

MILITARY DEPARTMENT
OFFICE OF THE ADJUTANT GENERAL
10601 Bear Hollow Drive
Rancho Cordova, California 95670



Addendum #02

IFB No. 130636 - Waste Water Treatment Plant Modernization
Camp Roberts - San Miguel, CA
9/1/2026 at 2:00 PM

08/26/2026

Please review the following addendum to IFB No. 130636.

1. Attachment 01, SOW_Revision 01_20260826 (Section 3.6 Mandatory Special Inspections and Quality Assurance)

Please note that *no verbal* information given will be binding upon the State unless such information is issued in writing as an official addendum.

Robert Hawkins
Contracting Administrator

ATTACHMENT 01
SOW_Revision 01_20260826
(Section 3.6 Mandatory Special Inspections and
Quality Assurance)

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SCOPE OF WORK
REVISION 01
WASTE WATER TREATMENT PLANT
CAMP ROBERTS, CA
DATE: 26 AUGUST 2026

1. PROJECT BACKGROUND & LOCATION

- **Installation:** Camp Roberts is an active military installation and airfield meeting Department of War standards. It provides support and training facilities for military units, national, state, and local organizations, and emergency operations. The training facility is operated and maintained by the California Army National Guard.
 - **Site Location:** Main Garrison Wastewater Treatment Plant, Camp Roberts, Monterey County, CA 93451.
 - **System Status:** The existing facility relies on antiquated infrastructure dating back to initial 1950s construction. Subsurface piping elements are cracked, rusted, and leaking in several locations, causing significant water loss beneath the secondary treatment systems. The plant completely lacks flow equalization, which is a fundamental flaw when managing highly variable troop loads. It cannot consistently meet regional Waste Discharge Requirements. This project completely replaces the broken secondary treatment and denitrifying filter equipment with an advanced membrane treatment system.
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2. GENERAL SCOPE OF WORK

The Contractor shall provide all necessary labor, materials, equipment, transport, and services for an all-inclusive Wastewater Treatment Plant modernization. The final delivery must be a fully functional facility that transitions processing from old trickling filters and continuous backwash sand filters to a modern Membrane Bioreactor package plant.

2.1 Component Inclusions

Work includes, but is not limited to, the replacement, installation, or modification of:

- **Headworks Washer/Compactor System:** Mechanical upgrades to the existing self-cleaning bar screen, including a compactor and wash system configured to deliver screenings directly to an adjacent dumpster.
- **Low Flow Wet Well:** A new 4-foot by 3-foot rectangular precast concrete structure with a total depth of 8 feet below ground surface, equipped with a 75 gallons per minute capacity submersible pump.
- **Influent Equalization Tank:** Complete modification and repurposing of the existing 85-foot diameter, 500,000-gallon Secondary Clarifier to serve as an unheated raw influent storage unit.
- **MBR Package Plant System:** A custom-engineered, immersed Membrane Bioreactor treatment system rated for a maximum capacity of 250,000 gallons per day.
- **Sludge Dewatering System:** An automated aerated sludge handling system equipped with medium bubble diffusers, a self-priming sludge feed pump, and an integrated solids press.
- **Permeate Equalization Pond:** Conversion of the existing redundant sludge drying beds into a lined intermediate treatment retention pond with a minimum capacity of 850,000 gallons.
- **System-wide Electrical and SCADA Upgrades:** Replacement of the old 400A service with a new 1200A, 277/480V distribution system and an Allen Bradley-based Programmable Logic Controller system.

2.2 Base Bid and Alternative Bid Structure

The procurement package for this project is partitioned into a single Base Bid and four separate Alternative Bid Items.

- **Base Bid Items (BBI):** Encompasses all core facility demolition, subgrade stabilization, structural slabs, primary MBR treatment system installation, core electrical networks, controls integration, and dry/wet plant commissioning (pp. 1-3).

- **Alternative Bid Items (ABI):** Contains discrete additive construction components including the permeate retention pond, process area structural canopies, and headworks-hardscape improvements (pp. 3-4). The Government reserves the right to award any combination, all, or none of the Alternative Bid Items based on budgetary constraints at the time of award.

2.3 Period of Performance & Project Timeline

- **Contract Duration:** The Contractor has 365 Calendar Days from the Notice to Proceed to complete the entire project.
- **Job Start & Mobilization:** Job Start meeting will be scheduled within 10 calendar days of receiving the Notice to Proceed. Mobilization will occur 30-45 Calendar days after Job Start to ensure Submittals are received.
- **Operational Interferences:** All work shall be performed to ensure minimum interruption or interference with the proper execution of government business and facility operations. The existing 240-volt electrical distribution system must remain operational until the new 480-volt distribution system and plant treatment systems are fully operational.

2.4 Governing Drawings & Manuals

All work must comply strictly with this SOW, project design documents, including all sheets of the Main Garrison Wastewater Treatment Plant Modernization construction drawings, structural details, and the custom MEMPAC-M engineering specifications.

3. REGULATORY, CODE, AND LICENSING REQUIREMENTS

3.1 Compliance Standards

Per the Federal Facilities Act 1992, all work shall conform to trade standards, local building codes, ordinances, and regulations listed in the project specifications or construction documents. This includes the Uniform Building Code, California Building Code, and Department of Defense Instructions 6055.1.

- **Conflict Resolution:** The Contractor shall report any inconsistencies, conflicts, or omissions in the codes or design documents to the Project Manager for interpretation prior to performing the affected work. Where the cited references, technical specifications, or drawings contain more than one detail for a specific purpose, the most stringent condition shall govern.

