SECTION 01200

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Measurement Authority

B. Unit Quantities Specified

C. Schedule of Contract Items

D. Payment

E. Defect Assessment

F. Non-Payment for Rejected Work

1.2 MEASUREMENT AUTHORITY

A. Measurement: The Owner will take all measurements and compute quantities accordingly.

B. Assistance: Assistance to the Owner in the form of necessary equipment, and qualified personnel shall be provided by the Contractor as required for taking measurements.

1.3 UNIT QUANTITIES SPECIFIED

A. Quantities: Quantities and measurements indicated in the Bid Form are for bidding and contract purposes only. Quantities and measurements supplied or placed in the Work and verified by the Engineer and recorded in his daily report shall determine the payment.

B. Actual Work: If the actual Work requires more or fewer quantities than those quantities indicated, the required quantities shall be provided at the unit prices contracted.

C. Units of Work: The intention of the unit prices is to provide a complete, functioning unit which may include Work from several Specification Sections. All the Work which is required or which can reasonably be inferred to be required in a unit price item to deliver a complete, functioning unit shall be included.

1.4 DEFINITION OF BID ITEMS

A. “Lump Sum”: The price bid for each Lump Sum Contract Item shall include all costs in connection with the proper and successful completion of the Work, including furnishing all materials, equipment, supplies and appurtenances; providing all construction plant equipment and tools; and performing all necessary labor and supervision and training to fully complete the Work. All Work not specifically set forth as a Contract item in the Bid Form shall be considered a subsidiary obligation of the Contractor and all costs in connection therewith shall be included in the prices bid.

B. “Bid Allowance”: Contract Items in the Bid Form that are designated “Bid Allowance” cover certain items of work that will be paid for separately from other Contract items. Payment will be made to the Contractor by the Owner for actual costs invoiced to the Contractor for services plus allowable contract mark-ups, and other items selected by the Owner as

defined herein and under each Bid Allowance item. A change order may be issued for the work associated with each Bid Allowance item to adjust the contract amount based on the difference between the actual costs and the Bid Allowance amount. Contractor shall submit original invoices from suppliers to support requests for payment for all bid allowance items.

C. “Contingent Contract Item”: The purpose of Contract Items in the Bid Form that are designated “Contingent Contract Item” is to establish unit prices for work not included in other bid items that is (a) ordered by the Engineer beyond the lines and grades shown on the Drawings or (b) indicated for payment on a unit price basis. No payment shall be made under any Contingent Contract Item for work performed by the Contractor for his own convenience or due to his negligence in executing the Work. Work under Contingent Contract Items shall be performed only as and when ordered by the Engineer. The Engineer has the right to order that contingent work be provided in smaller or larger quantities than the estimated quantity indicated in the Bid Form. The Contractor shall not have any right to demand payment for, and will not be paid for, any costs associated with the item, including but not limited to overhead and profit, due to the fact that the item was not used in the Work or was used in smaller or larger quantities than those indicated in the Bid Form. The Contract Sum will be subject to adjustment according to final measured quantities and the unit prices in the Bid will apply to such final quantities.

D. “Bid Option”: Contract Items in the Bid Form that are designated “Bid Option” cover certain items that may or may not be selected by the Owner for construction. If a bid alternative is selected by the Owner, the lump sum price bid for that Contract Item will be included in the Contract Sum. The Contractor shall not have any right to demand payment for, and will not be paid for, any costs associated with the item, including but not limited to overhead and profit, due to the fact that the item was not selected by the Owner for construction.

1.5 ALLOWANCE REQUIREMENTS

A. At the earliest feasible date after Contract Award, advise the Owner of the date when the final selection and purchase of each product or system described by an allowance must be completed in order to avoid delay in performance of the Work.

1. When requested by the Owner, obtain a minimum of three proposals for each allowance for use in making final selections; include recommendations that are relevant to performance of the Work.

2. Purchase products and systems as selected by the Owner from the designated supplier.

B. Submit proposals for purchase of products or systems included in allowances in the form specified for Change Order.

C. Submit invoices or delivery slips to indicate actual quantities of materials delivered to the site for use in fulfillment of each allowance.

D. Inspect products covered by an allowance promptly upon delivery for damage or defects.

E. Coordinate materials and their installation for each allowance with related materials and installation to ensure that each allowance item is completely integrated and interfaced with related construction activities.

1.6 SCHEDULE OF CONTRACT ITEMS

A. Base Bid

1. Contract Item 1 (Lump Sum): All Work to Complete Project P0631A Division 035, “Rehabilitation and Repainting of Gum Springs Reservoir No. 1,” except that included in Contract Items 2 through 10.

