

Council Meeting of
June 12, 2012

Honorable Mayor and Members
of the City Council
City Hall
Torrance, California

Members of the Council:

SUBJECT: Public Works – Approve purchase of SolarBee water mixing systems for the Walteria and Ben Haggott Reservoirs. Expenditure: \$215,964.25

RECOMMENDATION

Recommendation of the Public Works Director that City Council:

1. Approve a sole source contract services agreement in the amount of \$190,964.25, for the purchase and installation of SolarBee water mixing systems for the Walteria and Ben Haggott Reservoirs Rehabilitation and Nitrification Reduction Project, CIP No. S-31; and
2. Authorize a budget transfer of \$215,964.25, including \$25,000 for project management, from Walteria Reservoir Slope Repair, CIP No. I-95 to Walteria and Ben Haggott Reservoirs Rehabilitation and Nitrification Reduction Project, CIP No. S-31.

Funding

Funding is available from CIP No. I-95 which was originally funded by the Water Enterprise Fund.

BACKGROUND AND ANALYSIS

The Walteria Reservoir is a 10 million gallon (MG) water reservoir built in 1952. The Ben Haggott Reservoir is an 18 MG water reservoir built in 1987. Both reservoirs are buried and constructed of steel-reinforced concrete. The reservoirs are located just east of the intersection of Crenshaw Boulevard and Rolling Hills Road. The Las Canchas tennis courts are located on top of the Walteria reservoir. These reservoirs were constructed as end of pipe reservoirs verses flow through reservoirs with the inlets also functioning at the outlets. This means the only circulation of water in the reservoirs comes when the reservoirs are drained and then filled.

In 1985, the Metropolitan Water District of Southern California (MWD) changed their water disinfectant from chlorine to chloramines (a combination of chlorine and ammonia). The use of chloramines has resulted in nitrification. Nitrification is a biological process caused by naturally-occurring ammonia-oxidizing bacteria, which results in the loss of total chlorine residual. This is a reoccurring problem at the Walteria and Ben Haggott Reservoirs which requires flushing water to waste when chlorine residuals get too low in the distribution system. To mitigate this problem, the reservoirs are kept half full to increase cycling of the water in and out of the reservoirs.

A Professional Services Agreement was awarded to Carollo Engineers on July 12, 2005 to develop strategies and construction cost estimates to reduce nitrification and improve water quality in the reservoirs and develop structural rehabilitation concepts and associated construction cost estimates for the structural rehabilitation of the reservoirs.

On December 12, 2006, Your Honorable Body approved Consulting Services Agreement C2006-230 with Carollo Engineers for final design of the Walteria and Ben Haggott Reservoirs Rehabilitation and Nitrification Project, CIP No. S-31. Those final design plans have been completed and included the following:

- New valve by-passes near the intersection of Pacific Coast Highway and Crenshaw Boulevard for the transmission main from our T-7 MWD connection to send all the flows from T-7 MWD connection to the reservoirs.
- A new 24" pipeline on the reservoir site from the Walteria Pump Station to the north side of the reservoirs that will be for new inlets to the reservoirs (the existing inlet/outlets then would function as outlets only).
- New inlet headers for improved mixing.
- Two new flow control valves to distribute the inlet flows appropriately between the two reservoirs.
- Repair of existing cracks in the Walteria Reservoir.
- Apply a crystalline compound to the Walteria Reservoir floors and walls to seal any existing or new hairline cracks.
- Install a slurry wall down hill of the Walteria Reservoir to prevent any leakage from the reservoir from causing settlement.

The estimated cost for the aforementioned items of work was approximately \$2,200,000.

On November 25, 2008, your Honorable Body approved a Public Works Agreement and inspection contract for the repair of cracks and coating of crystalline concrete water proofing material to the Walteria Reservoir. The expenditure for this project was \$478,136. This project was very successful at sealing cracks in the Walteria Reservoir and the slurry wall down hill from the Walteria Reservoir is no longer required.

SolarBee Inc. has a patented solar powered mixing system for reservoirs that slowly but continuously draws water from the bottom of a reservoir to the top and completely mixes the water in reservoirs. SolarBee Inc. is the only manufacturer of this solar powered mixing system. SolarBee Inc. has provided case studies for the cities of Glendale, Palmdale, Santa Clarita, Las Vegas and Santa Maria demonstrating how these mixers have worked to provide complete mixing in their reservoirs. SolarBee Inc. has also provided a certification letter that the purchase price presented to the City of Torrance is the same price charged to all agencies. The estimated cost for the header system proposed to be installed inside the reservoirs to provide mixing was approximately \$250,000. The quote from SolarBee Inc. for the purchase and installation of the SolarBee Mixers is \$190,964.25. Staff proposes to omit the header system from the project and use the SolarBee Mixers.

