

Guaranteed Maximum Price

for

Town of Johnstown, Colorado

Water Treatment Plant Expansion CMAR Project

100% Design Dated May 17, 2024



June 17, 2024

Guaranteed Maximum Price

100% Design

Basis of Guaranteed Maximum Pricing

Client: Town of Johnstown, CO
Project Name: WTP Expansion
Project Contact: Tom Paul
Design Definition: 100% Design

Date Issued:
Revision No.: 0
AACE Class: 1
Currency: USD

Prepared by: Tom Auay-Fuay Date: 6/17/2024
Lead Estimator

Reviewed by: Matt Wojtkiewicz Date: 6/17/2024
QA/QC Review, Estimating Manager

Reviewed by: Tom Paul Date: 6/17/2024
Project Executive

Accepted by: _____ Date: _____

This GMP was prepared by MWH, including evaluations of the Client's project budget, and/or funding, represent MWH's best judgment as a Construction professional familiar with the Construction industry. Unless and to the extent otherwise indicated by MWH, such budgets or evaluations are based on upon current market rates for labor, material, and equipment, or bids received by potential subcontractors. The Client acknowledges that MWH has no control over the costs of said labor, materials, or equipment, construction contractor's methods of determining bid prices, competitive bidding environments, unidentified field conditions, market conditions, hyper-inflationary or deflationary price cycles, or any other factors that may affect the GMP, the project budget or negotiating conditions at the time of project execution.

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Guaranteed Maximum Price

Contents

<u>BASIS OF ESTIMATE</u>	4
<u>1.1 INTRODUCTION</u>	<u>4</u>
<u>1.2 PROJECT SCOPE</u>	<u>4</u>
<u>1.3 ORGANIZATION</u>	<u>5</u>
<u>1.4 CLASS OF ESTIMATE</u>	<u>5</u>
<u>1.5 REFERENCE DOCUMENTS</u>	<u>6</u>
<u>1.6 ESTIMATING TEAM</u>	<u>6</u>
<u>1.7 LABOR ASSUMPTIONS</u>	<u>6</u>
<u>1.8 EQUIPMENT ASSUMPTIONS</u>	<u>7</u>
<u>1.9 ASSUMPTIONS</u>	<u>7</u>
<u>1.10 EXCLUSIONS / EXCEPTIONS</u>	<u>12</u>
<u>1.11 ALLOWANCES AND CONTINGENCIES</u>	<u>12</u>
<u>1.12 PROJECT SCHEDULE</u>	<u>12</u>
<u>1.13 PROJECT RISKS / OPPORTUNITIES</u>	<u>13</u>
<u>LIST OF ATTACHMENTS</u>	<u>13</u>

Guaranteed Maximum Price

1 BASIS OF Guaranteed Maximum Price

1.1 Introduction

The intent of this Guaranteed Maximum Price (GMP) for the Town of Johnstown, Colorado Water Treatment Plant Expansion Project is to describe in sufficient detail the methodology, assumptions, exclusions, allowances, exceptions, and any other information used to develop this GMP. The information contained within is applicable to construction and reasonably anticipated scope of work for the project. This GMP was prepared to present the CMAR's estimated construction cost associated with 100% design technical information (drawings, specifications, geotechnical report, electrical load calculations) provided for the project by the design Engineer of Record.

1.2 Project Scope

The Johnstown WTP Expansion CMAR Project generally consists of the expansion of an existing 3.1 MGD capacity treatment plant to a 12.0 MGD capacity plant, as part of a two-phased planned expansion ultimately planned to a 21.0 MGD capacity plant. The existing treatment plant includes pretreatment with rapid mixing, two-stage flocculation, and dissolved air flotation (DAF), followed by multi-media and granular activated carbon (GAC) filtration (used seasonally), disinfection, storage and distribution pumping through two separate zones. The initial plant expansion to a 12 MGD facility will include construction of a new ultrafiltration membrane system, additional GAC filtration, construction of wet well pumping basins and a new chlorine contact basin, and new distribution pump station. The new treatment building will house the ultrafiltration and GAC filtration equipment and wet well, as well as new chemical storage tanks, electrical and communications rooms, and administration building for plant operations personnel.