2. Contract Item 2 (Contingent Contract Item) Repair Welding:

After the initial abrasive blast cleaning, any pits defined for pit welding by the ENGINEER shall be repaired by welding. All areas of apparent seam deterioration shall be initially abrasive blast cleaned, and any seam corrosion or undercut defined by the ENGINEER shall be repaired by arc-gouging or grinding the deteriorated weld seam (if determined necessary by the ENGINEER) and welding. The number of man-hours of repair welding shall be paid for by the unit price per man-hour listed on the Bid Form.

3. Contract Item 3 (Contingent Contract Item) Pit Filling and Surfacing:

After the specified surface preparation, any pits, rough areas or seams defined for pit filling or surfacing by the ENGINEER shall be filled with solventless polyamide epoxy seam sealer of the type recommended by the supplier of the interior paint system. The epoxy seam sealer shall be applied neatly and smoothly to the steel surfaces and any rough areas of the seam sealer shall be sanded smooth prior to the application of the coating system. Costs for all labor, equipment, supplies, rigging, and other associated costs for application of the solventless polyamide epoxy seam sealer shall be included in the unit price per gallon. The number of gallons of pit filling shall be paid for by the unit price per gallon listed on the Bid Form.

4. Contract Item 4 (Contingent Contract Item) Interior Chipping and/or Grinding:

Any existing irregular surfaces defined by the ENGINEER, including but not limited to surface protrusions, burrs, fitting scars, sharp edges or corners, weld spatter, weld overlap and rough weld beads shall be removed from all interior surfaces of the tank, including appurtenances, by chipping and/or grinding these irregular surfaces to a smooth curve. The protruding parts of lugs or brackets shall be removed and ground flush. The objective of chipping and/or grinding is to eliminate irregular surfaces to provide a surface that is sufficiently smooth for the application of a uniform thickness coating without voids and free from defects. This chipping and/or grinding is also intended to make it easier for the interior coating to pass the holiday test. The number of chipping and/or grinding man-hours on the tank interior shall be paid for by the unit price per man-hour listed on the Bid Form.

5. Contract Item 5 (Contingent Contract Item) Roof Patch Plates:

After the initial abrasive blast cleaning, any length of holes or metal loss in the roof plates defined for patch plating by the FIELD OBSERVER shall be repaired by removal of the area of metal loss and covering the area with a 1/4 in. thick welded steel patch plate. Any areas of extensive metal loss or holes identified by the CONTRACTOR and agreed to by the FIELD OBSERVER shall be cut out and the edges of the hole shall be ground smooth prior to installation of the patch plate. No patch plate shall be smaller than 6 in. in diameter. Edges of the patch plate

shall lap no less than 2 in. from the edge of a hole. Corners on the patch plate shall be rounded to 2 in. radius minimum or the plates shall be circular. All exposed edges of the patch plates shall be ground to 1/16 in. radius minimum. The plates shall be installed in accordance with API 653. Patch plates shall be a minimum of 3 in. from existing weld seams, or if an existing weld seam must be overlapped the patch plate shall be rectangular with radiused corners and extend a minimum of 6 in. beyond the existing weld seam. The patch plate shall be welded to the roof plate on the exterior only with continuous fillet welds all around. All welds shall be multi-pass welds. Note the tank steel is likely to be thin in the areas of the patch plates, and as such attachment welds and the weld procedures (e.g., electrode size and heat input) should account for this likelihood. The cost of removal of roof plate section of metal loss, grinding of hole edges, and furnishing and installing patch plate, including material cost, and welding shall be paid for by the unit price per linear foot of patch plate listed on the Bid Form. The linear foot unit price shall be based on an 8 in. wide area of roof plate removed and a 12 in. wide patch plate installed to cover the area.

6. Contract Item 6 (Contingent Contract Item) Roof Structure Bolts:

   After the initial abrasive blast cleaning of the interior, the CONTRACTOR shall replace any bolts and nuts, defined for replacement by the FIELD OBSERVER, in kind. The bolts are approximately 3/4 in. diameter. The size of the bolts shall be verified by the CONTRACTOR in the field prior to ordering. Washers shall be provided on each side of the bolt. The cost for replacing a bolt and the associated nut and washers shall be paid for by the unit price per bolt listed on the Bid Form.

