DEPARTMENT OF TRANSPORTATION
DES-OE MS #43
1727 30TH Street, 2ND Floor
Sacramento, CA 95816

April 28, 2003

06-Kin-41,198-64.1/67.8, 14.0/14.6
06-467904

Addendum No. 2

Dear Contractor:

This addendum is being issued to the contract for Highway Planting on State highway in KINGS COUNTY IN AND NEAR LEMOORE ON ROUTE 41 FROM 0.3 KM SOUTH OF ROUTES 41/198 SEPARATION TO HANFORD/ARMONA ROAD AND ON ROUTE 198 FROM 0.3 KM WEST TO 0.3 KM EAST OF ROUTES 41/198 SEPARATION.

Submit bids for this work with the understanding and full consideration of this addendum. The revisions declared in this addendum are an essential part of the contract.

Bids for this work will be opened on May 7, 2003, instead of the original date of April 30, 2003.

This addendum is being issued to set a new bid opening as shown herein and to revise the Notice to Contractors and Special Provisions.

In the Special Provisions, Section 10-2.06, "BOOSTER PUMP" is added as attached.

To Proposal and Contract book holders:

Indicate receipt of this addendum by filling in the number of this addendum in the space provided on the signature page of the proposal.

Submit bids in the Proposal and Contract book you now possess. Holders who have already mailed their book will be contacted to arrange for the return of their book.

Inform subcontractors and suppliers as necessary.

This office is sending this addendum by confirmed facsimile to all book holders to ensure that each receives it.

If you are not a Proposal and Contract book holder, but request a book to bid on this project, you must comply with the requirements of this letter before submitting your bid.

Sincerely,

ORIGINAL SIGNED BY

REBECCA D. HARNAGEL, Chief
Office of Plans, Specifications & Estimates
Office Engineer

Attachment

10-2.06 BOOSTER PUMP

Booster pump system shall be installed in conformance with the details shown on the plans and these special provisions.

Booster pump system shall consist of a pump, motor, pump enclosure, foundation, pipe, fittings, and appurtenances necessary for the satisfactory operation of the booster pump. Service equipment and booster pump electrical equipment shall conform to the provisions in Section 10-3 of these special provisions. Incidental material or equipment not mentioned in these special provisions or shown on the plans, which may be necessary for completion and satisfactory operation of the booster pump systems, shall be furnished and installed.

In lieu of supplying the booster pump system as shown on the plans and specified herein, a pre-packaged booster pump and electrical equipment enclosure may be provided subject to the approval of the engineer. The electro-mechanical components shall be equal or better quality than those specified and shown on the plans and no additional components shall be permitted. Clearances shall be adequate to remove individual components.

MATERIALS LIST AND DRAWINGS

In conformance with the provisions in Section 5-1.02, "Plans and Working Drawings," of the Standard Specifications, the Contractor shall submit, within 15 days after approval of the contract, a list of materials which the Contractor proposes to install for the booster pump systems together with the drawings and other data as specified below:

A. The materials list shall be a complete listing of the manufacturer, catalog number, size, and capacity of the manufactured articles. There shall be a working drawing for each pump system showing the pump details, piping, and equipment as planned to be installed and for other materials to be fabricated for the installation. Directions for maintenance and adjustment of the pump shall be furnished to the Engineer as well as a manufacturer's performance characteristics curve diagram for the pump covering the range conforming to the provisions in "Pump Performance Requirements" of these special provisions. Prior to job close out an operation and maintenance manual shall be supplied to the engineer.

B. The data submitted shall be labeled with a descriptive title, project description and contract number of the project.

At least 5 copies of the data for the booster pump mechanical and electrical system shall be submitted for approval to the Division of Structure Design, Documents Unit, Fourth Floor, Mail Station 9-4/4I, 1801 30th Street Sacramento, California 95816, telephone (916) 227-8252, or the submittals shall be mailed to the Division of the Structure Design, Documents Unit, Mail Station 9, P.O. Box 942874, Sacramento, California 94274-0001.

The State shall not be liable for materials purchased or labor performed, prior to approval of the drawings and materials list, and will not be responsible for any delay to the Contractor pending review of the drawings and information submitted after the 15-day period mentioned.

PUMP PERFORMANCE REQUIREMENTS

The pumps shall deliver at least the pumping rates in liters per minute at the total head indicated on the plans and shall not over load the motors. Pumping head has been calculated to include 1.0 meters of head loss in the booster pump system. If a pre-packaged system is submitted that has a higher pressure loss associated with its piping system the additional head above 1.0 meters shall be added to the pump head requirements shown on the plans.