The budget history for CIP No. S-31 is as follows:

Original Budget Appropriation (6-11-02)	\$820,000
Additional Appropriation (11-25-08)	\$150,000

Pre-Design Contract (7-12-05)	(\$99,317)
Final Design Contract (12-12-06)	(\$199,424)
Project Management	(\$119,127)
Department of Water Resources fees (10-16-07)	(\$22,829)
Public Works Contract for rehabilitation of reservoirs (11-25-08)	(\$434,846)
Construction Inspection (11-25-08)	(\$43,560)
Construction Management	<u>(\$45,442)</u>
Remaining Balance	\$5,455
SolarBee Mixer purchase and install	(\$190,964)
Construction Management	<u>(\$30,455)</u>
Budget Transfer from CIP No. I-95	\$215,964

CIP No. I-95 has a remaining balance of \$391,781 before the transfer and the remaining balance after budget transfer will be used to complete the perimeter fence installation for the Walteria Reservoir site. Staff will budget the remaining work with the next water system capital budget.

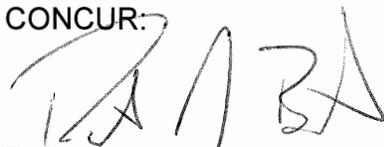
Respectfully submitted,

ROBERT J. BESTE
Public Works Director



By: Alan Berndt,
Senior Water Service Supervisor

CONCUR:



Robert J. Beste
Public Works Director



LeRoy J. Jackson
City Manager

Attachments: A. SolarBee, Inc. Proposal
B. SolarBee Inc. Sole Source Letter

SolarBee[®]
Circulating the World's Water

Harvey Hibel - West U.S. Manager
303-469-4001 • Harvey@SolarBee.com

Cliff Tormaschy - Inside Sales
866-437-8076 • Cliff@SolarBee.com

Proposal

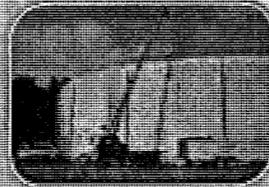
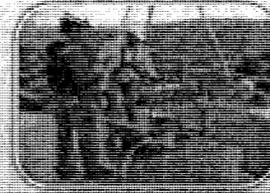
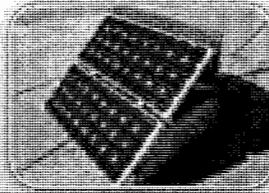
for:

City of Torrance

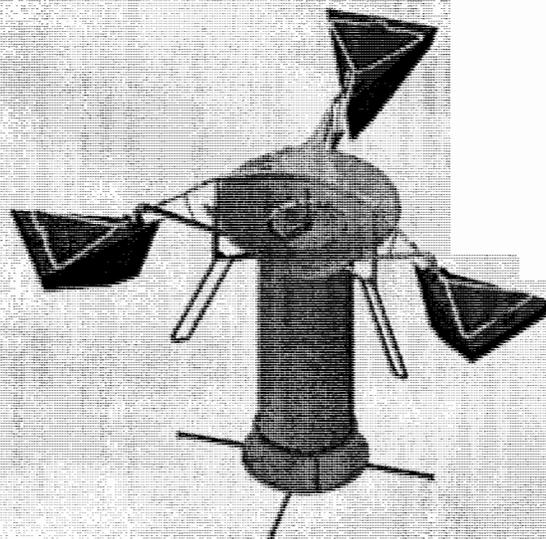
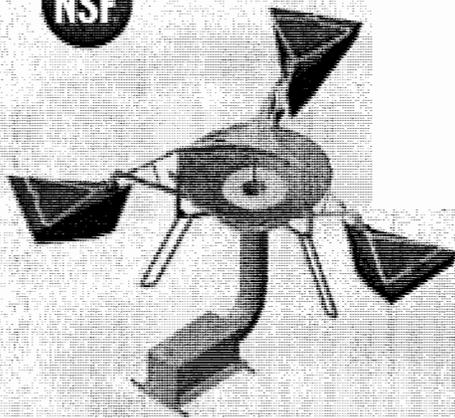
c/o Alan Berndt

John Dettle

Project #: 4606



May 24, 2012



SolarBee Models: SB2500PW v18 and SB10000PW v18 Solar-Powered Mixers

3225 Highway 22 • Dickinson, ND 58601

Tel: (701) 225-4495 • Toll Free: (866) 437-8076 • Fax: (701) 225-0002

www.SolarBee.com

1.0 PROJECT DESCRIPTION

1.1 Tanks Name & Locations:

Ben Haggott and Walteria Reservoirs are located on Crenshaw BLVD and Rolling Hills Road in Torrance, CA.

