

AGENDA

**ENGINEERING COMMITTEE MEETING
LEUCADIA WASTEWATER DISTRICT
Tuesday, August 1, 2023 – 9:00 a.m.
1960 La Costa Avenue, Carlsbad, CA 92009**

- 1. Call to Order**
- 2. Roll Call**
- 3. Public Comment**
- 4. New Business**
 - A. Authorize the General Manager to execute a sole source purchase Agreement with Haaker Equipment Company for the purchase of a new Vactor 2110 Combination Truck in an amount not to exceed \$697,988.33. (Pages 2-3)
 - B. Authorize the General Manager to execute a sole source Agreement for professional services with Base 9 Consulting, Incorporated to upgrade the Programmable Logic Control at the Encina Effluent Pump Station in an amount not to exceed \$45,000. (Pages 4-9)
- 5. Information Items**
 - A. Village Park No. 7 Pump Station Replacement Project Update (Verbal)
- 6. Directors' Comments**
- 7. General Manager's Comments**
- 8. Adjournment**

MEMORANDUM

Ref: 24-8491

DATE: July 27, 2023
TO: Engineering Committee
FROM: Paul J. Bushee, General Manager  for PJB
SUBJECT: Award of Sole Source Purchase Agreement to Haaker Equipment Company for a New Vector Combination Truck

RECOMMENDATION:

Staff requests that the Engineering Committee recommend that the Board of Directors:

1. Authorize the General Manager to execute a sole source purchase Agreement with Haaker Equipment Company for the purchase of a new Vector 2110 Combination Truck in an amount not to exceed \$697,988.33.
2. Discuss and take other action as appropriate.

DISCUSSION:

Tactical Goal: Infrastructure and Technology / Purchases / New Vector Truck

The Leucadia Wastewater District (District) has two Vector Combination Trucks (Vector) in its fleet for collection system hydro-cleaning. Over the past year, staff has noticed an increase in the cost and frequency of repairs to maintain the oldest Vector (Vector 159). Vector 159 was purchased in 2016, is 7 years old and has 5,254 engine hours. The District has been using Vector trucks since 1991. District's Field Service Staff has been specifically trained to operate and maintain the Vector equipment. Additionally, the Vector has proven to be very reliable. Staff believes it is prudent for the District to continue using Vectors in our fleet.

The District's Vehicle Replacement Guidelines states that the minimum replacement criteria for a heavy duty vehicle is 8 years or 4,000 engine hours. Engine hours is the critical parameter for a Vector because the engine drives the hydraulic system used for hydro-cleaning and vacuuming debris in addition to vehicle propulsion. Therefore, Vector 159 has met the 4,000 engine hours threshold. Additionally, due to Vector 159's increase in maintenance frequency and the associated cost, staff believes Vector 159 has exceeded its useful life and requires replacement. It is important to note that staff will be selling Vector 159 at auction.

Haaker Equipment Company (Haaker) is the only authorized Southern California dealer for Vector Trucks. Under Section 11.1 (A), Sole Source Procurement, of the District's Procurement Policy, sole source procurement is allowed in cases where goods and services are obtainable from only one vendor due to unique circumstances. Additionally, Section 11.1 (D), Complex or Unique Items, of the District's Procurement Policy, allows for the purchase of unique equipment without conducting sealed bid procedures. Consequently, staff requested a quote from Haaker for the replacement Vector.

Staff has evaluated the quote submitted by Haaker and is satisfied that the Vector meets our specified combination truck requirements. Therefore, it is recommended that the Board authorize

the General Manager to execute a sole source purchase Agreement with Haaker for the purchase of a new Vector Truck.

FISCAL IMPACT:

The Fiscal Year 2024 Capital Acquisition Budget includes sufficient funding for the purchase of this replacement Vector truck under the Vehicle Acquisition account.

mg:PJB

MEMORANDUM

DATE: July 27, 2023
TO: Engineering Committee
FROM: Paul J. Bushee, General Manager  for PJB
SUBJECT: Award of Professional Services Agreement to Upgrade the Programmable Logic Control at the Encina Effluent Pump Station

RECOMMENDATION:

Staff requests that the Engineering Committee recommend that the Board of Directors:

1. Authorize the General Manager to execute a sole source Agreement for professional services with Base 9 Consulting, Incorporated to upgrade the Programmable Logic Control at the Encina Effluent Pump Station in an amount not to exceed \$45,000.
2. Discuss and take other action as appropriate.

BACKGROUND:

The Programmable Logic Control (PLC) is a critical interface used in operating the District's system to produce recycled water. The PLC at the Encina Effluent Pump Station (EEPS) is used to remotely control the pumps at EEPS to pump secondary treated effluent from the Encina Water Pollution Control Facility to the District's Gafner Advanced Water Treatment Plant (Gafner). Gafner treats the secondary effluent to tertiary level which is sold to the Omni La Costa Resort and Spa for golf course irrigation.

The current PLC at EEPS was installed in May 2000. As a result, the components are obsolete and maintenance support for the unit is inadequate. Also, the control system has experienced an increased amount of communication issues. This upgrade will standardize the EEPS PLC with the PLCs at the wastewater pump stations by switching the PLC to Allen Bradley manufactured components. The upgrade will improve the reliability and efficiency of operating and maintaining EEPS and reduce the amount of staff time used responding to EEPS communication failure alarms.

DISCUSSION:

Base 9 Consulting, Inc. (BNCI) has successfully completed every upgrade of the Supervisory Control and Data Acquisition (SCADA) for the collection system pump stations. The PLC is an integral part of SCADA. BNCI has consistently demonstrated the requisite knowledge, expertise and experience in upgrading pump station controls. As a result, BNCI has been specified by the District to perform the SCADA pump station control upgrades in our pump station replacement and rehabilitation projects, including Leucadia, Encinitas Estates and Village Park No.7 Pump Stations.