3.2 Unified Facilities Criteria & Guide Specifications

The contractor must follow these specific federal standards:

- **UFC 1-200-01:** General Building Requirements
- **UFGS 02 82 00:** Asbestos Remediation
- **UFGS 02 83 00:** Lead Remediation

3.3 Wastewater Discharge Permit Compliance

The treatment facility must be constructed to meet all current and anticipated Central Coast Regional Water Quality Control Board Waste Discharge Requirements. The modernized system must achieve the following effluent parameters:

Parameter	Units	30-Day Average	7-Day Average	Sample Maximum
Biochemical Oxygen Demand (BOD ₅)	mg/L	30	45	N/A
Total Suspended Solids (TSS)	mg/L	30	45	N/A
Settleable Solids	mL/L	0.1	0.3	0.5
Total Nitrogen (as N)	mg/L	10	N/A	N/A
pH	N/A	6.5 – 8.4	N/A	N/A

The system must also accommodate Paso Robles Area sub-basin long-term rolling median parameters, including Total Dissolved Solids limited to 1,050 mg/L, Chloride at 270 mg/L, Sulfate at 200 mg/L, Boron at 2.0 mg/L, and Sodium at 225 mg/L.

3.4 Contractor Licensing Requirements

- **Prime License:** Current and in good standing California Contractors State License Board Class B General Building or Class A General Engineering license issued by the Department of Consumer Affairs.
- **Abatement License:** The contractor must possess a C-22 Asbestos Abatement license or subcontract to a C-22 licensed contractor for all hazardous handling work.

3.5 Labor & Security Standards

- **Site Access:** All contractors, employees, and subcontractors must comply with the REAL ID Act and base security regulations for gate access.
- **Certified Payroll:** Contractor must be registered and participate with the California Department of Industrial Relations electronic certified payroll reporting for contracts exceeding \$1,000.
- **Wages:** This project is performed on federal government property; prevailing wages strictly apply.

3.6 Mandatory Special Inspections and Quality Assurance

All phased, specialty, and code-mandated inspections required by the California Building Code, project plans, and technical specifications shall be executed at the explicit expense of the Contractor. The Contractors Geotechnical and Structural consultants will provide continuous and periodic Quality Assurance inspections across the following milestones:

- **Civil, Earthwork, and Pond Liner Inspections**
 - **Subgrade Excavation:** Inspect and verify the 5-foot over-excavation depths beneath the main membrane bioreactor foundation pad and adjacent sludge handling concrete slabs.
 - **Compaction Verification:** Perform on-site compact examination testing to confirm the construction contractor achieves a minimum 95 percent

relative maximum density for structural pads, and a minimum 90 percent relative density for the retention pond subgrade.

- **Geomembrane Liner Evaluation:** Conduct a continuous subgrade inspection across the 38,500 square foot retention pond footprint. Oversee and certify 100 percent non-destructive air-lance or spark testing across all 40-mil high-density polyethylene geomembrane field seams.
 - **Concrete Formwork and Reinforcement**
 - **Formwork Inspection:** Inspect all perimeter formwork, including 610 linear feet of formwork for the membrane bioreactor pad, for structural alignment, dimensional stability, and secondary containment curb profiles prior to concrete delivery.
 - **Reinforcement Placement:** Inspect the placement, spacing, lap-splices, bar sizing, and clearance chairs of all number 5 structural rebar steel arrays before any concrete pour is authorized.
 - **Concrete Placement and Materials Testing**
 - **Pour Oversight:** Maintain a certified inspector on-site during all 4,500 pounds per square inch structural concrete placement operations for the membrane bioreactor pad, sludge slabs, and precast pump vaults.
 - **Field Sampling:** Collect fresh concrete samples during active placement to perform field slump tests, temperature metrics, and air-content verifications.
 - **Strength Calibration:** Mold standard compressive strength test cylinders. Coordinate third-party laboratory breaks to verify required structural strength before formwork removal is authorized.
 - **Curing Maintenance:** Periodically inspect moisture retention, curing compounds, and surface temperature maintenance procedures
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4. ADMINISTRATIVE & SUBMITTAL REQUIREMENTS

4.1 Safety & Personnel Submittals

Prior to beginning work, the Contractor must submit and receive approval for:

- **Safety & Abatement Plan:** Fully compliant with CAL-OSHA standards.
- **Appointment Letters:** Formal designations for the Site Superintendent, Quality Control Officer, and Site Safety Officer.
- **On-Site Supervision:** The Site Superintendent and Safety Officer or an approved alternate must always be present on-site when work is being performed.
- **Superintendent & Subcontractor List:** Provide the named Field Superintendent and a complete list of subcontractors to the Project Manager within 10 working days of contract award. The Contracting Officer is the sole authority permitted to approve changes to subcontractors.

4.2 Material & Product Submittals

- **Product Data:** Submit detailed product data, catalog cuts, and operational specifications for all materials, membranes, pumps, tanks, and automated control instruments used in this project 30 working days prior to mobilization.
- **Equipment Submittals:** Submit for approval all necessary residual equipment documentation for the operation of the completed project, including manufacturer catalogs and design certificates, to the Project Manager after contract award.
- **Manufacturer Quality Control Data:** Certified factory test metrics for the MBR membrane modules, structural tanks, and the raw delivery logs for the pond liner sheets must be verified and submitted prior to field installation.

4.3 Scheduling, Mobilization, and Logistics Notices

- **Mobilization Notice:** Notify the Project Manager in writing 10 working days in advance of mobilization. Provide a prospective construction schedule highlighting keystone events and the critical path.
 - **Temporary Services:** Coordinate the installation and use of any required temporary services with the Project Manager 10 working days prior to installation. Remove all temporary services and clean the space upon project completion.
 - **Final Inspection Notice:** Notify the Project Manager in writing of the anticipated final inspection date 5 working days in advance.
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5. HAZARDOUS MATERIAL TESTING & ABATEMENT

5.1 Pre-Demolition Testing

The existing structure and surrounding pipelines scheduled for removal have not been fully pre-tested throughout. The Contractor must conduct a comprehensive Lead and Asbestos test before any demolition or earthwork starts. Testing must encompass all connection seals, joint packings, structural walls, and internal gaskets. A final testing report identifying all hazardous elements must be submitted to the Government prior to work commencement.

5.2 Hazardous Material Abatement & Oversight

- **Third-Party Inspector:** Contractor shall employ an independent, third-party organization to oversee, monitor, and certify the abatement completion and provide a clearance closeout package.
- **Agency Access:** Camp Roberts DPW, the Project Manager, and the Construction Manager shall have direct contact with this third party and open access to reports at all times.
- **Precedence:** All hazardous work must follow the Environmental Determination dated 25 February 2021. This document takes precedence over all other sections if a conflict arises.

5.3 Waste Profiling & Sample Analysis

- **Composite Sampling:** Contractor shall collect a representative composite sample of all wood, concrete, and metal across all paint colors, ensuring proportional representation of all building components.
- **Analysis Parameters:** Samples must undergo hazardous waste profiling, including Total Threshold Limit Concentration, Soluble Threshold Limit Concentration, and Toxicity Characteristic Leaching Procedure, matching the explicit needs of the disposal facility.

5.4 Suspected Asbestos-Containing Materials and Lead-Based Paint

The following materials found throughout the old structures are assumed to be hazardous and must be handled and disposed of in accordance with applicable regulations:

- TSI pipe insulation, mud elbows, and fibrous jacketing on pipes, boilers, or furnaces.
- 9-inch vinyl floor tile and black floor mastics.
- Window glazing, gypsum wallboard, wall plaster, and interior or exterior painted surfaces.
- Fibrous woven wire insulation.
- Cementitious-transite paneling and transite pipes.
- Old sludge pump packings, valves, vents, and gaskets inside pipeline flanges.

5.5 Demolition & Waste Management

- **Waste Plans:** Contractor shall prepare a Construction Waste Management Plan addressing hazardous and non-hazardous waste. The Military Department's Contracting Officer must approve this plan before work starts.
- **Former Digester Demolition:** Demolish and completely dispose of the existing concrete southeast abandoned digester and northwest sludge holding tank to clear the footprint required for the new consolidated MBR foundation pad.

- **Sludge Drying Bed Stripping:** Excavate and clear all residual built-up sludge layers, old sand filters, and dividing wooden frames from the old drying beds. Clear the site perimeter of all obstructions to create a smooth surface for build-back grading.
- **Prohibitions:** No open burning of waste materials is permitted anywhere on the installation.

5.6 Disposal Logistics & Reporting

- **Facility Delivery:** All demolition and construction waste must be transported off post to a certified 50% recycling waste facility or a licensed Hazmat facility at the Contractor's sole expense.
 - **Closeout Documentation:** Deliver waste manifests and weight receipts to the Construction Manager before final payment authorization. Manifests must be signed by the senior post environmental representative.
 - **Reporting Timeline:** Submit recycle weight tickets via email within 10 business days of contract closure. If multiple shipments are made, provide a tracking spreadsheet documenting Date, Weight, Facility Name, Cost, Total Weight, and Total Cost.
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6. DETAILED TECHNICAL SPECIFICATIONS & CONSTRUCTION BUILD-BACK (BASE BID)

6.1 Civil/Geotechnical Subgrade Preparation

- **Foundation Footprint Grading:** Grade and clear 8,286 square feet of the treatment facility site to prepare for structural modification (p. 2). Soil preparation must be executed across the entire 8,286 square foot area to guarantee organic material clearance.
- **Compaction and Earthwork:** Backfill and compact 190 cubic yards of soil within the void left by the removed chlorination tank pit.
- **Structural Backfill:** Execute 263 cubic yards of trenching and excavation for subsurface utilities (p. 1). Provide 17 cubic yards of sand utility bedding within

utility trenches, and place 247 cubic yards of structural backfill compacted to 95% relative maximum density.

- **Security Fencing:** Relocate 386 linear feet of perimeter security fencing to accommodate the expanded plant footprint.

6.2 Structural Foundations & Enclosures

- **MBR Foundation Mat Slab:** Construct a 12-inch-thick reinforced concrete mat foundation pad totaling 6,486 square feet to support the core MBR package plant equipment. The slab must be constructed of 4,500 PSI compressive strength concrete reinforced with structural rebar and set within 610 linear feet of formwork.
- **Sludge Handling Foundation Slab:** Construct a separate 12-inch-thick reinforced concrete pad totaling 1,800 square feet to support the sludge handling equipment and roll-off bin staging. Construction must utilize 4,500 PSI concrete and include secondary containment perimeter curbing.

6.3 Membrane Bioreactor Package Plant System

- **Operating Sizing Profile:** Install an all-inclusive, pre-manufactured, and tested immersed Membrane Bioreactor package plant system rated for 0.25 million Gallons per Day (MGD) average daily flow capacity (MEMPAC-M6). Sizing must handle variable operational profiles using an integrated low-flow configuration system.
- **Advanced Biological Nutrient Removal:** The bioreactor core must utilize an Advanced Biological Nutrient Removal system operating a multi-stage Bardepho process loop to complete simultaneous nitrification and denitrification.
- **Ancillary Maintenance Services:** The package plant contract component must include 2 years of ongoing lifecycle field services and recurring operator training to certify base utility staff on the custom system (p. 2). The core equipment must feature an additional 24-month extended equipment warranty covering all structural components and internal membrane modules.