1.2 Description of Tanks:

Ben Haggott Reservoir is a concrete constructed, triangular shaped, underground storage tank with a flat roof and an 18-million gallon capacity. The top of the tank is 4 feet below ground level, it is 400 feet long by 320 feet wide by 29 feet tall. This tank has an overflow water level of 27 feet, a normal water level of 15 feet, a low water level of 8 feet, a daily water level fluctuation of 5 feet and an estimated daily inflow volume of 2-million gallons. Ben Haggott Reservoir has a 48-inch by 72-inch equipment hatch located on the roof and a common 16-inch diameter inflow/outflow pipe located near the bottom of the tank.

Walteria Reservoir is a concrete constructed, rectangular shaped, underground storage tank with a flat roof and a 10-million gallon capacity. The top of the tank is 4 feet below ground level, it is 340 feet long by 178 feet wide by 29 feet tall and is separated into two cells by a 11-foot tall dividing wall. This tank has an overflow water level of 29 feet, a normal water level of 23 feet, a low water level of 8 feet, a daily water level fluctuation of 5 feet and an estimated daily inflow volume of 2-million gallons. Walteria Reservoir has a 48-inch by 72-inch equipment hatch located on the roof and a common 16-inch diameter inflow/outflow pipe located near the

1.3 SolarBee Objectives:

Chloraminated System: To provide complete mixing throughout the reservoirs in order to reduce stratification, short circuiting, stagnant water conditions, and reduce nitrification. This complete mixing allows for representative sampling for total chlorine, free ammonia and nitrite monitoring; and, if nitrification is present, complete mixing provides the means via the *Fast Response Early Boost* (FREB) fluid intake injection assembly to inject sodium hypochlorite for trimming/tying up free ammonia, boosting residual, or breakpoint chlorination.

1.4 SolarBee Recommendation / System Design:

To meet the above objectives, we recommend the installation of one (1) SB10000PW v18 machine placing it in Ben Haggott Reservoir and two (2) SB2500PW v18 machines, placing one in each of the Walteria Reservoir Cells.

Note: If the tanks have 4 feet of soil from the top of the tank to ground level, the customer is requested to provide a 4-foot by 4-foot by 12-inch concrete pad for each machine. Each concrete pad will need to be located near the equipment hatch to run electrical and mount PV panels.

Appendix A: Equipment



SB10000PW v18: 10,000 gpm (14.4 MGD) total flow, 316-stainless steel and non-corrosion polymer construction, 25-year life high-efficiency brushless electric motor designed to provide day and night operation with a solar-charged battery power system, digital control system for intelligent power management specific to this application, six parameter SCADA outputs, three (3) 80-watt solar panels and a control box, mounted on a 316SS pedestal, 36" diameter fluid intake hose, and fluid intake injection assembly (injection hose from the intake to the top of the tank). NOTE: (A) This model can be installed through a hatch with 36" X 36" minimum unobstructed clearance; (B) There is minimal impact from mounting PV panels and control box (typically only one penetration), and the integrity of the tank's coating is maintained; (C) See Appendix D - SolarBee Limited Replacement Warranty for information on the most extensive warranty in the industry.



SB2500PW v18: 2,500 gpm (3.6 MGD) total flow, 316 stainless steel and non-corrosion polymer construction, 25-year life high-efficiency brushless electric motor designed to provide day and night operation with a solar-charged battery power system, digital control system for intelligent power management specific to this application, six parameter SCADA outputs, three (3) 80-watt solar panels and a control box, mounted on a 316SS pedestal, 16" diameter fluid intake hose, and fluid intake injection assembly (injection hose from the intake to the top of the tank). NOTE: (A) This model can be installed through a hatch with 36" X 36" minimum unobstructed clearance; (B) There is minimal impact from mounting PV panels and control box (typically only one penetration), and the integrity of the tank's coating is maintained; (C) See Appendix D - SolarBee Limited Replacement Warranty for information on the most extensive

Appendix B: Delivery, Installation and Startup Options

Factory Delivery, Installation and Startup:

SolarBee, Inc. will send a team of trained factory representatives to deliver equipment and to perform on-site final assembly, placement and startup functions, and to train the customer's personnel on the operation and maintenance of the SolarBees. The teams are trained to meet confined space, over-water and at-elevation safety requirements. Special safety equipment is utilized and special safety procedures are followed to meet all OSHA safety requirements. On-site testing during installation includes a temperature profile taken in one-meter increments. A comprehensive report is compiled and forwarded to the customer including all location, testing, and machine operation data collected during the call.

