2) make any other effort to obtain payment or performance of the responsibilities and obligations from the Company other than providing the Company with any notice of such payment or performance as may be required by the terms of the Agreement, (3) foreclose against or seek to realize upon any security for the responsibilities and obligations, or (4) exercise any other right or remedy to which the Owner is or may be entitled in connection with the responsibilities and obligations or any security therefor or any other guarantee thereof, except to the extent that any such exercise of such other right or remedy may be condition to the responsibilities and obligations of the Company or to the enforcement of remedies under the Agreement. Upon any unexcused failure by the Company in the payment or performance of any responsibility and obligation and the giving of such notice or demand, if any, to the Company or Guarantor as may be required in connection with such responsibility and obligation or this Guaranty, the liability of the Guarantor shall be effective and shall immediately be paid or performed. Notwithstanding the Owner's right to proceed directly against the Guarantor, the Owner (or any successor) shall not be entitled to more than a single full performance of the responsibilities and obligations in regard to any breach or non-performance thereof.

Section 3.3. *Guaranty Absolute and Unconditional.* The responsibilities and obligations of the Guarantor hereunder are absolute, present, irrevocable and unconditional and shall remain in full force and effect until the Company shall have fully discharged the responsibilities and obligations in accordance with their respective terms, and except as provided in Section 3.4 hereof, shall not be subject to any counterclaim, set-off, deduction or defense (other than full and strict compliance with, or release, discharge or satisfaction of, such responsibilities and obligations) based on any claim that the Guarantor may have against the Company, the Owner or any other person. Without limiting the foregoing, the responsibilities and obligations of the Guarantor hereunder shall not be released, discharged or in any way modified by reason of any of the following (whether with or without notice to or knowledge by or further consent of the Guarantor):

- (A) any exercise or failure, omission or delay by the Owner in the exercise of any right, power or remedy conferred on the Owner with respect to this Guaranty or the Agreement except to the extent such failure, omission or delay gives rise to an applicable statute of limitations defense with respect to a specific claim;
- (B) any permitted transfer or assignment of rights or obligations under the Agreement by any party thereto, or any permitted assignment, conveyance or other transfer of any of their respective interests in the Project;
- (C) any permitted assignment for the purpose of creating a security interest or mortgage of all or any part of the respective interests of the Owner or any other person in the Agreement or in the Project;
- (D) any renewal, amendment, change or modification in respect of any of the responsibilities and obligations or terms or conditions of the Agreement; in the Project;
- (E) any failure of title with respect to all or any part of the respective interests of any person

(F) the voluntary or involuntary liquidation, dissolution, sale or other disposition of all or substantially all the assets, marshalling of assets and liabilities, receivership, insolvency, bankruptcy, assignment for the benefit of creditors, reorganization, moratorium, arrangement, composition with creditors or readjustment of or other similar proceeding against, the Company or the Guarantor, or any of the property of either of them, or any allegation or contest of the validity of this Guaranty or the Agreement in any such proceeding (it is specifically understood, consented and agreed to that, to the extent permitted by law, this Guaranty shall remain and continue in full force and effect and shall be enforceable against the Guarantor to the same extent and with the same force and effect as if any such proceeding had not been instituted and as if no rejection, stay, termination, assumption or modification had occurred as a result thereof it being the intent and purpose of this Guaranty that the Guarantor shall and does hereby waive all rights and benefits which might accrue to it by reason of any such proceeding);

(G) except as permitted by Sections 4.1 or 4.2 hereof, any sale or other transfer by the Guarantor of any of the capital stock or other interest of the Guarantor in the Company now or hereafter owned, directly or indirectly, by the Guarantor, or any change in composition of the interests in the Company;

(H) any failure on the part of the Company for any reason to perform or comply with any agreement with the Guarantor;

(I) the failure on the part of the Owner to provide any notice to the Guarantor which is not required to be given to the Guarantor pursuant to this Guaranty and to the Company as a condition to the enforcement of responsibilities and obligations pursuant to the Agreement;

(J) any failure of any party to the Agreement to mitigate damages resulting from any default by the Company;

(K) the merger or consolidation of any party with any other person, or any sale, lease, transfer, abandonment or other disposition of any or all of the property of any party to any person;

(L) any legal disability or incapacity of any party; or

(M) the fact that entering into any agreement by the Company or the Guarantor was invalid or in excess of the powers of such party.

Should any money due or owing under this Guaranty not be recoverable from the Guarantor due to any of the matters specified in subparagraphs (A) through (M) of this Section 3.3, then, in any such case, such money, together with all additional sums due hereunder, shall nevertheless be recoverable from the Guarantor as though the Guarantor were principal obligor in place of the Company pursuant to the terms of the Agreement and not merely a guarantor and shall be paid by the Guarantor forthwith subject to the terms of this Guaranty. Notwithstanding anything to the contrary expressed in this Guaranty, nothing in this Guaranty shall be deemed to amend, modify, clarify, expand or reduce the Company's rights, benefits, duties or obligations under the Agreement. To the extent that any of the matters specified in subparagraphs

(A) through (E) and (G) through (M) would provide any defense to, release, discharge or otherwise affect the Company's responsibilities and obligations, the Guarantor's responsibilities and obligation under this Guaranty shall be treated the same.