6.4 Hydraulics, Wet Wells, and Process Piping

- **Low Flow Pump Station:** Install a dedicated Low-Flow Pump Station Vault and an adjoining Pre-Cast Pump Station Manhole structure to intercept raw base sewage (p. 1). Equip the pump station with one 75 gallons per minute (GPM) capacity submersible pump.
- **Equalization Feed Pumps:** Install two heavy-duty Equalization (EQ) Basin Submersible Pumps, each carrying a 250 GPM capacity, inside the repurposed secondary clarifier tank to pump blended raw wastewater to the treatment plant.
- **Subsurface Pipe Conveyance Network:** Provide and construct a subsurface wastewater-conveyance piping network utilizing High-Density Polyethylene (HDPE) lines configured exactly as:
 - 4-inch HDPE Wastewater Line: 339 linear feet.
 - 6-inch HDPE Wastewater Line: 221 linear feet.
 - 8-inch HDPE Wastewater Line: 160 linear feet.
 - 24-inch HDPE Wastewater Line: 57 linear feet.
- **Valves and Mechanical Couplings:** Isolate and control hydraulic process lines through the installation of the following valves, cleanouts, and mechanical line attachments:
 - 4-inch Swing Check Valves: 3 each.
 - 4-inch Gate Valves: 3 each.
 - 6-inch Swing Check Valves: 6 each.
 - 6-inch Gate/Plug Valves: 6 each.
 - 18-inch Gate Valve: 1 each.
 - 6-inch Flange Couplings: 4 each.
 - 18-inch Flange Coupling: 1 each.
 - 24-inch Flange Couplings: 2 each.
 - Line Cleanouts: 3 each.
 - Utility Vaults (Installed at various depths): 2 each.
- **Equalization Basin Modification:** Core and cut the thick concrete wall of the existing secondary clarifier to establish a new Equalization Basin Inlet connection.

6.5 Sludge Dewatering & Press System

- **Sludge Processor Unit:** Install a complete, standalone automated aerated sludge handling system utilizing a Dry-Pac processing configuration. The system must include medium bubble diffusers for continuous aeration and odor mitigation, returning all liquid pressate back to the influent equalization system while staging solids for extraction.

6.6 Electrical Distribution, Controls, and SCADA Modernization

- **Power Infrastructure Switchboard:** Install a new 1,200-amp, service-rated main electrical distribution switchboard equipped with an internal Manual Transfer Switch (MTS) to facilitate rapid emergency power swap-over. Pair the switchboard with a dedicated external Portable Generator Cabinet to provide standardized power distribution termination lugs.
- **Voltage Step-Down Transformers:** Step down primary 480-volt plant power to existing utility buildings via two new single-phase isolation transformers consisting of:
 - One 25kVA, 480-120/240V single-phase transformer for the administration building.
 - One 37.5kVA, 480-120/240V single-phase transformer for the laboratory building.
- **Disconnects and Racks:** Install a 200A, 600V fused disconnect switch alongside four heavy-duty structural electrical equipment racks to mount power distribution hardware.
- **Plant Lighting and Safety Power:** Provide 31 commercial-grade LED striplight fixtures distributed throughout process areas. Install one exterior pole-mounted area light fixture wired directly to an adjacent automated lighting control panel. Install four weatherproof (WP) Ground Fault Circuit Interrupter (GFCI) duplex receptacles mounted on equipment racks.
- **Conduit and Duct bank Networks:** Route all power and control lines through a secure subsurface network including 700 linear feet of reinforced structural

concrete ductbank and two precast concrete pull boxes. Provide and install a rigid PVC protection conduit network configured exactly as:

- 1-inch PVC Conduit: 7,315 linear feet.
 - 1-1/2-inch PVC Conduit: 215 linear feet.
 - 2-inch PVC Conduit: 985 linear feet.
 - 2-1/2-inch PVC Conduit: 180 linear feet.
 - **Conductor and Control Wiring:** Pull and calibrate all power and instrumentation lines within the conduit network using the following specified wiring counts:
 - #4/0 Bare Copper Wire (including exothermic ground bonds): 700 linear feet.
 - 350 kCMIL Heavy Power Conductor: 540 linear feet.
 - #3/0 Wire: 1,965 linear feet.
 - #1 Wire: 425 linear feet.
 - #2 Wire: 560 linear feet.
 - #4 Wire: 30 linear feet.
 - #6 Wire: 1,160 linear feet.
 - #8 Wire: 30 linear feet.
 - #10 Wire: 2,765 linear feet.
 - #12 Wire: 6,350 linear feet.
 - #14 Wire: 7,550 linear feet.
 - **System Controls Integration:** Provide and program a sitewide controls-integration package configured to interface directly with the internal MBR instrumentation. Route field signals through 665 linear feet of shielded instrumentation cable, 840 linear feet of Category 6 (Cat6) Ethernet cable, and 990 linear feet of multi-mode fiber optic cabling back to the master Allen Bradley PLC.
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7. DETAILED TECHNICAL SPECIFICATIONS (ALTERNATIVE BID ITEMS)

7.1 Alternative Bid Item 1: Permeate Retention Pond

The Contractor shall provide all labor, materials, and specialized equipment to construct an intermediate overflow retention basin to capture non-compliant treated permeate during high-nitrogen breakthrough events.

- **Site Preparation:** Clear and grub 0.9 acres of land over the footprint of the redundant sludge drying beds. Excavate, load, and transport 1,625 tons of residual dried sludge and underlying contaminated filter sands off post to a certified disposal facility.
- **Earthwork and Basin Grading:** Execute 1,250 cubic yards of mechanical soil excavation to establish correct pond slopes and depths (p. 3). Perform structural grading across the entire basin floor and provide engineering soil preparation over 38.5 thousand square feet (msf) of subgrade surface. Compact 1,426 cubic yards of native structural soil to a minimum 90% relative compaction density.
- **Impermeable Liner System:** Purchase and install 38,500 square feet of a 40-mil thick high-density polyethylene (HDPE) membrane geomembrane liner. The geomembrane must be underlain by 4,278 square yards of an 8-oz cushion nonwoven geotextile fabric to prevent subgrade puncturing.
- **Pond Piping and Transfer Vault:** Install 193 linear feet of 6-inch diameter Stainless Steel (SS) process pipe to deliver overflow water from the MBR Clearwell to the basin. Construct a Permeate Retention Pond Pump Station Vault and an adjoining Pre-Cast Pump Station Manhole structure at the base of the pond embankment.
- **Pond Return Pumping Station:** Equip the precast station with two Permeate Pump Station Submersible Pumps, each carrying a 75 GPM capacity. Lay 125 linear feet of 4-inch diameter HDPE wastewater line to route returned permeate from the pond pumps back into the plant's primary Low Flow Wet Well.