Appendix C: General Provisions

Purchase of the SolarBee circulation equipment in this quotation is an "Equipment Purchase," not a "Construction Project":

SolarBee circulation equipment is portable, and can be easily relocated or removed entirely from the premises at any time. It does not become an integral part of any building or other structure, or part of "real estate". Therefore, to purchase SolarBee circulation equipment, the city or other organization purchasing SolarBees should use the same procedure as for purchasing other portable equipment, such as a forklift, a drill press, or an office desk. SolarBee reserves the right not to accept an order if the purchase is incorrectly characterized as a "construction" project. SolarBee, Inc. has not found any state or other jurisdiction where construction or contractor statutes apply to portable equipment that is sold by a factory, with on-site final assembly and startup performed by factory personnel.

Assumptions:

This quotation may be based on worksheets and calculations that have been provided to the customer, either previously or else attached to this quotation. The customer should bring to our attention any discrepancies in data used for these calculations.

Quotation Validity Term:

This quotation replaces all prior quotations for this project. It is valid until replaced by a subsequent quotation, or else for 60 days, whichever occurs first.

Delivery Time:

Delivery time varies, but is usually within 4-8 weeks from order date.

Payment Terms:

For governmental entities and for homeowners associations that have pre-approved credit, payment is due 30 days after invoice date, and invoicing occurs when the goods leave the factory. For private individuals, payment is due by credit card or cashier's check before the goods leave the factory.

Currency:

All prices shown are in U.S. Dollars, and all payments made must be in U.S. Dollars.

Add for Taxes, Governmental Fees, and Special Insurance Requirements:

Regarding insurance, SolarBee, Inc. maintains adequate liability and workman's compensation insurance to generally comply with its requirements for doing business in all fifty U.S. states, and will provide at no charge certificates of insurance when requested. However, if additional insurance or endorsements beyond the company's standard policy are required by the customer, then the costs of those additional provisions and/or endorsements will be invoiced to the customer after the costs become known.

Maintenance and Safety:

The customer agrees to follow proper maintenance instructions regarding the equipment as contained in the safety manual that accompanies the equipment or sent to the customer's address.

Government Regulatory Compliance:

In all reservoir/tank systems the customer must comply with all applicable governmental regulations. It is the customer's sole responsibility to inquire about governmental regulations and ensure that SolarBees are deployed and maintained so as to remain in compliance with these regulations and guidelines, and to hold SolarBee, Inc. harmless from any liability caused by non-compliance with these regulations and guidelines.

SolarBee Limited Replacement Warranty:

All new and factory-refurbished SolarBee equipment is warranted to be free of defective parts, materials, and workmanship for a period of 2 years from the date of installation. In addition, the SolarBee brushless motor is warranted for a period of 10 years from the date of installation. Photovoltaic modules (solar panels) carry manufacturer warranties, some ranging up to 25 years (see manufacturer's warranty for details). This warranty is valid only for SolarBee equipment used in accordance with the owner's manual, and consistent with any initial and ongoing factory recommendations. This warranty is limited to the repair or replacement of defective components, at SolarBee's discretion. The first 2 years of warranty include parts and onsite labor if SolarBee delivery and installation was purchased. Parts and in-factory service are included if the equipment was self-installed. In lieu of sending a factory service crew to the site for minor repairs, SolarBee, Inc. may choose to send the replacement parts to the owner postage-paid and, in some cases, may pay the owner a reasonable labor allowance to install the parts. Except as stated above, SolarBee and its affiliates expressly disclaim any and all express or implied conditions, representations and warranties on products furnished hereunder, including without limitation all implied warranties of merchantability or fitness for a particular purpose.

Please consult your state law regarding this warranty as certain states may have legal provisions affecting the scope of this warranty.