Section 3.4. Defenses, Set-Offs and Counterclaims. The Guarantor shall be entitled to exercise or assert to any and all legal or equitable rights, defenses, indemnities, or limits of liability which the Company may have under the Agreement (other than bankruptcy or insolvency of the Company and other than any defense which the Company has expressly waived in the Agreement or the Guarantor has expressly waived in Section 3.5 hereof or elsewhere hereunder). The obligations of the Guarantor hereunder are subject to such counterclaims, set-offs or deduction which the Company is permitted to assert pursuant to the Agreement, if any waives:

Section 3.5. Waivers by the Guarantor. The Guarantor hereby unconditionally and irrevocably waives:

- (A) notice of any of the events referred to in Section 3.3 hereof except to the extent that notice is required to be given as a condition to the enforcement of the responsibilities and obligations;
- (B) to the fullest extent lawfully possible, all notices which may be required by statute, rule of law or otherwise to preserve intact any rights against the Guarantor, except any notice to the Company required pursuant to the Agreement as a condition to the performance of a responsibility and obligation;
- (C) to the fullest extent lawfully possible, any statute of limitation defense based on a statute of limitations period which may be applicable to Guarantor (or parties in similar relationships) which would be shorter than the applicable statute of limitation period for the underlying claim;
- (D) any right to require a proceeding first against the Company;
- (E) any right to require a proceeding first against any person or the security provided by or under any other agreement except to the extent such agreement specifically requires proceeding first against any person (except the Company) or security;
- (F) any requirement that the Company be joined as a party to any proceeding for the enforcement of any term of the Agreement or this Guaranty;
- (G) the requirement of, or the notice of, the filing of claims by the Owner in the event of the receivership or bankruptcy of the Company; and
- (H) all demands upon the Company or any other person and all other formalities the omission of any of which, or delay in performance of which, might, but for the provisions of this Section 3.5 by rule of law or otherwise, constitute grounds for reliving or discharging the Guarantor in whole or in part from its absolute, preset, irrevocable, unconditional and continuing obligation hereunder.

Section 3.6. Payment of Costs and Expenses. The Guarantor agrees to pay the Owner on demand all reasonable costs and expenses, legal or otherwise (including counsel fees), incurred by or on behalf of the Owner in successfully enforcing the observance of the covenants, agreements and obligations contained in this Guaranty against the Guarantor, other than the costs and expenses that the Owner incurs in performing any of its own obligations under the Agreement, where such obligations are a condition to performance by the Company of its responsibilities and obligations.

Section 3.7. Subordination of Rights. The Guarantor agrees that any right of subrogation or contribution which it may have against the Company as a result of any payment or performance hereunder is hereby fully subordinated to the rights of the Owner hereunder and under the Agreement and that the Guarantor shall not recover or seek to recover any payment made by it hereunder from the Company until the Company and the Guarantor shall have fully and satisfactorily paid or performed and discharged the responsibilities and obligations giving rise to a claim under this Guaranty.

Section 3.8. Separate Obligations; Reinstatement. The responsibilities and obligations of the Guarantor to make any payment or to perform and discharge any other duties, agreements, covenants, undertakings or obligations hereunder shall (1) constitute separate independent responsibilities and obligations of the Guarantor from its other obligations under this Guaranty, (2) give rise to separate and independent causes of action against the Guarantor and (3) apply irrespective of any indulgence granted from time to time by the Owner. The Guarantor agrees that this Guaranty shall be automatically reinstated if and to the extent that for any reason any payment or performance by or on behalf of the Company is rescinded or must be otherwise restored by the Owner, whether as a result of any proceedings in bankruptcy, reorganization or similar proceeding, unless such rescission or restoration is pursuant to the terms of the Agreement.

Section 3.9. Term. This Guaranty shall remain in full force and effect from the date of execution and delivery hereof until all of the responsibilities and obligations of the Company have been fully paid and performed.

ARTICLE IV

General Covenants

Section 4.1. Maintenance of Corporate Existence.

(A) **Consolidation, Merger, Sale or Transfer.** The Guarantor covenants that during the term of this Guaranty it will maintain its corporate existence, will not dissolve or otherwise dispose of all or substantially all of its assets and will not consolidate with or merge into another entity or permit one or more other entities to consolidate with or merge into it unless the successor is the Guarantor; provided, however, that the Guarantor may consolidate with or merge into another entity, or permit one or more other entities to consolidate with or merge into it, or sell or otherwise transfer to another entity all or substantially all of its assets as an entirety and thereafter dissolve if the successor entity (if other than the Guarantor) (a) obtains the written consent of the Owner, which consent shall not be unreasonable withheld, (b) assumes in writing all the obligations of the Guarantor hereunder and, if required by law, is duly qualified to do business in the state of Minnesota, and (c) delivers to the Owner an opinion of counsel to the effect that its obligations under this Guaranty are legal, valid, binding and enforceable subject to applicable bankruptcy and similar insolvency or moratorium laws, in the courts of the State.

(B) **Continuance of Obligations.** If a consolidation, merger or sale or other transfer is made as permitted by this Section 4.1, the provisions of this Section 4.1 shall continue in full force and effect and no further consolidation, merger or sale or other transfer shall be made except in compliance with the provisions of the Section 4.1. No such consolidation, merger or sale or other transfer shall have the effect of releasing the initial Guarantor from its liability hereunder unless a successor entity has assumed responsibility for this Guaranty as provided in the Section 4.1.

Section 4.2. Assignment. Without the prior written consent of the Owner, this Guaranty may not be assigned by the Guarantor, except pursuant to Section 4.1 hereof.

Section 4.3. Qualification in Minnesota. The Guarantor agrees that, so long as this Guaranty is in effect, if required by law, the Guarantor will be duly qualified to do business in the state of Minnesota.

Section 4.4. Consent to Jurisdiction. All litigation related to this Guaranty must be venued in the District Court of the County of Ramsey, Second Judicial District, State of Minnesota.

Section 4.5. Binding Effect. This Guaranty shall inure to the benefit of the Owner and its permitted successors and assigns and shall be binding upon the Guarantor and its successors and assigns.

Section 4.6. Amendments, Changes and Modifications. This Guaranty may not be amended, changed or modified or terminated and none of its provisions may be waived, except with the prior written consent of the Owner and Guarantor.

Section 4.7. Notices. All notices, requests, demands, and other communications (collectively, "Notices") hereunder shall be in writing and delivered to the party hereto by (a) email, (b) established express delivery service that maintains delivery records, or (c) certified or registered U.S. mail, postage prepaid, return receipt requested at the following addresses, or at such other address as the parties hereto may designate pursuant to this Section. Any notice provided via email shall be considered valid only when the receiving party has confirmed the receipt of the notice via return email. If no return email confirmation is provided, the transmitting party shall communicate with the receiving party to determine if the transmittal was unsuccessful. Upon confirmation of the receipt, the notice shall be considered to have been validly given at the time that the email was sent.

Owner:	Board of Water Commissioners (DBA: Saint Paul Regional Water Services) Attn: Will Menkhaus 1900 Rice Street Saint Paul, MN 55113 Email: William.Menkhaus@ci.stpaul.mn.us
Guarantor:	Jacobs Engineering Group Attn: Jason Adkisson 9191 S. Jamaica Street Englewood, CO 80112 Email: Jason.Adkisson@jacobs.com

In WITNESS WHEREOF, the Guarantor has caused this Guaranty to be executed in its name and on its behalf by its duly authorized officer as of the date first above written.

Approved as to form:

**BOARD OF WATER COMMISSIONERS OF THE
CITY OF SAINT PAUL**

By: _____
Stephen P. Schneider, General Manager
Saint Paul Regional Water Services

By: _____
Mara Humphrey, President

Date: _____

Date: _____

By: _____
Lisa Veith
Assistant City Attorney

By: _____
Mollie Gagnelius
Secretary

Date: _____

Date: _____

By: _____
John McCarthy
Director, Office of Financial Services

Date: _____

JACOBS ENGINEERING GROUP

By: _____

Printed Name:

Title:

Date: _____

Exhibit L: Scope Basis

McCarron's Water Treatment Plant Improvements

Exhibit L - Scope Basis Table		
Scope Element	Scope Basis	Notes/Comments
Raw Water	Rehab of existing terminal structure Installation of new RW pipelines to SCCs	2 - 60" CL steel lines. Approximately 1000 LF each.
Softening Clarifiers	Four 28-mgd SCCs Prestressed concrete circular basins with dome covers, connected with enclosed walkways Flexibility for parallel or series operation Minimal HVAC under dome	See attached Proposal Exhibits.
Recarbonation	Three 42-mgd trains 10-minute detention time (to be verified in pilot tests) Larger carbon dioxide storage tanks for more reliability (two 60-ton horizontal tanks) Fine bubble or pressurized solution feed to be selected after pilot testing	CO2 tank replacement pending results of study.
Ozone	Three 42-mgd trains 10-minute detention time (to be verified in pilot tests) Three ozone generation systems LOX storage and feed Sidestream injection or fine bubble diffusion	
Lime System	Replacement of existing lime slakers New slurry tanks and pumping system New grit removal system New lime feed building for new slurry tanks and pumps. Capability for future new lime building expansion to accommodate a full batch type slaking system (RDP). New pneumatic lime unloading facility	Pneumatic unloading pending results of study.
Site Plan	A compact site layout that integrates with existing facilities - similar to proposal concept Provides the ability to switch between new and existing treatment processes during startup and commissioning Based on the facility scope elements described in this table.	See attached Proposal Exhibits.
Demolition	Per Owner's Project criteria, excluding the facilities that depend on Phase 1 evaluations (solids thickeners, lime building, rapid mix structure)	
Laboratory/Control Space	Renovation of the Flocculation 2 building and make connections to existing and new facilities. Sized per the requirements listed in the Owner's Project Criteria.	See attached Proposal Exhibits.
Chemical Systems & Rapid Mix	(Alum, Ferric, Fluoride) Storage and feed modifications/additions within existing chemical facilities. Removal of existing rapid mix equipment. Does not include rapid mix structure demolition.	
Electrical	A new Substation A that will feed the sludge thickeners at 2.4 kV and the lime building and new Water Treatment Plant Improvements loads at 480 volts from this substation, which avoids the placement of a new 2.4kV substation in the area south of the east end of the ozone contactor.	
Instrumentation and Control	I&C systems design for new facilities to operate and be integrated into the existing plant control system. Does not include modifications or improvements to existing panels, systems, hardware not associated with the new facilities or replacement of significant portions of the existing system hardware or configuration to accommodate the new facilities.	
Foundations	Deep (pile) foundations will not be required for the new facilities.	

Exhibit L - Scope Exhibits Excerpted from the Design-Builder's Proposal

Site Plan Proposal Exhibits

Proposal Exhibit 1.5-5

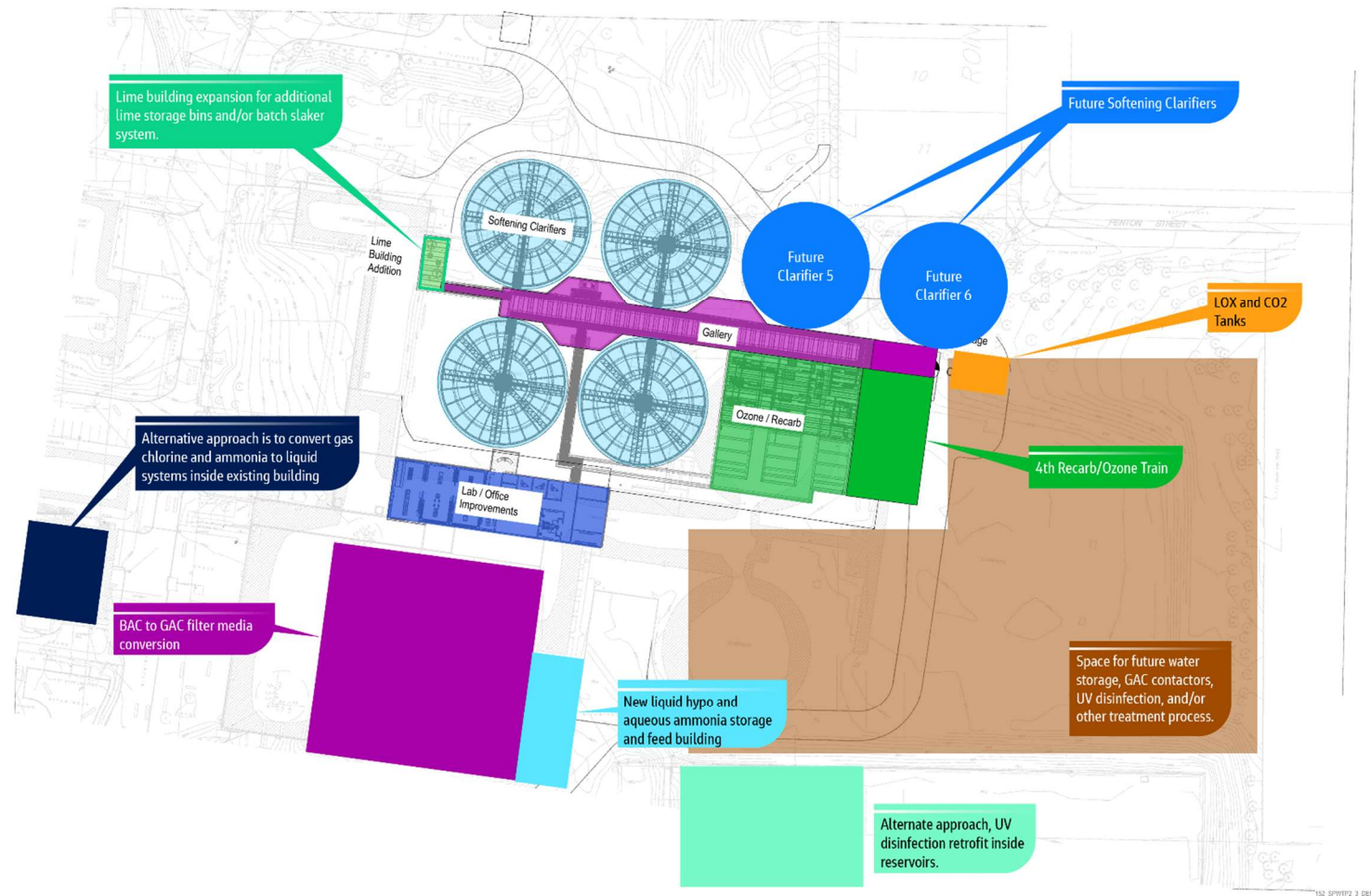


Exhibit L - Scope Exhibits Excerpted from the Design-Builder's Proposal