7.2 Alternative Bid Item 2: MBR Canopy

The Contractor shall construct a heavy-duty, open-sided structural steel canopy shell directly over the 6,486 square feet reinforced concrete MBR pad to protect advanced instrumentation from environmental degradation.

- **Structural Steel Framing:** Erect a rigid structural steel frame utilizing the following precisely specified American Institute of Steel Construction (AISC) steel shapes and linear counts:
 - W12 x 53 Structural Steel Columns: 238 linear feet.
 - W10 x 19 Structural Girts and Purlins: 1,128 linear feet.
 - W21 x 55 Main Structural Rafter Beams: 406 linear feet.
 - MC10 x 8.4 Miscellaneous Steel Channels: 116 linear feet.
- **Roof Decking and Drainage:** Cover the structural frame with 8,178 square feet of industrial galvanized metal roof decking. Install 120 linear feet of matched perimeter box gutters to collect and route storm runoff to adjacent grade splash pads.

7.3 Alternative Bid Item 3: Sludge Handling Canopy

The Contractor shall construct an open-sided structural steel protective canopy directly over the 1,800 square foot concrete sludge processing pad.

- **Structural Steel Framing:** Erect a rigid structural steel frame utilizing the following structural steel shapes and linear counts:
 - HSS 7x7x3/8 Structural Hollow Structural Sections (Columns): 262 linear feet.
 - W10 x 19 Structural Framing Steel: 336 linear feet.
 - W10 x 26 Primary Roof Rafters: 118 linear feet.
 - MC10 x 8.4 Steel Channels: 256 linear feet.
- **Roof Decking and Drainage:** Install 1,907 square feet of galvanized metal roof decking fastened directly to the steel purlins. Provide 64 linear feet of matched perimeter box gutters to shed rainwater away from the secondary containment slab curbs.

7.4 Alternative Bid Item 4: Headworks Improvements and Sitewide Hardscape

The Contractor shall execute mechanical enhancements to the raw sewage influent channels and construct heavy-duty vehicular hardscape across the plant interior to facilitate tracking by heavy sludge extraction vehicles.

- **Mechanical Screen Wash Upgrades:** Purchase and install one specialized Headworks Screen Compactor and Wash Add-on system fitted directly onto the existing mechanical bar screen. The system must automatically wash fecal matter from screenings and compress solids prior to discharge.
 - **Headworks Controls:** Completely remove the old local controller and install a new, upgraded Headworks Control Panel wired directly into the sitewide Ethernet network. Provide one heavy-duty steel Screen Dumpster positioned beneath the compactor discharge chute.
 - **Dumpster Foundation Slab:** Construct a 144 square foot reinforced concrete pad (11.35-inch thick) adjacent to the screen channel to serve as the permanent Headworks Dumpster Concrete Slab.
 - **Interior Vehicular Access Drive:** Construct 5,230 square feet of a heavy-duty, 4-inch-thick structural concrete vehicle drive path capable of supporting recurring axle loading from heavy municipal haul trucks. Surround the concrete drive with 11,000 square feet of an all-weather aggregate gravel surface (4-inch-thick layer) to provide stabilization across all unpaved plant interior areas.
 - **Safety Bollards:** Install 21 industrial steel safety bollards (concrete-filled, 6-inch diameter) placed around the headworks channels, MBR tanks, and chemical racks to provide robust structural impact protection.
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8. DETAILED CHEMICAL FEED INSTRUMENTATION LIST (BASE BID)

The chemical dosing loops are integrated directly into the MBR package plant to manage pH correction, membrane maintenance clean-in-place cycles, and biological phosphorus control. All pumps must be industrial-grade, positive displacement, variable-speed diaphragm metering pumps controlled via 4-20mA pacing from the master PLC.

- **Citric Acid Dosing System (Membrane Maintenance Cleaning):**
 - *Application:* Controls inorganic scaling on the Fiber plate membrane modules.

- *Chemical Feed Pump*: Duplex, motor-driven metering pump with a PVDF head and PTFE diaphragm, rated for 0 to 15 GPH at 60 PSI.
- *Control Pacing*: Manual batch start from the PLC with an automatic timer shutdown.
- *Storage Tank Level Transmitter*: Ultrasonic level sensor with a PVDF body and a 4-20mA output with loop-powered display.
- *Dosing Inline Flow Sensor*: Magnetic inductive micro-flowmeter with a PEEK lining and a pulse output to the PLC.
- *Pressure Safety Valve*: Teflon-body backpressure and relief valve set to lift at 75 PSI.
- **Sodium Hypochlorite Dosing System (Membrane Recovery Cleaning):**
 - *Application*: Removes organic fouling and bio-film structural barriers from the membrane chambers.
 - *Chemical Feed Pump*: Duplex, peristaltic or degassing diaphragm pump with PVC fittings and Neoprene tubing, rated for 0 to 20 GPH at 50 PSI.
 - *Control Pacing*: Automated Maintenance Wash cycle or manual clean-in-place override from the central console.
 - *Storage Tank Level Transmitter*: Continuous hydrostatic pressure transmitter with a Hastelloy-C sensor tip and a 4-20mA loop.
 - *Calibration Column*: 1,000 mL clear PVC graduated cylinder with integrated isolation ball valves.
- **Micro-Carbon Dosing Loop (Denitrification Optimization):**
 - *Application*: Feeds supplementary organic carbon to Anoxic Tank A/B when raw wastewater biological oxygen demand drops below modeling limits.
 - *Chemical Feed Pump*: High-precision mechanical diaphragm dosing pump with VFD pacing, rated for 0 to 5 GPH at 30 PSI.
 - *Control Pacing*: Proportional feed loop linked to the downstream inline Nitrate analyzer.

- *Storage Tank Level Transmitter:* Guided wave radar level sensor with a 316 Stainless Steel rod and explosion-proof housing.
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9. COMMISSIONING AND STARTUP PROTOCOLS (BASE BID)

9.1 Phase I: Factory Acceptance Testing & Structural Dry Commissioning

1. **Off-site Hydrostatic Testing:** The manufacturer must fill all completed process tanks with clean water at the factory for a minimum of 24 hours to certify zero weld or structural joint leakage prior to shipment.
2. **Dry Loop Inspections:** Following on-site reconstruction, the contractor must perform dry electrical checks on all installation components. Verify proper motor rotation for all air blowers, permeate extraction pumps, and sludge transfer units.
3. **Liner Integrity Evaluation:** If Alternative Bid Item 1 is awarded, an independent third-party quality assurance inspector must perform a continuous spark-test or non-destructive air-lance validation on 100% of the 40-mil high-density polyethylene pond geomembrane field seams to certify a leak-free basin.
4. **Conduit Continuity Calibration:** Megger-test all new 480V service runs from the 1200A main switchboard. Verify instrument loop calibrations across all float switches and level transmitters using a field signal generator to validate 4mA, 12mA, and 20mA reference points.

9.2 Phase II: Wet Commissioning & Clean Water Testing

1. **Hydraulic Stress Testing:** Fill the Low Flow Wet Well, the reconfigured 500,000-gallon Equalization Tank, and the MBR core chambers with clean water. Run the 250 GPM MBR feed pumps continuously for 8 hours to evaluate pipe hydraulics, valve sealing, and structural vibration thresholds.

2. **Membrane Permeability Profiling:** Run the extraction vacuum cycle on clean water. Record the baseline Transmembrane Pressure to establish initial performance values for clean conditions.
3. **Aeration Basin D.O. Profile Verification:** Activate micro-bubble air diffusers and check automated cyclic aeration control logic. Verify that dissolved oxygen levels adjust properly to satisfy simultaneous nitrification and denitrification parameters.
4. **Automatic Diversion Check:** Simulate a high total nitrogen breakthrough by injecting an index spike upstream of the inline analyzers. Confirm that the automated control panel closes the final effluent discharge valve and activates the diversion loop to move non-compliant permeate directly into the 850,000-gallon retention pond if awarded.

9.3 Phase III: Biological Seeding & Steady-State Stabilization

1. **Biomass Inoculation:** Transport and seed the bioreactor with active mixed liquor suspended solids from an approved local nitrification/denitrification treatment facility. Target an initial baseline concentration of 4,000 to 5,000 mg/L.
 2. **Low-Flow Adaptation Profile:** Run the system in Low Flow Configuration using a single anoxic-aerobic loop. Recirculate clearwell flows continuously to sustain biological populations without starving the microbes during low-occupancy periods.
 3. **Full Plant Configuration Scaling:** Over a step-by-step 72-hour window, introduce actual raw wastewater from the storage equalization pool to ramp up biomass concentration. Gradually scale the target Mixed Liquor Suspended Solids concentration up to its full operating range of 8,000 to 12,000 mg/L.
 4. **Performance Run Window:** The system must complete a 14-day continuous run treating actual base influent without process failures. Collect weekly grab samples to confirm that all 30-day average permit requirements are fully achieved before final handover.
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10. BASE-WIDE SCADA TELEMETRY COMMUNICATION TAGS (BASE BID)

The system parameters must compile via standard Ethernet/IP into the master Allen Bradley ControlLogix PLC. The following tag naming convention applies directly to the interface shared over the base-wide multi-mode fiber backhaul:

10.1 Analog Telemetry Inputs (Read Only)

- CR_WWTP_HW_FIT001_VAL | Data Type: REAL | Units: GPM | Desc: Headworks Parshall Flume Flow Rate
- CR_WWTP_EQ_LIT201_VAL | Data Type: REAL | Units: FEET | Desc: Repurposed Secondary Clarifier Level
- CR_WWTP_MBR_TMP301_VAL | Data Type: REAL | Units: PSI | Desc: Membrane Train A Transmembrane Pressure
- CR_WWTP_MBR_DO302_VAL | Data Type: REAL | Units: MG_L | Desc: Aeration Tank B Dissolved Oxygen Level
- CR_WWTP_MBR_MLSS303_VAL | Data Type: REAL | Units: MG_L | Desc: Bioreactor Suspended Solids Probe
- CR_WWTP_EFF_NITRAT401_VAL | Data Type: REAL | Units: MG_L | Desc: Effluent Nitrate (NO₃-N) Analyzer Value
- CR_WWTP_EFF_AMMONI402_VAL | Data Type: REAL | Units: MG_L | Desc: Effluent Ammonia (NH₃-N) Analyzer Value
- CR_WWTP_POND_LIT501_VAL | Data Type: REAL | Units: FEET | Desc: Permeate Retention Pond Volume Hydrostatic Level (Active only if Alternative Bid Item 1 is awarded)

10.2 Digital Command Bits (Read/Write)

- CR_WWTP_SP2_CMD_STRT | Data Type: BOOL | Units: 0/1 | Desc: Remote Start Command Input - EQ Pump SP-2
- CR_WWTP_SP3_CMD_STRT | Data Type: BOOL | Units: 0/1 | Desc: Remote Start Command Input - EQ Pump SP-3

- **CR_WWTP_MBR_CONFIG_SEL** | Data Type: INT | Units: INDEX | Desc: Configuration Mode Select (1=Low Flow, 2=Full Plant)
- **CR_WWTP_DIV_VALVE_RECIRC** | Data Type: BOOL | Units: 0/1 | Desc: Force Automated Permeate Recirculation Loop Mode

10.3 Status Indications (Read Only)

- **CR_WWTP_SP1_STAT_RUN** | Data Type: BOOL | Units: 0/1 | Desc: LFWW Pump SP-1 Operational Run Status
- **CR_WWTP_MBR_BLWR_STAT** | Data Type: BOOL | Units: 0/1 | Desc: Air Sparge Compressor Running Indication
- **CR_WWTP_MTS_SOURCE_STAT** | Data Type: BOOL | Units: 0/1 | Desc: Manual Transfer Power State (0=Utility, 1=Generator)
- **CR_WWTP_PLC_COMM_OK** | Data Type: BOOL | Units: 0/1 | Desc: Allen Bradley Network Heartbeat Status Bit

10.4 Critical Alarm Bits (High-Priority Telemetry)

- **CR_WWTP_EQ_LIT201_HIGH** | Data Type: BOOL | Units: 0/1 | Desc: Equalization Tank Spillway Level Critical Warning
- **CR_WWTP_MBR_TMP_HIGH** | Data Type: BOOL | Units: 0/1 | Desc: Transmembrane Pressure High - Cleaning Cycle Required
- **CR_WWTP_EFF_TN_EXCEED** | Data Type: BOOL | Units: 0/1 | Desc: Effluent Total Nitrogen WDR Permit Compliance Fault
- **CR_WWTP_POND_LIT501_HIGH** | Data Type: BOOL | Units: 0/1 | Desc: Permeate Retention Basin Critical Capacity Alarm (Active only if Alternative Bid Item 1 is awarded)

11. SITE EXECUTION, UTILITIES, AND CONDITIONS

11.1 Site Verification & Damage Liability

- **Pre-Work Inspection:** The Contractor shall verify that surfaces and site conditions are ready to receive work before installation begins. Field verify all dimensions and conditions, reporting discrepancies to the Project Manager before starting construction.
- **Utility Awareness:** The Contractor is responsible for identifying and familiarizing themselves with all surface utilities, pipes, and structures within the Limits of Construction. Any damage to existing utilities or adjacent structures caused during execution must be repaired or restored to original condition at the Contractor's sole expense.
- **Obstruction Discovery:** The Contractor must not willfully proceed with construction when unknown physical obstructions or design differences are discovered. Bring these conditions to the Project Manager's attention immediately. Failure to notify the Project Manager transfers full financial responsibility for subsequent revisions to the Contractor.

11.2 Inspection Milestones

Schedule and coordinate progress inspections with the Construction Manager at the following critical milestones:

1. Commencement of work (Work-in-progress inspection)
2. 50% project completion
3. Final completion (To certify that materials and installation comply in all respects with specifications, manufacturer instructions, and Federal, State, and Local regulations).

11.3 Workmanship & Supervision Quality

- **Crew Competency:** All work shall be accomplished with a foreman, journeymen, and laborers who are thoroughly skilled in the application of specified materials, fulfilling all requirements of the drawings and specifications.
- **Site Supervision:** The Contractor must maintain an English-speaking, competent foreman on-site continuously to supervise the work. This individual

must possess direct authority to discard unsuitable materials and remove unsatisfactory personnel from the project. This requirement must be certified to the Officer Representative in writing.

- **Design Intent Modifications:** Minor field modifications to details may be required to suit actual dimensions or field conditions. These modifications are considered a basic part of the contract scope but require immediate notification to all parties.

11.4 Materials Delivery, Storage, and Handling

- **Delivery Standards:** Deliver all materials to the job site in the manufacturer's original, unopened containers with seals and labels intact. Labels must clearly indicate the catalog number, product description, and approved inspection agency markings. Delivery in quantities is sufficient to ensure uninterrupted workflow.
- **Storage Environment:** Keep materials clean and protected from excessive heat, cold, and moisture. Store all materials within an enclosed area maintained between 50°F and 90°F, unless otherwise specified by the manufacturer. Do not tear off protective coverings or labels until materials are ready for application and have been inspected by the Project Manager.
- **Ground Isolation:** Materials shall not be stored directly on the ground or on improved, uninsulated bare surfaces.
- **Weather Restrictions:** Do not apply materials during unsuitable weather or outside the ambient temperature window mandated by the manufacturer. Do not expose water- or sun-vulnerable materials in quantities greater than can be completely weatherproofed within the same workday.
- **Material Sourcing:** All materials and equipment must be new and must strictly comply with the Buy American Act unless otherwise noted.

12. QUALITY ASSURANCE & DEFICIENCY TRACKING

- **Inspection Emphasis:** Field inspections will be performed regularly, with strict emphasis placed on verifying adherence to the manufacturer's installation requirements.
 - **Deficiency Correction Timeline:** Deficiencies identified during field inspections shall be corrected by the Contractor within two (2) working days of notification. All corrected actions will be re-evaluated and verified during the Final Inspection.
 - **Attendance Notice:** Formal notification to all concerned parties must be received not less than one (1) business day prior to any required on-site attendance or milestone inspection.
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13. DAILY CLEANUP & DISPOSITION OF MATERIALS

13.1 End-of-Day Site Cleanliness

- **Daily Clean Up:** The Contractor shall clean up all debris and discarded materials resulting from daily construction operations prior to the completion of each workday.
- **Broom Clean Standards:** Progress paths, walkways, and exterior surfaces adjacent to the premises used during construction must be left broom clean daily.
- **Adhesive Removal:** Remove all product stickers, manufacturing glues, and protective adhesives, and clean all surfaces completely prior to final project acceptance.