Limitation of Liability:

Many of the employees at SolarBee have extensive scientific and practical knowledge relating to solving water quality problems. From time to time, they may offer solicited or unsolicited advice, ideas, judgment or opinions on how to deal with certain situations, none of which offers a guarantee of future events. Due to the many factors, complexity and uncertainty involved in solving water problems, you agree to release and indemnify SolarBee and its affiliates, employees and agents from and against any and all claims, liabilities, costs and expenses which such indemnified party may incur or become subject to related to or arising out of any services or products furnished by SolarBee to you, except to the extent that any claim, liability or expense results from the gross negligence or intentional misconduct of an indemnified party as determined in a final judgment by a court of competent jurisdiction.

In no event will SolarBee or its affiliates be liable for any damages caused by failure of buyer to perform buyer's responsibilities or for following SolarBee advice.

In no event will SolarBee or its affiliates be liable for any lost profits or use or other punitive, special, exemplary, consequential, incidental or indirect damages, however caused, on any theory of liability, whether or not SolarBee has been advised of such damages, or reasonably could have foreseen the possibility of such damages, or for any claim against buyer by another party.

Method of acceptance of this quotation:

To accept this quotation, please issue a purchase order to SolarBee, Inc., 3225 Hwy. 22, Dickinson, ND 58601. The purchase order can be mailed, or it can be faxed to 701-225-0002 at the home office. The purchase order should refer to the date of this quotation, and will be assumed to include this entire quotation by reference.

If purchase orders are not utilized, please sign and date the last page of this proposal, provide billing information, and either fax to 701-225-0002 or email to Orderprocessing@SolarBee.com.

2.0 INVESTMENT OPTIONS

2.1 Recommended Machines

Equipment Purchase (See Appendix D)			
Quantity	Description	Purchase Cost Each	Purchase Cost Total
1	SB10000PW v18 machine for Ben Haggott Reservoir:	\$59,515	\$59,515
2	SB2500PW v18 machines for Walteria Reservoir:	\$42,985	\$85,970
3	LED RPM Indicator:	\$950	\$2,850
1	Disinfectant Boosting System:	\$4,985	\$4,985
1	325' of 3/8 Exterior Chemical Injection Hose:	\$1,462	\$1,462
Equipment Subtotal:			\$154,782
Applicable Taxes (Based on an estimated rate of 9.75%. Please confirm tax rate when placing an order):			\$15,091.25
Total Equipment Cost:			\$169,873.25
2	Potable factory delivery, installation and startup:	\$11,717	\$23,434
Multiple Unit Delivery Discount:		10.00%	(\$2,343)
Total Delivery, Installation, and Startup Cost:			\$21,091
Total Investment:			\$190,964.25

SolarBee®
 Circulating the World's Water
<http://www.solarbee.com>

Main Office and Service Center
 SolarBee, Inc.
 3225 Hwy 22, Dickinson, ND 58601
 (866) 437-8076 • (701) 225-4495 • Fax (701) 225-0002

May 16, 2012

(emailed to jdettle@torranceca.gov, original in US Mail)

John Dettle, PE
 City of Torrance
 20500 Madrona Ave.
 Torrance, CA 90503

RECEIVED

MAY 21 2012

Public Works Department

Dear John,

This letter is to certify that the Models SB10000PW v18 and SB2500PW v18 high-flow, water mixing equipment, which the City of Torrance is considering purchasing for Ben Haggott and Walteria Reservoirs is only available through SolarBee, Inc. of Dickinson, ND.

SolarBee, Inc. is the exclusive manufacturer of this equipment, which encompasses 13 or more patents with 50+ patent claims, plus some additional patents pending and the sole licensee of this technology.

In addition, the machines come with a warranty far longer than any other in the industry:

- a. 2-yr machine warranty, that covers parts and labor w/optional extended warranty
- b. v18 machines: 10-yr motor warranty (proprietary brushless motor exclusive to SolarBee)
- c. 25-yr solar panel performance warranty
- d. Factory Installation crews, trained for: at heights, over water and confined Spaces.

The purchase price presented in the quotation PQ-TorranceCA_20120516.pdf for this equipment is the same price charged to all U.S. agencies and other organizations, after allowing for small differences in delivery and installation charges based on quantity and mileage differences between projects.

Sincerely,

Willard R Tormaschy

Willard Tormaschy, Corporate Secretary

SolarBee, Inc.
 KRISTY HINTZ
 NOTARY PUBLIC, STATE OF NORTH DAKOTA
 MY COMMISSION EXPIRES JULY 10, 2014

(Notary Seal)

The above individual signed this letter in my presence on May 16, 2012.

Attested to by Kristy Hintz, Notary Public, Stark County, State of North Dakota.