Additionally, the project scope includes replacement of treatment equipment at the existing DAF facility, and construction of a new residuals building for improved processing of solids screening and handling at the pretreatment process facility. The new plant facilities will be constructed on property located immediately south of the existing WTP facility and will include site improvements for new access roadways, site fencing and gates, landscape, and storm drainage. Following start-up of the new treatment facilities, the existing backwash pond will be taken out of service and backfilled with suitable soil making room for the eventual addition of the Phase 2 (expansion to 21 MGD) plant expansion facilities.

Yard piping improvements are needed early within the project scope of work to relocate utilities away from the planned Phase 1 expansion. Additional site utility improvements include storm drainage and sanitary sewer installations for the new Phase 1 building construction and construction of new duct bank and electrical transformer, generator(s), and switchboard equipment for power and controls to the new process equipment.

Guaranteed Maximum Price

1.3 Organization

The GMP estimate is organized by trade bid packages.

1.4 Class of GMP Estimate

This GMP estimate is considered to meet a Class 1 bid/tender estimate in accordance with the ACEI Cost Estimate Classification System. A Cost Estimate Classification Matrix including accuracy ranges and typical contingencies along with detailed description of each estimate class can be found in the Classification Matrix/Estimate Classification Descriptions attached to this report.

1.5 Reference Documents

The following reference documents serve as the estimating basis:

No.	Date	Description
1	May 17, 2024	100% Design Review Drawings
2	May 17, 2024	100% Review Technical Specifications

1.6 Estimating Team

The estimating team is made up of the following individuals:

Name	Role and Responsibility
Todd Allen	Electrical Estimator
Anthony Kianna	Process Pipe Estimator
Tom Auay-Fuay	Lead Estimator, Process Equipment Estimator
Matthew Wojtkiewicz	Precon Manager
Tom Paul	Project Executive
Brent Edwards	Estimate QA/QC Review, Process Pipe
Jeff Garner	Estimate QA/QC Review

Guaranteed Maximum Price

1.7 Labor Assumptions

The following labor assumptions are incorporated into the GMP:

Parameter	GMP Assumption
Local Wage Determination	Local wage
Productivity Adjustment to U.S.	100% (no adjustment)
Shift Basis Shifts/Day Days/Week	8 hrs. 1 Shift/day 5 Days/Week
Living Per Diems or Camp Costs	N/A
FICA SUI Workers Compensation	Included in hourly rate

1.8 Equipment Assumptions

The following equipment assumptions are incorporated into the GMP only refers to MWH self-perform scopes of S-4000 and S-4600:

Parameter	GMP Assumption
Equipment Rate Basis	For self-performance, internal rates were used.
Rate Adjustment to U.S. Avg.	None
Fuel Rates: Gasoline Diesel	\$4.25/Gal. \$4.00/Gal.

1.9 Assumptions

The following assumptions are incorporated into the GMP estimate:

Div 00 – General Conditions

- Project construction duration, including commissioning and startup, is assumed to be 39-months starting April 2024 for substantial completion. An additional 8 months for a monitored membrane filter test are included as required between substantial completion and final completion per Specification Section 46 61 33 – Membrane Filtration System.
- Project building/development permits (i.e. Building permits and plan review fees) are excluded from the estimate and are the responsibility of the client to procure. It has been stated by the town that this cost will be waived.
- General Contractor and/or Subcontractor(s) will be able to connect to existing onsite utilities for water and sewer required for construction operations at no cost.
- Third party quality control and material testing services subcontract scope are **not** included in

Guaranteed Maximum Price

this GMP and are the responsibility of the Owner.