7. Contract Item 7 (Contingent Contract Item) Rafter Bracing Replacement:

   After the initial abrasive blast cleaning of the interior, the roof rafter braces shall be evaluated, and those rafter braces which are deteriorated or bowed as defined by the OWNER and ENGINEER shall be replaced in kind. The existing rafter braces are approximately 4 in. x 2 in., channels. CONTRACTOR shall verify size prior to ordering. The rafter braces shall be abrasive blast cleaned to SSPC-SP10 and primed prior to installation and shall then be coated in accordance with the interior coating specifications. The sequence and performance of this repair shall be such that the structural integrity of the roof is not compromised. The cost for roof rafter bracing replacement shall be paid for by the unit price per rafter listed on the Bid Form.

8. Contract Item 8 (Contingent Contract Item) Main Roof Rafter Replacement:

   After the initial abrasive blast cleaning of the interior, the main roof rafters that extend from the center hub to the shell shall be evaluated, and those rafters which are deteriorated or bowed as defined by the OWNER and ENGINEER shall be replaced in kind. The existing main rafters are approximately 14 in. x 6-3/4 in., I-beams. CONTRACTOR shall verify size prior to ordering. The rafters shall be abrasive blast cleaned to SSPC-SP10 and primed prior to installation and shall then be coated in accordance with the interior coating specifications. The sequence and performance of this repair shall be such that the structural integrity of the roof is not compromised. The cost for main roof rafter replacement shall be paid for by the unit price per rafter listed on the Bid Form.

9. Contract Item 9 (Contingent Contract Item) Outer Roof Rafter Replacement:

After the initial abrasive blast cleaning of the interior, the outer roof rafters that extend from the circumferential girder to the shell shall be evaluated, and those rafters which are deteriorated or bowed as defined by the OWNER and ENGINEER shall be replaced in kind. The existing outer rafters are approximately 10 in. x 4 in., I-beams. CONTRACTOR shall verify size prior to ordering. The rafters shall be abrasive blast cleaned to SSPC-SP10 and primed prior to installation and shall then be coated in accordance with the interior coating specifications. The sequence and performance of this repair shall be such that the structural integrity of the roof is not compromised. The cost for outer roof rafter replacement shall be paid for by the unit price per rafter listed on the Bid Form.

10. Contract Item 10 (Contingent Contract Item) Center Hub Bracing Replacement:

After the initial abrasive blast cleaning of the interior, the CONTRACTOR shall temporarily support the center hub, the center hub braces shall be evaluated, and those center hub braces which are deteriorated as defined by the OWNER and ENGINEER shall be replaced in kind. The existing center hub braces are approximately 2-1/2 in. x 2-1/2 in. x 1/4 in., angles. CONTRACTOR shall verify size prior to ordering. The center hub braces shall be abrasive blast cleaned to SSPC-SP10 and primed prior to installation and shall then be coated in accordance with the interior coating specifications. The sequence and performance of this repair shall be such that the structural integrity of the roof is not compromised. The cost for center hub bracing replacement shall be paid for by the unit price per brace listed on the Bid Form.

11. Contract Item 11 (Bid Allowance) for Structure Repairs:

a. It is believed that these Specifications adequately describe the Work to be performed. If during the Work, it is found that additional work is required and it is authorized in writing by the OWNER, this Work shall be paid for under the bid allowance, including all welding, equipment, rigging, labor, supplies, overhead, insurance, and profit.

12. Contract Item 12 (Contingent Contract Item) Second Anniversary Inspection:

a. All costs associated with the Second Anniversary Inspection, including the wash-out and disinfection, shall be paid for by the lump sum listed on the Bid Form.

1.7 PAYMENT

A. Payment Includes: Full compensation for all required labor, products tools, equipment, plant, transportation, services and incidentals; erection or application of an Item of the Works, overhead and profit.

B. Final Payment: Final Payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities accepted by the Engineer multiplied by the unit price for the Work which is incorporated in or made necessary by the Work.

1.8 DEFECT ASSESSMENT

A. Replace the Work, or portions of the Work, not conforming to the specified requirements.

B. If, in the opinion of the Engineer, it is not practical to remove and replace the Work, the Engineer will direct that the defective Work may remain or be partially replaced and the price will be adjusted to a new price at the discretion of the Owner.

1.9 NON-PAYMENT FOR REJECTED PRODUCTS

A. Payment will not be made for any of the following:

1. Products wasted or disposed of in a manner that is not acceptable.

2. Products determined as unacceptable before or after placement.

3. Products not completely unloaded from the vehicle.

4. Products placed beyond the lines and grades of the required Work.

5. Contractor supplied products remaining on hand after completion of the Work.

6. Loading, hauling and disposing of rejected Products.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION