



**THE PORT
OF LOS ANGELES**
Executive Director's
Report to the
Board of Harbor Commissioners

DATE: DECEMBER 10, 2014

FROM: CONSTRUCTION AND MAINTENANCE

SUBJECT: RESOLUTION NO. _____ - AWARD OF CONTRACT NO. 39713 TO MACHINERY SALES CO. FOR THE PURCHASE OF A WATERJET CUTTING MACHINE

SUMMARY:

The Construction and Maintenance Division (C&M) requests the approval of Contract No. 39713 with Machinery Sales Co. of City of Industry, California, for the purchase and delivery of a waterjet cutting machine for an amount not to exceed \$204,795 including tax and shipping charges. The waterjet is a computer-operated machine that uses high-pressure water with the induction of sand as a cutting media and can cut a wide range of materials – from metals and composites to glass and plastics. It will be used by the C&M Machine/Vessel Repair, Sheet Metal, and Welding Sections to easily and with repeated perfection cut edges and sides for parts in the repair and upgrade of City of Los Angeles Harbor Department (Harbor Department) vessels, equipment and terminal infrastructure. This contract is the financial responsibility of the Harbor Department.

RECOMMENDATION:

It is recommended that the Board of Harbor Commissioners (Board):

1. Approve Contract No. 39713 with Machinery Sales Co. for the purchase and delivery of a waterjet cutting machine in an amount not to exceed \$204,795 and authorize said expenditures;
2. Authorize the Executive Director to execute Contract No. 39713; and
3. Adopt Resolution No. _____ .

DISCUSSION:

Background/Context – In the last several years, C&M has been tasked with maintaining, repairing and upgrading a growing number of vessels and other large equipment, as well as critical terminal infrastructure. Staff most responsible for performing this work is in the Machine/Vessel Repair Section, also known as the Machine Shop, the Sheet Metal Shop, and the Welding Shop. The assigned work for the Machine Shop includes a wide array of tasks including maintaining the Port Pilot boats, Port Police patrol boats, Maritime Law Enforcement Training Center (MLETC) boats and all other Harbor Department marine assets. The Machine Shop also assists other C&M sections with facility repairs and upgrades. The Sheet Metal Shop creates parts for heating, ventilation, and air conditioning (HVAC) duct systems, roof flashing, and other metal

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structures. The Welding Shop performs rough cut-outs of metal components at terminals and other facilities.

The Machine Shop uses a variety of tools to perform their work including a CNC (computer numerical control) machining center, conventional mills, lathes, drill presses and grinders. These tools allow them to fabricate parts and perform precision machining. The Sheet Metal Shop uses shears, notchers, and punches to complete their cutting work. The Welding Shop uses hand-held plasma cutters, hand-held oxyacetylene torches and grinders to perform their rough fabrication work.

C&M does not currently possess a waterjet. The Machine Shop currently uses a pantograph, along with a track-feed torch-cutting machine. This involves manufacturing a template in the exact shape of the part being made, and being able to cut only in a straight line one line at a time.

With the new waterjet cutting machine (Transmittal 1) that is being requested as part of Contract No. 39713, staff will be able to create a computerized pattern in minutes, save it, modify it, and then cut in lines or circles using computer controls. Since the waterjet cutting machine is a complete software-controlled multi-axis cutting head with a cutting range of zero to 60 degrees, it can easily cut beveled edges and angled sides, and using the included software, it can compensate for tapering and create 3D shapes. With such accuracy, it is capable of cutting parts that require no additional finishing. This will significantly reduce part production time. C&M will use this machine as much as twice per week on average, and every day during major re-powering projects.

The waterjet has become a standard tool for professional machine shops, and is in use at the Los Angeles Department of Water and Power (LADWP). Staff there has seen an increase in their productivity with dramatic reductions in cutting times. The waterjet cutting machine being purchased is made in the United States and has a life span of approximately 20 years.