- As required by the Town of Johnstown, additional preconstruction costs not in the preconstruction contract are included as part of the general conditions.

Div 01 –General Requirements

- Regional contractors have competed and tendered bids for the project.
- Builder’s Risk Insurance is included.
- MWH’s standard industry commercial terms will be the basis for all subcontract and material supply procurements.
- Subcontract and Material Supply contracts will include cost of payment and performance bonds / supply bonds.
- CMAR and its Subcontractor(s) will have complete free and clear access, easement, and/or right-of-way to work.
- Sales Tax, for state and municipal taxes, is included at 6.4% for consumable materials and construction equipment only. No other taxes are included.
- There will be sufficient funds to construct the project.
- 01 75 00 Manufacturer’s Field Services outlines various supplier requirements but doesn’t outline how general project startup should go or any submittals/plans that would be required.
- 01 75 00 – Manufacturer’s Field Services 3.01.B Performance Testing – States that Owner may conduct acceptance tests after installation to determine if Equipment is in accordance with Contract Documents. This is vague language, and not accounted for in the project schedule.

Div 02 – Existing Conditions

- S-3120/S3310: There are no changes, nor demolition, to existing clarifiers.
- S-3120/S3310: Existing yard pipe to be demolished is assumed to be 8’ deep or shallower unless an elevation is specifically shown on the contract documents.
- S-3120/S3310: Existing yard pipes are assumed to be non-hazardous (ie. asbestos containing, lead paint, etc.) unless specifically called out in the contract documents.
- S-3120/S3310: Cost for demolished yard pipe to be removed from site is included. Cost for hazardous material remediation, if required, is excluded.

Div 03 - Concrete

- S-0330: 70 days of winter weather protection are being carried in the cost of the work. Additional winter weather protection days will be covered using CMAR Contingency. Unused weather days will be credited back to the Owner and put into CMAR Contingency.
- S-0330: Clarification needed between 03 30 00 part 2, 2.01 “air entrained” concrete mix and 03 30 00 – 3.03 finish to 1/8” in 10’ feet. This is unachievable between the two specifications. Dictating a hard trowel finish.

Guaranteed Maximum Price

Div 04 - Masonry

- S- 0422: Masonry work package was competitively bid out and low responsive bidder was used in this GMP.

Div 05 - Metals

- S-5512: Metals work package was competitively bid, and low responsive bidder was used in this GMP for materials purchase.
- S-5512: Roof deck is supplied as gage 20. This was not specified on drawings. Price is subject to change if the Engineer of Record (EOR) states a different gage.
- S-5512: Engineer of Record is responsible for providing all joist loading. EOR or other design professional to provide Vulcraft (deck manufacturer) with joist loading. Vulcraft will only design the joists for the loading provided. Vulcraft will not act as the delegated design professional.
- S-5512: ½” slope rate adjusted joist seat depths to 3 ½” (K Series) and 7 ½” (LH).
- S-5512: Angles used in K Series joists are commonly less than 3/16” thick. Price assumes the 3/16” weld will be replaced by an equivalent 1/8” weld where field welds are required.
- S-5512: Layout drawings will not be “sealed or stamped” by an engineer since they represent work that was done by the EOR, not Vulcraft. Joist calculations can be sealed by a Vulcraft engineer because they do represent design work by Vulcraft.
- S-5512: We did not receive metals installation quotes. MWH used our self-performance estimate for the installation.

Div 06 – Wood, Plastics, and Composites

- S-0640 No bids were received for the architectural wood finishes. A budget allowance of \$51,258 is being included in the GMP. Architectural wood finishes will be bid out after GMP. Additional costs above the budget allowance carried in the GMP estimate will be covered under the CMAR Contingency.