Due to BNCI's experience and knowledge of the District's SCADA System, staff requested BNCI evaluate the PLC at EEPS. BNCI completed their evaluation in June 2023. As a result of

the evaluation, BNCI confirmed that the proposal they submitted in February 2023 is still valid. Their proposal is attached for your review.

Staff has evaluated the proposal and determined it to be fair and reasonable. This procurement meets the criteria for a sole source procurement under Section 11.1, Sole Source Procurement, of the District's Procurement Policy for the following reasons:

- > BNCI possess unique knowledge of the District's SCADA System.
- > Continuation of services for the District's SCADA System upgrade.

Therefore, it is recommended that an Agreement be executed with BNCI for professional services for the upgrade of the Programmable Logic Control at the Encina Effluent Pump Station in the amount not to exceed \$45,000.

FISCAL IMPACT:

The Fiscal Year 2024 Capital Acquisition Budget contains sufficient appropriation under the Recycled Water Facilities account to cover the cost of this Agreement.

gm:PJB

Attachment



**Proposal To Upgrade the
Encina Pump Station Controls
for the
Leucadia Waste Water District
Offered by
By Base9 Consulting**

Base9 Consulting, Inc (BNCI) offers this proposal to Leucadia Waste Water District (DISTRICT) to act replace the existing Modicon PLC with an Allen Bradley CompactLogix PLC and IO.

The existing PLC at the station is obsolete and support for the units is becoming difficult. Also, the District has experienced communications issues to the site that required less than favorable work-arounds. An upgraded Allen Bradley based system will match the current systems components used at other upgraded sites as well as more reliable communications to the station.

As a part of this agreement, Base9 Consulting, Inc will be responsible for the procurement, development, testing and the installation of the PLC control system to match the current operating characteristics of the station.

Physical installation will be performed by Southern Contracting Company as a subcontractor to BNCI.

Specifically, **Base9 Consulting, Inc. shall be responsible for the following items:**

- 1: Investigate and verify existing instrumentation and control wiring.
- 2: Procure the PLC hardware to support 32 Discrete Inputs, 16 Discrete Outputs, 4 Analog Inputs and 4 Analog Outputs.

The PLC will also include a ModbusTCP communications card for communications with the Host System.

| Qty | Part# | Description |
|-----|------------|---|
| 1 | 1769-L30ER | CompactLogix 5370 L3 Controller, 2 EtherNet/IP ports, 1MB memory w/ supercap backup, up to 8 1769 I/O expansion modules, 16 EtherNet/IP and 120 TCP connections |
| 2 | 1769-IA16 | 16 Point 120 VAC Input Module |
| 1 | 1769-OA16 | 16 Point 120/240 AC Output Module |



Proposal for RTU Upgrade
For the Leucadia Waste Water District
Encina Pump Station

Offered by Base9 Consulting

| | | |
|---|--------------|--|
| 1 | MVI69E-MBTCP | Modbus TCP/IP Enhanced Communication Module |
| 1 | 1769-PA4 | 120/240V AC Power Supply (5V @ 4 Amp) |
| 1 | 1769-IF4I | 4 Channel Analog Current/Voltage Isolated Input Module |
| 1 | 1769-OF4CI | 4 Channel Analog Current Isolated Output Module |
| 1 | 1769-ECR | Right End Cap Terminator |

- 3: Program and factory test the new Allen Bradley PLC. The programming will be performed to duplicate the functions currently in use at the station. If minor adjustments are desired, they will be included in the modifications. The existing Cellular Network will be retained for communications with the host.
- 4: Provide as-built drawings of the panel.
- 5: Modify the Host SCADA system to support the new system.
- 6: Remove the existing PLC and install, connect and test the new PLC and communications to the Host Wonderware SCADA.
- 7: Procure and install a Liebert Micropod UPS bypass switch to allow the UPS charge and discharge power circuits to be bypassed for maintenance.
- 8: Develop Software Test Plans.
- 9: Provide a Software Operations and Maintenance Manual covering the software developed for the station as required by the specifications.
- 10: Provide 1 year Warranty.
- 11: Provide 4 hours training.
- 12: Provide an Uninterruptible Power Supply (APC BR1000G).

Terms and Conditions:



Proposal for RTU Upgrade
For the Leucadia Waste Water District
Encina Pump Station

Offered by Base9 Consulting

- 1: BNCI will invoice based on the following milestones:
- | | |
|---|-----|
| Notice To Proceed | 20% |
| Approval of Submittals | 10% |
| Factory Acceptance Test Executed and Accepted | 40% |
| Final System Acceptance | 30% |
- 2: All Invoices will be Net 30 days

Changes to the scope of work:

Should changes be identified that alter the scope of work agreed upon, adjustments will be made to the Fixed Price Costs.

Schedule:

BNCI will provide its portions of the submittals within 1 month of a notice to proceed.

BNCI will complete the programming within 2 months after receipt of the notice to proceed.



Proposal for RTU Upgrade
For the Leucadia Waste Water District
Encina Pump Station

Offered by Base9 Consulting

Facilities

Base9 Consulting, Inc. will perform the effort at locations deemed appropriate by BNCI.

Price

Base9 Consulting offers the effort described above for the fixed price of \$45,000.00 (Forty-Five Thousand Dollars).

Signed

A handwritten signature in black ink that reads "Henry D. Logan".

2/11/2023

Henry D. Logan

Base9 Consulting
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San Marcos, Ca. 92078

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