City of Kalamazoo
Wastewater Division
Clarifier Catwalk Rehabilitation Project

a. **Description -** This work shall consist of removing the existing catwalks over the four (4) clarifiers; removing and disconnecting the existing utilities before removal of the catwalk; cleaning the existing bearing pads; furnishing and installing new steel joists; reinstalling the existing catwalks onto the new steel joists; reinstalling and reconnecting all utilities; and furnishing and installing two (2) new life-safety throw rings with post and not less than one hundred fifty (150) feet of rope.

   All work shall be performed in accordance with the City of Kalamazoo Standard Specifications, the Contract Documents, and these Special Provisions. The contract lump sum bid price shall include all labor, materials, equipment, tools, coordination, and incidentals necessary to complete the work in its entirety as directed by the Engineer.

b. **Equipment Restriction -** All equipment utilized for this project shall be limited to a maximum operating height of 190 feet due to aircraft flight paths associated with the nearby Kalamazoo/Battle Creek International Airport. The Contractor shall ensure that no cranes, lifts, booms, temporary structures, or other equipment exceed this height at any time. Compliance with all applicable FAA and airport authority requirements is mandatory. No additional payment will be made for this restriction; all associated costs shall be included in the bid price.

c. **Sequencing Clarifier Work** - This work includes coordinating with City of Kalamazoo KWRP operations staff for the isolation of a clarifier to complete the required work. The City will "isolate" a clarifier by stopping flow into the basin by closing the influent valve; however, any adjustment of the water level within the clarifier necessary to perform the work shall be the responsibility of the Contractor. The Contractor may coordinate with KWRP operations staff regarding the use of existing pumping equipment to lower the water level to approximately the midpoint of the tank.

   Only one (1) of the four clarifiers may be isolated at any given time. The Contractor shall provide the City KWRP operations staff with a minimum of seven (7) calendar days' notice to request isolation of a clarifier. After a clarifier is returned to service, a minimum of three (3) calendar days must pass before the next clarifier may be

isolated. No clarifier may remain isolated for more than twenty-eight (28) continuous calendar days. All costs associated with complying with the clarifier isolation sequence and schedule restrictions shall be included in the bid price.

d. **Emergency Events -** City of Kalamazoo KWRP operations staff will monitor weather forecasts and system conditions and may require an isolated clarifier to be brought back into service. In such cases, the City will coordinate directly with the Contractor and provide a minimum of three (3) days' notice for the required change in operating status. The Contractor shall respond promptly and adjust work activities as necessary to return the clarifier to service within the timeframe provided.

e. **Protection of Clarifier** - The contractor shall preform their work in a manner that prevents any debris larger than ¼-inch by ¼-inch on any one face form entering the clarifier. The contractor shall submit to the engineer a Clarifier Protection Plan a minimum of 2 weeks prior to work commencing for review and approval. No work may begin on any clarifier until the plan is approved and measures are in place. Clarifier Protection Plan includes the installation, materials, maintenance, and removal of a system to prevent debris of a particle of this size limitation from entering the clarifier. Failing to submit a plan in a timely manner shall not grant an extension of time. Failing to follow approved plan shall result in immediate stoppage of work until Clarifier Protection Plan is implemented. The City and the engineer reserve the right to stop work if approved measures are not sufficient to prevent stated debris from entering the clarifier. The contractor shall stop work then be required to resubmit the plan for approval, before continuing work.

   In the event of debris of this size limit from entering a clarifier the contractor will stop work and notify the City KWRP operations staff. The contractor will be responsible for the cost of cleaning the clarifier. No additional time will be granted for cleaning of the clarifier.

f. **Sequences of Work -** General sequence of work on a clarifier is as follows: requesting the isolation of a clarifier, implementing of Clarifier Protect Plan, disconnection and removal of existing utilities, removal of existing catwalk, cleaning of the anchor point, installation and connection of the joist, reinstallation and connection of the catwalk to the joist, reinstallation and connection of the utilities, and removal of Clarifier Protection Plan.

g. **Site Access** - The Contractor shall access the project site exclusively through the Mosel Avenue entrance. This entrance will be staffed by City of Kalamazoo KWRP

operations personnel Monday through Friday, from 8:00 a.m. to 2:00 p.m. Vehicular and equipment movement shall be restricted to the immediate vicinity of the designated work areas to the greatest extent practicable. The Contractor is fully responsible for all material and equipment handling logistics within the facility.