PUMP AND MOTOR

The pump shall be a single stage, horizontal, close coupled, end suction centrifugal pump with mechanical seal. The pump casing shall be close grained cast iron with a bronze wearing ring. The impeller shall be bronze, statically and dynamically balanced, keyed to the shaft, and held in place by a stainless steel washer and cap screw.

The motor shaft for the close coupled pumps shall be steel with bronze sleeve or stainless steel with no sleeve.

The pump and motor shall be mounted on the concrete foundation on at least 4 sets of tapered steel leveling wedges. Two wedges placed taper to taper shall be used at each point of support. The steel wedges shall remain in place in the completed work. After suction and discharge piping has been installed and tightened in place and the mounting bolt nuts have been tightened against the base, the voids within the base shall be completely filled with mortar. After the voids have been filled, the mounting bolt nuts shall be retightened.

The motor shall be totally enclosed fan cooled.

PIPE, JOINTS AND FITTINGS

Pipe, joints and fittings shall conform to the provisions in Section 74-2.04, "Pipe, Joints and Fittings," of the Standard Specifications, except that the amount of the zinc coating for galvanized steel pipe shall be a minimum of 90 percent of that specified in the requirements in ASTM Designation: A 120, standard weight. All pipe threads shall be coated with a zinc rich primer after fabrication.

Valves shall be the type shown on the plans and shall be Class 125 unless otherwise shown on the plans.

Ball valves shall be two piece, minimum 2760 kPa WOG, bronze body and chrome-plated or brass ball with full size port. Valve shall be Nibco Scott, T-580; Watts, B-6000; Kitz, 56; or equal.

FOUNDATIONS

Concrete for foundations and pads shall be minor concrete and shall contain not less than 325 kg of portland cement per cubic meter.

PRESSURE GAGES

Pressure gages shall be the dial type, shall be clear glycerin filled with a 65-mm minimum diameter weathertight epoxy case, and shall have an accuracy within 1 percent of the full scale reading. The pressure gage shall have both metric and English scales and have ranges of 0 kPa to 480 kPa, 0 psi to 70 psi; and 0 kPa to 1380 kPa, 0 psi to 200 psi on the intake and discharge sides of the pump, respectively.

PUMP ENCLOSURE

The pump enclosure shall be fabricated from 12 gauge cold rolled steel or marine grade aluminum. The enclosure shall be cleaned and painted with a two part epoxy paint and baked until thoroughly dried. Above ground accessories to the pumps, including valves and galvanized pipe, shall be painted with one application of commercial quality pre-treatment, vinyl wash primer and a minimum of one application of commercial quality fast drying exterior enamel.

The Contractor shall provide the primers and paints.

The pump enclosures shall each have a lockable, hinged lid with gas spring or equivalent lid supports. Select and install spring that will make full use of its entire stroke but not force it beyond its specified extended length.

PUMP CONTROL

The pump shall operate on a manual and an automatic mode of operation as follows:

A. The manual mode of operation shall start the pump motor by bypassing the irrigation controller pump start circuit.
B. The automatic mode of operation shall start the pump motor when an irrigation controller is in operation.
C. Both modes of operation shall keep the pump motor running should the flow of water fluctuate between the changing of stations.

TESTING

Once the entire system (mechanical, electrical, and irrigation components) has been completely installed, each booster pump system shall be tested for conformance with the operating instructions and performance specified herein. The materials and labor required for testing shall be provided by the contractor at his expense.

Before starting or operating any equipment/system, the system shall be flushed, cleaned, checked for proper installation, lubrication and servicing. Coordinate with all trades to verify that equipment/systems are ready for operational testing.

The Engineer shall be notified at least 72 hours in advance of starting the testing or retest of the booster pump system.

When permitted by the Engineer to operate the booster pump for irrigation, the booster pump system shall be operated for three complete irrigation cycles to demonstrate satisfactory operation. The test shall be conducted in the presence of the engineer. Adjust system components as needed during the test to obtain satisfactory operation.

The water shall be discharged in such a manner that it does not: cause erosion, interfere with ongoing work, create a hazard /nuisance , or damage equipment/systems/plantings.

The following information shall be recorded and submitted by the contractor for each test:

-System being tested
-Flow rate in liters per minute – from Remote Irrigation Control System flow sensor
-Water supply static pressure
-Suction and discharge pressures in kilopascals
-Percent of pump rated flow rate
-Current reading of the pump motor in amperes
-Voltage reading of the pump motor

Any equipment, system, or work found to be deficient during the test shall be repaired/replaced and then retested.

PAYMENT

Quantities of booster pumps will be measured by the unit as determined from actual count in place.

The contract unit price paid for booster pump shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in furnishing, installing and testing the booster pump complete in place, including foundations, pump enclosures, and excavation and backfill, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.