Div 07 – Thermal & Moisture Protection

- S-0716: Damp proofing is included on the exterior below grade walls at the Drain Pump Station and Residuals Basin only.
- S-0716: Wall guard concrete faced insulation panels are being carried where specified. This specification was not included in the 100% documents and was sent on 6/10/2024. Cost savings could be recognized with rigid foam board insulation.
- S-0721: Insulation scopes are included with S-0422 Masonry and S-0921 Gypsum Board Assemblies.
- S-0762: EPDM roofing at Treatment Building Chemical and Administration side only.

Guaranteed Maximum Price

- S-0762: A 15% escalation is being included to account for the schedule for when this scope will be installed. The proposal received is only good for today's pricing.
- S-0762: Extruded Aluminum Screen Wall System is 6063T6 Extruded Aluminum, 2" Horizontal Inverted Thinline Blades, spaced 3" on center, 42" free area, Mitered Coners, Anodized dark bronze finish.
- S-0762: Excludes delegated design, engineering calculations/stamped shop drawings.
- S-0762: If any specified material becomes unavailable either temporarily or permanently after this proposal is sent or the contract is executed, MWH will be allowed to propose an available substitute. Any increase in the cost between the originally specified material and the substitute shall be cause for a change request.
- S-0792: We received one bid for joint sealants. Their proposal did not include firestopping and mineral wool. We have included a \$30,000 allowance to cover this scope of work. Additional costs above the budget allowance carried in the GMP estimate will be covered under the CMAR contingency.

Div 08 – Openings

- S-0810: We received one quote for the doors and hardware. They did not include any glazing, for which MWH budgeted an allowance of \$9,000.00. They did not include any windows, of which MHW included an allowance of \$19,866. Additional costs above the budget allowance carried in the GMP estimate will be covered under the CMAR Contingency.
- S-0833: A 15% escalation is being included for the Overhead Door to account for the schedule for when this scope will be installed.
- S-0890: Skylights are not available with eyehook to remove as specified in the contract documents. Pricing for skylight does not include this feature.

Div 09 - Finishes

- S-0921: We received one bid on the Gypsum Board Drywall Assemblies. This has been included in the GMP.
- S-0930: No bids were received for flooring. A budget of \$116,251 is being carried in the GMP. Flooring will be bid out after GMP. Additional costs above the allowance carried in the GMP estimate will be covered under the CMAR contingency.
- S-0990: We received 3 bids on the Paint and Coatings system. Low responsive bidder is included in this GMP. However, their scope did not include any coatings repair in the DAF building. MWH has included a budget allowance of \$44,000.00. In Addition, we have included budgeted allowance of \$50,000.00 for scope exclusions. Additional costs above the allowance carried in the GMP estimate will be covered under the CMAR contingency.

Div 10 - Specialties

- S-1014: We received one bid for signage for \$7,319. This price is being carried in the GMP.
- S-1022: We received 2 bids for the Folding Partition Walls. Low responsive bidder is included in this GMP.

Guaranteed Maximum Price

- S-1028: We received 3 bids for the Bathroom Accessories. Low responsive bidder is included in this GMP.
- S-1044: We received 3 bids on fire protection assemblies. Low responsive bidder is included in this GMP.
- S-1051: We received 4 bids on the Lockers. Low responsive bidder for the overall S-1028, S1044 and S-1051 package is included in this GMP.

Div 11 – Equipment

- With S-1253 Casework Package for Fume Hood.

Div 12 – Furnishings

- S-1253: Using ISEC per quote included in specifications. This is being carried as an allowance for \$116,842.00. Additional costs above the allowance carried in the GMP estimate will be covered under the CMAR Contingency.
- S-1293: Using Encompass per quote included in specifications. This is being carried as an allowance for \$74,141.00. Additional costs above the allowance carried in the GMP estimate will be covered under the CMAR Contingency.

Div 13 – Special Construction

- S-1334: We received one bid for the pre-engineered metal building (PEMB), and this has been included in this GMP.
- S-1334: MWH has included an allowance of \$20,000.00 for scope exclusion from the PEMB provider. Additional costs above the allowance carried in the GMP estimate will be covered under the CMAR Contingency.
- S-1334: PEMB excludes mockup or extensive samples beyond color chips.
- S-1334: Low responsive bidder uses on-site camera to monitor progress. If cameras are not allowed, supervision costs may increase.

Div 21 – Fire Protection

- S-2113: We received one bid for the Fire Protection system, and this has been included in this GMP. We have also carried additive of \$29,000 for one nitrogen generator.
- S-2113: Sprinkler Design to the following:
 - NFPA 13
 - Ordinary & Light hazard throughout
 - Layout documents: Assumes use of all fire protection, structural, reflected ceiling, HVAC, and electrical CAD files provided by owner or A/E at no cost.
 - The System shall be hydraulically designed per NFPA by NICET III.
 - Local Authority Having Jurisdiction approved plans and calculations.
- S-2113: No fire suppression included for Residual building as none are shown in the drawings.

Guaranteed Maximum Price

Div 22 – Plumbing

- S-2200: We received one bid for the plumbing, and this has been included in this GMP.
- S-2200: We have included an allowance of \$50,000 for under slab encasement of water and sewer services of which subcontractor excluded. Additional costs above the allowance carried in the GMP estimate will be covered under the CMAR Contingency.

Div 23 – HVAC

- S-2300: We received one bid for the HVAC, and this has been included in this GMP.
- S-2300: We have included an allowance of \$18,800 for scope exclusions by the HVAC subcontractor. Additional costs above the allowance carried in the GMP estimate will be covered under the CMAR Contingency.

Div 26 – Electrical

- S-2600: We received two competitive bids on Electrical, Instrumentation and Controls. The low responsive bidder has been included in this GMP.
- S-2600: SKM was carried by all of the electrical contractors for a total price of \$1,245,106. SKM scope of work was defined by the Town of Johnstown without input from CMAR. CMAR has reviewed scope with electrical contractors to ensure all coordination items are carried in the electrical subcontractor number.
- S-2600: Drawings 00I-050, 00I-051, 00I-052, 00I-053, 00I-061, 00I-054, 00I-055, 00I-056, 00I-058, 00I-059, 00I-060, and 00I-062 were not included in the 100% documents. These drawings were sent over on 6/10/2024. We have confirmed that electrical contractors have included these in their proposals.
- S-2600: Switchgear is Siemens.
- S-2600: Active Harmonic Filters are TCI.
- S-2600: VFD's 480v where shown are Allen Bradley.
- S-2600: Exclude any Factory Witness Testing.

Div 31 – Earthwork and Div 33- Utilities

- S-3120 / S-3311: We received competitive bids with Work Authority 2 for the early work package for Phase 1 earthwork and yard pipe. With the 100% design, we requested a proposal from the low responsive bidder for the remaining earthwork and yard pipe scope. This bid is included in this GMP.
- S-3166: We received a bid for aggregate piers in Work Authorization 1. This bid is included in this GMP.
- S-3123: We received quotes for dewatering. This includes the installation of maintenance of all dewatering equipment. Two options were provided by Herc rental. Deep well and sump pump options. MWH has selected to go with sump pump option based on the early works excavation currently being constructed now. MWH has included 9 months of rental for this

Guaranteed Maximum Price

GMP.

Div 32 – Exterior Improvements

- S-3212: Due to the timing of this work package and a shortened bidding duration of the 100% design documents, we did not receive any bids. MWH applied a 5% 90-100% changes and 15% cost adder for escalation to the bidder's previous bid at 90% design. Additional costs above the allowance carried in the GMP estimate will be covered under the CMAR contingency.
- S-3231: We received competitive bids for the Fencing scope and the low responsive bidder has been included in this GMP.
- S-3293: We received one bid for the landscape scope, and this has been included in this GMP.
- S-3293: Due to the timing of this work package and a shortened bidding duration of the 100%, we did not receive any bids on the 100% documents. MWH applied a 5% 90-100% changes and %15% cost adder for escalation to the bidder's previous bid at 90% design. Additional costs above the allowance carried in the GMP estimate will be covered under the CMAR contingency.

Div 33 - Utilities

- Please see S-3120/S-3311 in Div 31 above.
- We understand that the gas line to the meter at the building is supplied and installed by the utility provider. No costs for utility provider to bring the gas main to the site or individual buildings is included.

Div 40 – Process Pipe

- S-4000: This package is estimated as self-perform by MWH.

Div 41 – Hoists & Cranes

- None shown on drawings or specifications.

Div 46 – Process Equipment

- S-4600: This package is estimated as self-perform by MHW.
- S-4600: Startup chemicals are not included. These will be provided by the Owner at startup.
- Exceptions and clarifications to specifications:
 - Section 33 32 22 2.03 B.3. c.: Minimum efficiency of 52%.
 - Section 33 32 22 2.03 D.2. d.: Shutoff Maximum of 125 ft.
 - Section 43 41 45 The FRP tank data sheets show 2" outlets, but the P&IDs call for 4" on the smaller Citric Acid, Sod. Bisulfite and Sulfuric Acid tanks. Our proposal has 2" fittings.
 - Section 43 42 45 The FRP tank data sheets for the CIP Hot Water Tank show a connection for a heater, but there is no mention of a heater in the spec section. A

Guaranteed Maximum Price

- heater is not included in our proposal.
- Section 46 33 00 Liquid Chemical Feed Equipment:
 - Alum system calls for PVC pipe with CPVC valves and accessories. Our quote is for all PVC as this is standard for aluminum sulfate systems.
 - Sodium Permanganate systems details 316SS valves and accessories, including Swagelok type fittings, but calls for PVDF piping. It's difficult to transition from PVDF to Swagelok, so the skids are quoted as all 316SS piping, valves and accessories. Currently, the price difference between PVDF and 316SS is negligible. The tote accessories are 2" 16SS with threaded connections.
 - Backpressure valves are not recommended with peristaltic pumps unless there is a chance for siphoning. Removing them would extend tube life and save \$250 per valve. Our proposal currently includes BPs.
 - Caustic soda system shows CPVC pipe but lists all 316SS valves and accessories. The proposal is for all 316SS tubing, accessories and fittings. There could be savings using CPVC.
 - The P&IDs don't show any controls for the brine tank that are called out "Provide one water level control system, including a radar level transmitter and level indicator, as specified in DIVISION 40". Evoqua's standard is a mechanical level control system for their brine tank. Alternatively, Design Tank provided a price for an FRP Brine maker tank that is included in this proposal. A deduct for the standard tank from Evoqua would be provided (approximately \$4K).
- Section 46 40 05 – Solids Systems General Provisions references Centrifuges in section 3.03 – Field Testing at a rate of 550 Lb. / HR. Belt Press equipment is rated at 233 Lb. / HR.
- Section 46 40 05 – This is specifications requires the entire solids system to be provided by one manufacturer. However, not all manufacturers can provide the specified manufacturer listed for each component. MWH takes exception to this requirement. BDP, who is a named manufacturer for the Belt Filter Press was low responsive bidder of the Solids System Supplier. However, they are supplying BDP for the conveyer system.

1.10 Cost Plus Fee versus Lump Sum GMP

The purpose of section 1.10 Lump Sum versus Cost Plus Fee GMP is to outline the risks, responsibilities, and level of effort each billing type requires.

- Cost Plus Fee GMP
 - Requires a higher level of effort from Owner and CMAR
 - Requires all invoices to be submitted, reviewed, and approved by the Owner prior to payment.
 - Requires at least one FTE employee for the Owner and CMAR to gather invoices and to

Guaranteed Maximum Price

- create a Pay Application.
- The CMAR General Conditions included in this GMP assume Lump Sum level of effort.
- Lump Sum GMP
 - Requires minimum level of effort to track costs and create pay applications
 - Will utilize a mutually agreed upon Schedule of Values (SOV) for pay application.
 - Will be based on percentage complete from the Project Schedule.
 - Will include separate Pay Application from each Subcontractor and if applicable each equipment supplier.