13.2 Material Disposition and Handling

- **Regulatory Handling:** All construction debris and hazardous waste must be handled, transported, and disposed of in accordance with all applicable

Federal, State, and Local regulations. Materials must be placed in proper containers and trucked off-site to an approved landfill or processing facility.

- **Logistics Costs:** The Contractor shall make their own financial and logistical arrangements for the disposal of debris away from Camp Roberts at their own expense, assuming total responsibility for proper disposal.
 - **Thoroughfare Clearance:** Debris must be removed from the project site daily. At no time shall construction waste be allowed to block or restrict any thoroughfare. The premises must be cleaned to the complete satisfaction of the Project Manager.
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14. BASE LOGISTICS, HOURS, AND SECURITY REGULATIONS

14.1 Hours of Operation

- **Standard Shift:** All on-site contract work must be performed between 7:00 AM and 3:30 PM, Monday through Friday, excluding federal and state holidays. Any work outside these hours requires explicit, advance approval from the Project Manager.

14.2 Pre-Construction Conference

- **Timing:** A mandatory pre-construction conference must convene at least 5 working days prior to the commencement of work.
- **Agenda:** The meeting will review preparation requirements, installation procedures, coordination schedules, potential interference conditions, and finalize all base personnel security clearance issues.

14.3 Base Access & Gate Clearance

- **Clearance Submission:** The Contractor, employees, and subcontractors must be vetted and cleared prior to base entry. Provide the Project Manager with the legal names of

all personnel requiring entry at least 3 days prior to arrival for security clearance and approval.

- **Gate Delays:** Delays at vehicle or pedestrian check-in gates are common due to strict security procedures. Any loss of time resulting from gate checks shall be borne entirely by the Contractor.
- **Main Entrance:** All personnel and vehicles must enter through the main facility entrance unless directed otherwise by the entrance gate officer or Contract Manager.
- **Vehicle & ID Requirements:** To obtain entry, personnel must present a current vehicle registration, proof of valid vehicle insurance, and an approved state-issued REAL ID Driver's License or a valid U.S. Passport.

14.4 Site Security & Searches

- **Searches & Access:** To maintain base safety and security, periodic fire prevention inspections and site searches may be executed. The Contractor must furnish facility authorities with keys to access all locked areas within the worksite.
 - **Loss Liability:** The State and the Government shall not be held responsible for any losses incurred by the Contractor due to fire or security inspections. All personnel must strictly observe base security rules and comply immediately with instructions from facility authorities.
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15. SAFETY & ENVIRONMENTAL REQUIREMENTS

15.1 Accident Prevention & Records

- **Safety Controls:** To provide safety controls for the protection of life and health of employees and the public, for the prevention of damage to property and equipment, and to avoid work interruptions, the Contractor shall comply with all applicable OSHA laws.

- **Record Keeping:** The Contractor shall maintain an accurate record of exposure data and all accidents resulting in death, traumatic injury, occupational disease, and property or equipment damage incident to work performed under this contract.
- **Record Sharing:** Provide an exact copy of these records to the Project Manager within 24 hours of request at any time during the contract duration and its subsequent warranty period.
- **Accident Reporting:** Complete Form 3394 and submit it to the Project Manager within three (3) calendar days of any accident involving personal injury or property damage.

15.2 Industry Safety Compliance

- **OSHA Standards:** Safety standards set forth by OSHA and CAL-OSHA shall be stringently maintained and followed by the Contractor, subcontractors, and work crews always.
- **Fire Prevention:** The Contractor shall comply with all provisions of the California Fire Code (Current Edition).
- **Responsibility:** The Contractor maintains sole and complete responsibility for safety precautions and procedures during construction. Report any non-compliance within these specifications or manufacturing installation procedures to the Project Manager prior to beginning work.

15.3 Pollution Abatement

- **Environmental Laws:** The Contractor shall comply with all Federal, State, and Local environmental laws and regulations.
- **Government Protection:** The Contractor shall strictly avoid any disposal or deployment practices that will place the Government or Military Department in a controversial position with Local, State, or Federal environmental regulatory agencies.

16. PROJECT CLOSEOUT, WARRANTIES, & INVOICING

16.1 Comprehensive Warranties

- **Contractor Labor & Material Warranty:** Provide a two (2) year combined labor and material warranty. This covers all workmanship, materials, and installer

labor required to repair or replace any failing or defective components at zero cost to the Government.

- **Material Warranty:** Provide the standard manufacturer's product warranty certificates as outlined in the system specifications (including 2 years of factory performance certification on the MBR membranes and an additional 24-month extended equipment warranty).

14.2 Closeout Packet Delivery

Upon successful project completion, the Contractor must turn over an organized closeout packet to the Project Manager before final acceptance. This packet must include:

- Certificate of Occupancy.
- Completed lien waivers.
- Handbooks, operating manuals, keys, and up-to-date construction logs.
- Third-party clearance certifications confirming the facility is 100% free of lead and asbestos materials.
- Third-party quality assurance inspector certifications verifying the installation and testing of the pond liner system if awarded.
- Signed hazardous waste disposal manifests and weigh master receipts.

14.3 Invoicing & Billing Terms

- **Submission Protocol:** All invoices must be submitted directly to the Project Manager and the Contract Manager for verification before they can be processed for payment by the Military Department.
- **Billing Frequency:** Invoices may only be submitted once a month (Every 30 Calendar Days).
- **Completion Milestone:** The Contractor is only permitted to bill for work that is fully completed and verified at the time of invoice submission. No advanced billing for uncompleted milestones is permitted.

END OF SCOPE OF WORK