A general laydown area for materials, equipment, and staging will be provided by the City (see exhibit C). Material and equipment deliveries shall occur Monday through Friday, 8:00 a.m. to 2:00 p.m. Any deliveries requiring access outside of these hours shall be coordinated with City KWRP operations staff a minimum of three (3) business days in advance. Approval of such requests is not guaranteed and is subject to operational needs of the facility. (see Exhibit C for more information)

h. **Safety** - The Contractor shall be solely responsible for all means, methods, procedures, and operations relating to safety and shall comply with all applicable local, state, and federal safety requirements. Safety shall always remain the Contractor's responsibility throughout the duration of the project. The Contractor shall ensure that all personnel are instructed daily on the continuous requirement to maintain a safe environment for all within the project's influences, including City staff and visitors.

i. **Utilities** – This work includes salvaging, disconnecting, protecting, and reconnecting the existing water sprayer system mounted along the length of the catwalks. The system consists of spray heads, pipes, and hoses that must be carefully removed prior to catwalk removal and reinstalled following the reinstatement of the catwalk. If existing system is not in conflict with new joist the system may be disconnected at either end & reconnected as the truss is reset. All labor, materials, equipment, and incidental work required to complete the salvaging, disconnection, and reconnection of the sprayer system shall be included in the cost of the related work items. Any damage to the sprayer components caused by the Contractor's operations shall be repaired or replaced at the Contractor's expense.

The catwalks also contain existing electrical conduits, most of which are in use. The existing abandoned electrical conduits, these will be removed, with the direction of City of Kalamazoo KWRP operations staff these abandoned conduits may not need to be reinstalled. The active electrical conduit may need to be removed and reinstall on the catwalks these will be paid separately utility relocation allowance.

Prior to performing any work involving existing utilities, the Contractor shall coordinate with City staff to verify the operational status, functionality, and

requirements of each utility system. No disconnection, removal, or disturbance of utilities shall occur without confirmation from City KWRP operations staff.

j. **Steel Joist Requirements** – Furnish and install steel joist that meet the Steel Joist Institute (SJI) requirements for a "Vulcraft 36LH07" of a span of approximately 66-ft or equivalent joist as approved by the engineer at no additional cost to the project. This actual bearing to bearing distance must be field verified prior to ordering. See Exhibit D for connection details.

k. **Steel Repairs** – After the removal of the catwalk the engineer will inspect the catwalk. If section is determined to need minor repair, the engineer will identify locations of repairs, this work will be paid separately as part of this steel repair allowance.

l. **Steel Cleaning** – This intent is to only clean bearing areas and the catwalk contact points to the joists enough to complete the field welding. The contractor must perform their work to prevent debris from cleaning the existing steel anchor from entering the clarifier. The use of hand tools is approved to clean steel surfaces for field welding.

m. **Site Conditions** – The contractor shall restore the site to its original condition as part of the bid price, any damage to the site shall be at the cost of the contractor to restore.

n. **Life-Safety Throw Rings –** Install two (2) life-safety throw rings with post and not less than one hundred fifty (150) feet of rope. See Exhibit C for locations. Life Ring and rope shall meet OSHA 1915.158(b)(3) requirements.

o. **Payment -** This project will be a lump sum project. Work included but not limited to mobilization, labor, equipment, materials, clarifier protection plan, coordination, removing existing utilities, removing existing catwalk, furnishing new joists, reinstalling catwalk, reattaching existing utilities, clean up, restoring the site to its existing condition, and installing of the life safety throw rings. All work will be included in the in the contract with exception of allowances for the following work:

- Catwalk Rehabilitation, LSUM
- Minor steel repairs on the Catwalks allowances up to $20,000.
- Utility relocation allowances up to $10,000.

p. **Exhibits Included**:

- Exhibit A - Contract 40_102-112
- Exhibit B - Field Sketches and Notes
- Exhibit C – Site and Access Maps
- Exhibit D - Connection Details