1.10 Exclusions / Exceptions

The GMP pricing excludes the following items:

- Third party testing, geotechnical services including earthwork and concrete are not included. Special inspections required in the contract documents are in the scope of work.
- Any future design changes which are **NOT** shown in the 100% Design drawings and specifications.
- On-site security personnel
- Owner / Engineer field office trailers – Office for onsite inspection will be in GC Trailer
- All archeological preservation and cultural heritage mitigation measures.
- Warehouse storage area.
- All Owner costs such as, but not limited to, pre-construction activities, allowances for change orders and claims, engineering services during construction, management and support of field construction activities, and Owner's Contingency.
- Removal of unforeseen underground obstructions.
- Hazardous material identification, remediation, or disposal.
- Special inspections and testing not listed.
- Engineering Design Fees.
- Engineer's Services During Construction
- Geotechnical investigation.
- Any costs associated with impacts due to COVID-19 or other health pandemics.
- Any work to the existing clarifiers.
- New break tank and valve
- Cleaning and/or disinfection of the DAF basins.
- Fiber Optic Duct Bank
- Fiber optic cables
- Bi-Directional Amplifier System/Wi-Fi and devices
- Electrical utility provider equipment upstream of the main service section, including

Guaranteed Maximum Price

transformers, duct banks, and conductors.

- Main gas line into site and to within 5 foot of the buildings or to the meters. Gas meters to be set by gas supplier.

1.11 Allowances & Contingencies

The GMP includes the following allowances for construction costs not clearly described by the project design documents:

Div 01 – Temporary Pipe & Materials Associated with Startup & Commissioning is being carried as an allowance in this estimate due to vague startup and commissioning specifications.	\$250,000.00
S-0640: Architectural Wood – No bids were received for architectural woodwork. Architectural woodwork will be bid out after GMP.	\$71,124.00
S-0792: Firestopping and Mineral wool allowance added to RSI scope.	\$30,000.00
S-0810: Openings. Responsive bidder did not include glazing or windows. An allowance of \$28,866.00 is included in the GMP.	\$28,866.00
S-0930: Flooring – No bids were received at the time of this GMP estimate. Flooring will be bid out after GMP.	\$116,251.00
S-0990: Painting and Coatings excluded scope allowance.	\$94,400.00
S-1293: Furnishings – MWH is using Encompass as their quote was included in the specifications. Their scope is not complete. MWH has included allowances in to cover items that were not included.	\$74,141.00
S-1334: MWH included an allowance of \$20,000.00 for scope exclusions from the Pre-Engineered Metal Building provider.	\$20,000.00
S-2200: MWH included an allowance of \$50,000.00 for scope exclusions from the Plumbing subcontractor.	\$50,000.00
S-2300: MWH included an allowance of \$18,800 for scope exclusions from the HVAC subcontractor.	\$18,800.00
S-3212: AC Paving allowance due to timing of bid and when this work will occur in 2027.	\$660,632.00
S-3292: Seeding and landscaping allowance due to timing of bid and when this work will occur in 2027.	\$317,832.00
S-2600 Electrical I&C for SKM allowance programming and integration	\$200,000.00

Overruns to allowance items above will be paid for out of Contractor Contingency.

CMAR Contingency specifically includes, but is not limited to:

Guaranteed Maximum Price

- Errors and omissions in the estimating process.
- Variability associated with the quantification effort.
- Design that may not be complete enough to determine final quantities.
- Some items that may define precise quantification but are required to be estimated.
- Some items to be quantified are generally computed by factoring.
- Labor productivity variability.
- Labor availability, skills, and productivity that may vary from that assumed.
- Weather impact which may affect productivity.
- Normal wage rate variability.
- Composite wage rates varying from those assumed due to crew make-up, market conditions, and labor availability.
- Material and equipment costs may vary from those in the estimate due to inflationary reasons and market conditions.
- Minor variations in the actual quantities.