Waterjet Capabilities - The Machine Shop was recently tasked with cutting out a complex-shaped metal piece for another C&M section. In order to complete this request, the Sheet Metal Shop had to shear the material to a smaller configuration to fit the current machine. Then the Machine Shop had to create fixtures to hold the blank piece of metal in place, and then proceed to cut the shape out of that.

With a waterjet machine, the Sheet Metal Shop could have given the Machine Shop the full sheets of raw material and saved time by not making blanks or the needed 'hold-down' fixtures. With the full sheet of material placed on the waterjet, the part would have been nested (or placed in a way that maximizes the available space) on the full sheet to increase yield, and then the shape is cut out. This process saves material by nesting the part (no additional time is needed to nest the parts because it is done by the machine's computer), and saves the time of making blanks and fabricating 'hold-down' fixtures.

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The completed machining time was over 12 minutes for each created piece. The cut time on the waterjet will be approximately 2.5 minutes. The project need was for 120 pieces, so instead of a 24 hour process, it would have been reduced to just five hours. Using the FY 2014-15 costs of a Machinist position, this \$1,562 project would have cost just \$325, or a 79 percent reduction.

Contract Process – C&M submitted a purchase request for a waterjet cutting machine on July 29, 2014. Request for Bids (RFB) F-870 was released by the Contracts and Purchasing Division on August 21, 2014 to solicit bids. It was advertised on the City of Los Angeles Business Assistance Virtual Network (LABAVN) and the Port of Los Angeles website. Bids received by the September 15, 2014 deadline have been tabulated as detailed in Transmittal 2. Bids were received from Flow International, Machinery Sales Co., and Omax Corporation. The bid calls for an award to the lowest, responsive bidder.

RFB F-870 was also eligible for the Local Business Preference Program (LBPP) which provides for an eight percent (8%) bid preference for qualifying businesses in the five counties closest to the Port of Los Angeles on any contract opportunity valued in excess of \$150,000. However, all bidders identified themselves as non-Local Business Enterprises and do not qualify to receive the preference.

Flow International was the initial low bidder. However, in reviewing their bid, they were deemed non-responsive to the specifications. C&M requires a cutting machine with a head that can bevel edges needed for welding preparation. The Flow International submittal is primarily for high speed and high precision without the ability to cut the needed edges. The Machinery Sales Co. bid does meet the specifications. With or without the LBPP bid preference, Machinery Sales Co. is the lowest, responsive bidder. Staff is recommending approval by the Board of Contract No. 39713 with Machinery Sales Co. (Transmittal 3).

ENVIRONMENTAL IMPACT:

The proposed action is award of a contract to Machinery Sales Co. for the purchase of a waterjet cutting machine. As an administrative activity, the Director of Environmental Management has determined that the proposed action is exempt from the requirements of the California Environmental Quality Act (CEQA) in accordance with Article II Section 2 (f) of the Los Angeles City CEQA Guidelines.

ECONOMIC BENEFITS:

Approval of the proposed Contract will have very minor employment impact (less than 1) for the five county region.

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FINANCIAL IMPACT:

The purchase and delivery of a waterjet cutting machine will cost the Harbor Department a maximum total of \$204,795 including training, tax and shipping charges.

There is a one-year warranty for the waterjet cutting machine and the only maintenance required is the rebuilding of a pump every 1,000 hours of pressure usage. This work will be performed by C&M staff.

Funding for the cutting machine has been budgeted in the Fiscal Year 2014-15 budget in the amount of \$200,000 in Account 13150 (Capital Equipment), Center No. 0510, and Program No. 000. The balance of \$4,795 is available in the contingency portion of that same account.

CITY ATTORNEY:

The Office of the City Attorney has reviewed and approved Contract Number 39713 as to form and legality.

TRANSMITTALS:

1. Specification Sheet for new Waterjet Cutting Machine
2. Recap of Bid No. F-870
3. Contract No. 39713


FIS Approval:  (initials)

CA Approval:  (initials)


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APPROVED:


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