Proposal Exhibit 2.1-1

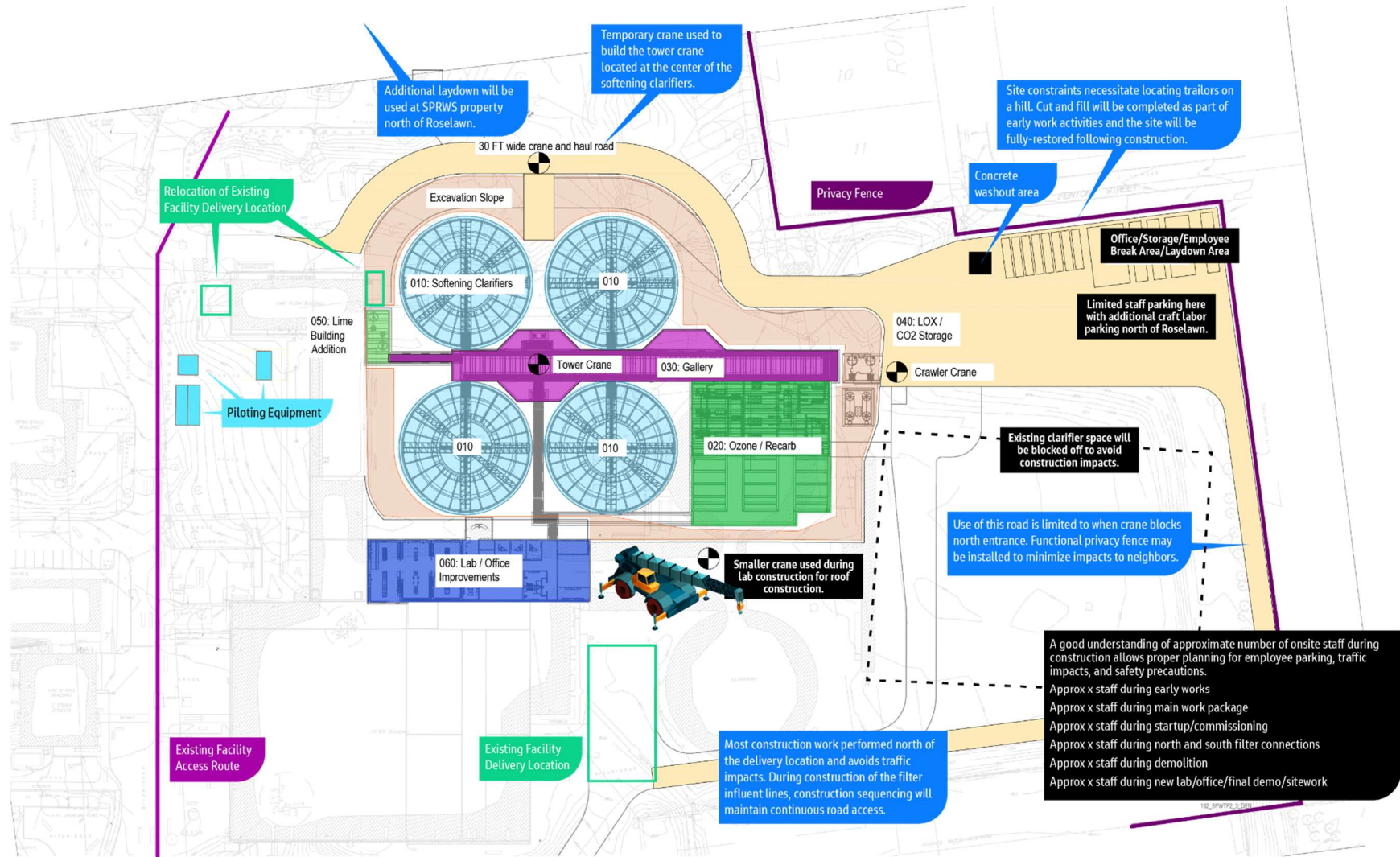


Exhibit L - Scope Exhibits Excerpted from the Design-Builder's Proposal

Proposal Exhibit- Used on the front page of proposal and video rendering for interview.



Lab/Admin Space

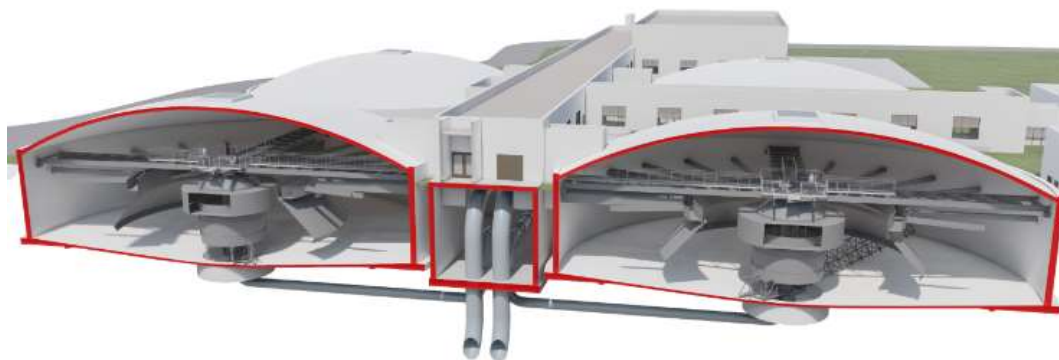
Inset in ES 2-3



Exhibit L - Scope Exhibits Excerpted from the Design-Builder's Proposal

Softening Clarifier and Gallery Approach

Exhibit 1.2-2, Part of an overall exhibit



Overview of McCarrons WTP MOPO Activities

Exhibit 3.2-2

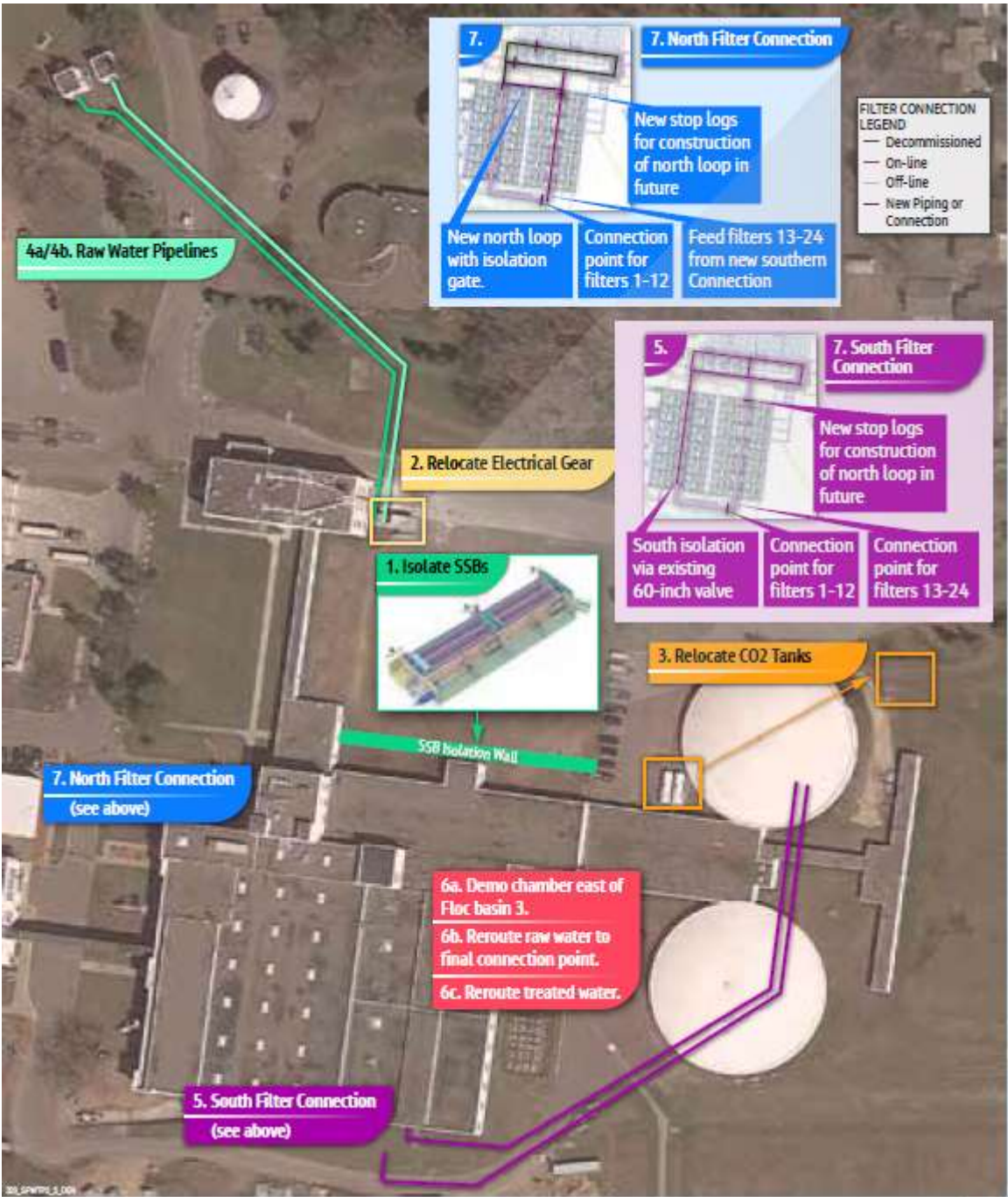


Exhibit M: Site Security Requirements

McCarron's Water Treatment Plant Improvements

Note: This exhibit will be developed at a later date and included as a contract document.

Exhibit N: Performance Incentive Arrangements

McCarron's Water Treatment Plant Improvements

Note: This exhibit will be developed at a later date (if applicable) and included as a contract document.

Exhibit O: Index of Reference Documents

McCarron's Water Treatment Plant Improvements

Exhibit O. Index of Reference Documents

The Design-Builder shall review the Reference Documents during Phase 1

All documents listed below were provided via the SPRWS SharePoint website during the Procurement Process. The SharePoint link is below:

<https://stpaulmn.sharepoint.com/:f:/r/sites/SPRWS-WTPConstruction/Shared%20Documents/Electronic%20Reference%20Library?csf=1&web=1&e=HRF3z4>

Where applicable, the extent to which Design-Builder can or cannot rely on the information provided in the following reference documents is indicated in the table.

Folder Number	Document Title / Sub-folder Number and Document Title
1.	Drawings As-built drawings are available in the Project’s Electronic Reference Library. Drawings have been reviewed by the Owner’s Representative Team and organized by topic and perceived applicability to the project. Folder 1.1 – Priority Drawings is expected to contain drawings of most value to Respondents, but Respondents are encouraged to review Folder 1.2 – Full Drawing Library as well to determine if any valuable drawings may be contained therein. Generally, SPRWS believes that the drawings provided in these two folders encompass most of the historical records of the facility. While reviewing these drawings, Respondents may wish to identify any information gaps they perceive in the provided drawings. If such information gaps are found, SPRWS will search for additional drawings either during the procurement process or after a Design-Builder has been hired. Reliance: Drawings are expected to have a high degree of reliability, but the Design-Builder will be required to validate conclusions drawn from the drawings through non-destructive testing during Phase 1 of the project.
	1.1 Priority Drawings Contains drawings, sorted by discipline, that are considered especially pertinent to the project
	1.2 Full Drawing Library Contains all available drawings from SPRWS, organized chronologically in 20-year periods.
2.	Photos Both historical and modern-day photographs have been included in the Electronic Reference Library to assist Respondents with visualization of the facility and associated components. Photos have been organized based upon the location of the photo. Each photograph is assigned photo ID. An Excel file named “Photo Index”, which provides additional information about many of the photos, has been included as

Folder Number	Document Title / Sub-folder Number and Document Title
	well. This index references each photo by its photo ID. Any questions about specific photographs should reference the photo ID to ensure that SPRWS staff is able to answer adequately. Reliance: The Design-Builder may rely upon the accuracy of photos supplied by SPRWS, but, before using photos as the basis for significant project planning, the Design-Builder should work with SPRWS to ensure that they accurately understand the location and subject of the photograph.
3.	Existing Treatment Process Information This folder contains information about the existing treatment process which should be helpful in developing a working knowledge of the facility. While the information contained herein is not a substitute for information contained in the Drawings folder, this information is more easily processed and interpreted. It should serve as a good starting point for Respondents when reviewing documents in the Electronic Reference Library. Reliance: The contents of this folder may be relied upon for design and planning purposes. 3.1 Process Flow Schematic of Existing Plant Configuration This folder contains documents which detail the manner in which water flows through the McCarron’s Water Treatment Plant. 3.2 Detailed Description of Existing Treatment Process The Detailed Description of Treatment Process document supplements the Process Flow Schematic by providing detailed narrative describing how water flows through the McCarron’s facility.
4.	Historical Operational Data This folder contains information pertaining to historical water volume production levels, raw and finished water quality information, and typical chemical dosing at the McCarron’s facility. Reliance: The data contained in this folder may be relied upon for design and planning purposes. 4.1 Historical Water Quality Data. This folder includes the results of a 2019 study PFAS contamination in raw water (2019 PFAS Study of Raw Water.pdf and 2019 PFAS Study of Raw Water Data.xlsx). It also contains information about SPRWS’s recent history of treating contaminants identified on MDH’s Health Risk Limits list (Max HRI.xlsx). It also contains information about SPRWS’s treatment goals and targets (McCarrons Water Quality Data.pdf) and historical information about raw water, interim treatment process water, and finished water quality (Raw and Finished Water Data.xlsx and SCADA and Grab Sample Data.xlsx).

	4.2 Historical Water Volume Production Data This folder contains an excel spreadsheet which shows daily changes in water demand during SPRWS’s recent history. Further information about the sheet and data is contained within the spreadsheet. 4.3 Chemical Dosing Level Data. This folder contains information showing historical chemical dosing rates at the McCarron’s facility.
5.	Site Survey A drawing of infrastructure on the SPRWS McCarron’s Campus has been provided. The file is based on the 2019 survey performed by Sunde Surveying. Survey of above ground features is comprehensive. Survey of below ground features is partial based on what could be located at the time of the survey. The drawing is augmented by additional sources to fill in the gaps left in the survey. This data came from a many different sources, and the quality of this data should be considered anecdotal knowledge of where below ground utilities are located. The layer “PlantExpansionArea” highlights the area that was reviewed for this project. Areas outside of this boundary may be incomplete. Layer Key: Prefixes: - V – Layers from the 2019 Survey - C – Layers from all other sources to augment the survey Suffixes: - L – Lines & Features - T – Text - P – Survey Points - F – Survey Points of Features Note: When opening the file, Respondents may need to select options for “Continue opening DWG file” and “Ignore the missing SHX files and continue.” Reliance: The site survey should be considered sufficient for developing preliminary plans for the project commensurate with the requirements of the Request for Proposals. Upon selection of a Design-Builder, SPRWS and the Design-Builder will collaborate to determine the extent of additional survey work required in order to support design of the facility. The Design-Builder is cautioned that the locations of below-ground features should be more thoroughly explored prior to creating any design-level plans for the Project.

6.	Studies and Reports Historical studies and reports pertinent to the facility have been included herein. Similar to the Drawings provided in the Electronic Reference Library, these documents have been reviewed by the Owner’s Representative and classified according to their perceived importance. Reliance: Respondents are encouraged to review all studies and reports to develop their own conclusions about what information may be helpful for project purposes (i.e. Design-Builder may rely upon the underlying data from any report but should interpret results using their own professional judgement.) SPRWS will attempt to fill any informational gaps identified by Respondents during the procurement process or following the selection of the Design-Builder.
	6.1 Priority Studies and Reports
	American Engineering, Testing, Inc. 1994. <i>Geotechnical Exploration and Review for McCarrons Water Treatment Plant, Phase 1 Improvements Project</i>. Prepared for Camp Dresser & McKee, Inc.
	Camp Dresser & McKee. 1996. <i>Draft Design Memoranda for the McCarron’s WTP Data Acquisition and Control System (DACs)</i>. Prepared for the City of Saint Paul Water Utility.
	Camp Dresser & McKee. 1997. <i>Design Memorandum for the McCarron’s WTP Supervisory Control and Data Acquisition (SCADA) System</i>. Prepared for the City of Saint Paul Water Utility.
	Carollo Engineers. 2002. <i>Draft Report Taste and Odor Treatment Technique Evaluation</i>. Prepared for SPRWS.
	Carollo Engineers. 2003. <i>Taste and Odor Treatment Technique Phase 1 Implementation Project Final</i>. Prepared for SPRWS.
	Black & Veatch Corporation. 2003. <i>St. Paul Regional Water Services McCarrons Water Treatment Facility Electrical Study</i>. Prepared for SPRWS.
	Michaels Engineering. 2013. <i>Arc Flash Study for McCarron WTP</i>. Prepared for SPRWS.
	2013. <i>As Built Drawing No. 001 SPRWS SCADA Control Network</i>. Prepared for SPRWS.
	CH2M Hill. 2014. <i>Saint Paul Regional Water Services Master Plan</i>. Prepared for SPRWS.
	CH2M Hill. 2015. <i>Conceptual Design Report for the Replacement of the 13.8 kV and 2.4 kV Electrical Gear and Transformers at the McCarrons Water Treatment Plant</i>. Prepared for SPRWS.

CH2M Hill. 2017. <i>Lime Softening Pilot Testing Report</i> . Prepared for SPRWS.
CH2M Hill. 2017. <i>Ozone Test Report</i> . Prepared for SPRWS.
GEI Consultants, Inc. 2018. <i>Structural Assessment McCarrons Water Treatment Plant, Saint Paul, MN</i> . Prepared for SPRWS.
6.2 All Other Studies and Reports
Sam Stewart & Associates, Inc. 1992. <i>Energy Management Analysis</i> . Prepared for St. Paul Water Department.
1993. <i>Clarification and Thickening Data for Saint Paul Water Utility</i> .
Camp Dresser & McKee. 1994. <i>Final Report for the McCarrons Water Treatment Plant Study</i> . Prepared for Saint Paul Water Utility.
1994. <i>G-Values and Paddle Diagrams (for Flocs 1 & 2) at St. Paul Water Utility</i> .
Camp Dresser & McKee. 1994. <i>Implementation Plan for the St. Paul Water Utility McCarrons Water Treatment Plant Study</i> . Prepared for Saint Paul Water Utility.
Camp Dresser & McKee. 1994. <i>Technical Memorandum for the St. Paul Water Utility McCarrons Water Treatment Plant Study</i> . Prepared for Saint Paul Water Utility.
Camp Dresser & McKee. 1995. <i>Draft McCarron’s WTP SCADA System Improvement Recommendations</i> . Prepared for Saint Paul Water Utility.
Camp Dresser & McKee. 1996. <i>McCarron’s Water Treatment Plant Recycle Flow & Discharge Study</i> . Prepared for Saint Paul Water Utility.
Camp Dresser & McKee. 1997. <i>Electrical Improvements Study for the McCarron’s WTP</i> . Prepared for Saint Paul Water Utility.
Camp Dresser & McKee. 1999. <i>McCarron’s Water Treatment Plant Application Software Engineering Services Communication Test Submittal</i> . Prepared for Saint Paul Water Utility.
Bonestroo, Rosene, Anderlik & Associates. 1999. <i>McCarron’s Water Plant Master Plan</i> . Prepared for the St. Paul Water Department.
Trisha Lee Coyle. 2000. <i>An Assessment of the Costs and Benefits of Ozonation for the City of St. Paul Water Utility</i> . A Thesis Submitted to the Faculty of the Graduate School of the University of Minnesota.
Mike Semmens, P.E., Ph.D and Raymond Hozalski, Ph.D. 2001. <i>An Assessment of the Costs and Benefits of Ozonation for the City of St. Paul Regional Water Utility Summary Report</i> . Prepared by the Dept. of Civil Engineering at the University of Minnesota for St. Paul Regional Water Utility.
The MountainStar Group, Inc. 2002. <i>Performance Based Design Structural Equivalency for McCarron’s Water Treatment Plant</i> . Prepared for Luken

	Architecture, P.A. Carollo Engineers. 2002. <i>Recarbonaton Improvements at the McCarron’s Water Treatment Plant</i>. Prepared for St. Paul Regional Water Services. Robert Bo Johnston. 2004. Bench and Pilot Scale Evaluation of Geosmin Removal Technologies. Prepared by the Dept. of Civil Engineering at the University of Minnesota for St. Paul Regional Water Utility. Robert Bo Johnston. 2005. Bench and Pilot Scale Evaluation of Geosmin Removal Technologies. A Thesis submitted to the Faculty of the Graduate School of the University of Minnesota. Roger George Will Scharf. 2007. Investigation of the Mechanisms of Geosmin Removal in a Pilot Scale Treatment System Employing GAC and Ozone GAC. A Thesis submitted to the Faculty of the Graduate School of the University of Minnesota. Roger G. Scharf, Robert W. Johnston, Michael J. Semmens, Raymond M. Hozalski. 2010. <i>Comparison of Batch Sorption Tests, Pilot Studies, and Modeling for Estimating GAC Bed Life</i>. Lighting Matters. 2010. <i>Final Energy Study Summary</i>. Prepared for St. Paul Regional Water Services. Jacobs. 2019. <i>PowerPoint Presentation: Hypolimnetic Oxygenation in Vadnais and Pleasant Lakes</i>.
7.	AWWA Partnership for Safe Water (PSW) Phase IV and President’s Award Criteria (PDF) This folder contains information about the requirements of Partnership for Safe Water (PSW) Phase IV certification and the PSW President’s Award for water treatment. Maintaining both of these designations is a priority to SPRWS for the Project. Reliance: Respondents may rely upon the contents of this folder, but SPRWS does not guarantee that the contents herein present a complete picture of the requirements of the Partnership for Safe Water programs. Respondents should research any additional requirements that may apply.
8.	Original and Revised Owner’s Cost Estimate The original Owner’s Cost estimate has been updated based on feedback provided by Respondents, and both files are provided for Respondent’s Reference. Reliance: Respondents may rely on this information for general information and understanding.

9.	Owner Approved Cost Model Template (by Addendum) The selected Design-Builder will be required to develop its GP estimate, and all subsequent GP iterations in accordance with the level of detail set forth in the Owner Approved Cost Model template. The Design-Builder is also required to apply the Design-Builder’s fee to verified Projects costs as demonstrated in the Sample Cost Estimate. Variations of how the Design-Builder’s fee is applied to costs, from the Sample Cost Estimate, will not be allowed without express written approval by SPRWS.
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