CMAR Contingency specifically excludes:

- Changes in scope directed by Owner.
- Major unexpected work stoppages (strikes, etc.).
- Disasters (hurricanes, tornados, etc.).
- Unforeseen conditions.
- Excessive, unexpected inflation.
- Excessive, unexpected currency fluctuations.
- Impacts due to pandemics or health emergencies like COVID-19

1.12 Contract Time

As required by the contract, at the development of the GMP, the dates for substantial and final completion are listed below.

Substantial Completion – 16-Dec-2026

Final Completion – 09-Jun-2027

Duration between Substantial Completion and Final Completion accounts for the 180 calendar days as outlined in Specification Section 46 61 33 Membrane Filtration System. This duration is at the Owner's discretion to reduce.

Zero weather days have been included in the schedule. A weather day is defined as

- Sustained minimum air temperature at the job site for more than 4 hours during the Working Hours that is a maximum of the temperatures listed below:
 - December – 25F

Guaranteed Maximum Price

- January – 25F
- February - 25F
- March – 25F
- Rainfall at the job site greater than 0.25 inches per hour.
- Snowfall at the job site greater than 5 inches in a single occurrence.
- Sustained winds for 2 hours or longer at the job site of greater than 35 miles per hour when no cranes are in use.
- Sustained winds for 2 hours or longer at the job site of greater than 20 mile per hour when cranes are being used.
- MWH will request a one-day schedule extension for each weather day that occurs.

The following holidays are captured in the calendar for the duration of the project:

- New Year's Day
- Martin Luther King Jr.'s Birthday
- President's Day
- Memorial Day
- Juneteenth
- Independence Day
- Labor Day
- Veteran's Day
- Thanksgiving Day
- Friday after Thanksgiving Day
- Christmas Eve
- Christmas Day

1.13 Project Risks / Opportunities

Project Risks:

- Unforeseen existing conditions discovered during excavation.
- Severe weather events.
- Market volatility.
- Effects of COVID-19 in material availability/delivery and available manpower.
- Changes due to underdeveloped design, specifically the Residuals Building.
- CDPHE rated the plant at 10.5 MGD in RAW. MWH has no responsibility to perform performance testing over this rate.
- Control Narrative is not fully developed, and changes will be needed during construction, possibly impacting cost and schedule. Schedule and cost impacts will be paid for by Owner Contingency.
- Startup and Testing requirements are vague, misleading, and in some cases reference equipment not being provided. Every effort was made to include all required startup and

Guaranteed Maximum Price

testing. Startup and testing missed in this estimate due to vague specifications will be paid for from Owner Contingency.

- Design on the Residuals Building has not advanced to the 100% level. Further design development may result in additional cost and schedule impacts. Schedule and cost impacts for design progression of the residuals building will be paid for from Owner Contingency.
- CDPHE Permit comments have not been incorporated into this design and are not being accounted for in this GMP.

Project Opportunities:

- Construction joint spacing at Treatment Building could be maximized to reduce cost and schedule time.
- Eliminate all the individual SOG at the Treatment Building and form, pour, finish two large warehouse style slabs.
- The bottom of slab waterstop detailed at treatment building is expensive and uncommon. Common waterstop can be used at a savings.
- Competitively bid programming scope could result in savings.
- Concrete wallguard insulation panels are significantly more expensive than rigid insulation. Rigid insulation could be used as a cost savings.
- Drain Pump Station design could be modified to a post tensioned tank with twin tees on the deck.

List of Attachments

1.0 100% GMP Summary with bid tabulations and self-performance detail estimate.

2.0 GMP Schedule Dated June 21, 2024