



**CHINO BASIN
DESALTER
AUTHORITY**

Technical Advisory Committee Meeting

June 23, 2020 • 1:30 p.m.

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TECHNICAL ADVISORY COMMITTEE
CHINO BASIN DESALTER AUTHORITY
3550 E. Philadelphia Street, Suite 170, Ontario, CA 91761

June 23, 2020 at 1:30 p.m.

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CALL TO ORDER

ROLL CALL

PUBLIC COMMENT

Members of the public may address the Committee on any item that is within the jurisdiction of the Committee; however, no action may be taken on any item not appearing on the agenda unless the action is otherwise authorized by Subdivision (b) of Section 54954.2 of the Government Code. Those persons wishing to address the Committee on any matter, whether or not it appears on the agenda, are requested to submit their request to comment to the Executive Assistant no less than one hour prior to the start of the meeting at (909) 218-3230 or ccosta@chinodesalter.org. Comments will be limited to five minutes per speaker.

ADDITIONS TO THE AGENDA

In accordance with Section 54954.2 of the Government Code (Brown Act), additions to the agenda require two-thirds vote of the legislative body, or, if less than two-thirds of the members are present, a unanimous vote of those members present, that there is a need to take immediate action and that the need for action came to the attention of the local agency subsequent to the agenda being posted.

1. **MINUTES OF JUNE 9, 2020 TECHNICAL ADVISORY COMMITTEE MEETING**
2. **CHINO I OPERATIONS REPORT**
Report By: Ian Tillery/Inland Empire Utilities Agency
3. **CHINO II OPERATIONS REPORT**
Report By: Aaron Anderson/Jurupa Community Services District
4. **CHINO II CONCENTRATE REDUCTION FACILITY OPERATIONAL UPDATE**
Report By: Thomas O'Neill, CDA General Manager/CEO
5. **APPOINTMENT OF REPRESENTATIVE ON THE ACWA/JPIA BOARD OF DIRECTORS**
Report By: Thomas O'Neill, CDA General Manager/CEO
6. **CHINO AIRPORT PLUME PROJECT: AMENDMENT 1 TO HAZEN & SAWYER'S AGREEMENT FOR DESIGN OF CHINO I DESALTER VOC TREATMENT FACILITY**
Report By: Thomas O'Neill, CDA General Manager/CEO
7. **PROFESSIONAL SERVICES AGREEMENT FOR ON-CALL SUPPORT SERVICES FOR CONCENTRATE REDUCTION FACILITY OPERATIONS**
Report By: Thomas O'Neill, CDA General Manager/CEO

8. SOUTH ARCHIBALD PLUME UPDATE

Report By: Cindy Miller, South Archibald Plume Program Manager

9. BOARD MEETING AGENDA ITEMS REVIEW

Report By: Thomas O'Neill, CDA General Manager/CEO

10. NEW BUSINESS/FUTURE TECHNICAL ADVISORY AGENDA ITEMS REVIEW

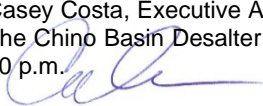
Report By: Thomas O'Neill, CDA General Manager/CEO

ADJOURN

Any person with a disability who requires accommodations in order to participate in this meeting or for package materials in an alternative format should telephone Executive Assistant C. at (909) 218-3730, at least 48 hours prior to the meeting in order to make a request for a disability-related modification or accommodation. Copies of records provided to Board Members which relate to any agenda item to be discussed in open session may be obtained from Chino Basin Desalter Authority at 3550 E. Philadelphia Street, Suite 170, Ontario, CA 91761

Declaration of Posting

I, Casey Costa, Executive Assistant to the Chino Basin Desalter Authority, hereby certify that a copy of this agenda has been posted at the Chino Basin Desalter Authority's main office, 3550 E. Philadelphia Street, Suite 170, Ontario, CA 91761 by June 19, 2020 at 1:30 p.m.



Casey Costa, Executive Assistant



Technical Advisory Committee Meeting

Agenda Item

No. 1

**CHINO BASIN DESALTER AUTHORITY
TECHNICAL ADVISORY COMMITTEE**

MINUTES

June 9, 2020

A meeting of the Chino Basin Desalter Authority Technical Advisory Committee was held via audio/teleconference. CDA General Manager O'Neill called the meeting to order at 1:30 p.m.

Committee Members Present:

Mark Wiley, City of Chino Hills
Chris Bonadurer, City of Ontario
Ian Tillery, Inland Empire Utilities Agency
Ben Armel, Jurupa Community Services District
Aaron Anderson, Jurupa Community Services District (Alternate)

Others Present:

Thomas O'Neill, CDA General Manager/CEO
Michael Chung, CDA CFO/Treasurer
Todd Minten, CDA Operations Manager
Casey Costa, CDA Executive Assistant
Jose Garcia, CDA Principal Accountant
Matt Abel, Jurupa Community Services District
Cindy Miller, Hazen & Sawyer
Sam Gershon, Albert A. Webb Associates
Bob Bowcock, Integrated Resources Management/SB County Airports

PUBLIC COMMENT - There were no public comments.

ADDITIONS TO THE AGENDA – There were no additions to the agenda.

AGENDA ITEMS

1. MINUTES OF MAY 26, 2020 TECHNICAL ADVISORY COMMITTEE MEETING

The minutes were approved as submitted.

2. CHINO I OPERATIONS REPORT

Report By: Ian Tillery/Inland Empire Utilities Agency

- Plant Production: 12.04 MGD
- Completed Sanitary Survey Records Inspection 5/18-5/20
- Well I-15 installation – Motor, which is under warranty, was pulled
- HVAC leak in Server room on 5/29 was repaired.
- IX blower muffler blew out on 5/30
- Water heater leak on 6/3 is being repaired

3. CHINO II OPERATIONS REPORT

Report By: Aaron Anderson/Jurupa Community Services District

- Plant Production: 19.04 MGD
- Power outage on 5/30 shut down production for approximately 4 hours
- Issues with Well II-11 after power outage – pump will be pulled
- RO Train 2 is in service after membranes were changed out
- JCSD staff repaired leaking mechanical seal on RO Train 4 booster

4. CHINO II CONCENTRATE REDUCTION FACILITY OPERATIONAL UPDATE

Matt Abel, Jurupa Community Service District, reported. Planned start-up date is June 15, 2020. Repairs to clarifier were completed. Staff working on modifications to pellet reactor flow meters.

5. WATER DELIVERIES

General Manager O'Neill reported deliveries of 84.9% of entitlement through May 2020. Production for May 2020, 2,984 AF was over production target of 2,933 AF. He reviewed chart displaying production trend from beginning of fiscal year.

6. ADOPTION OF REVISED INVESTMENT POLICY

Treasurer Chung reviewed the proposed Investment Policy which added Medium-term notes allowable under Section J.

7. SOUTH ARCHIBALD PLUME UPDATE

Report By: Cindy Miller, South Archibald Plume Program Manager

- Phase I Pipeline: Close-out change order was approved by the Board
- Phase II Pipeline: Issued NTP for pipeline north of Wineville and Cantu Galleano.
- Phase III Pipeline: Installing utilities. Some additional grading is required.
- Well II-12 Drilling: Pilot bore hole to depth of 610' has been completed. Geoscience has prepared recommended design of well, which includes 232' of screened casing. Anticipated production is 2,000 gpm. Working with Regional Board for design approval.
- CII Decarbonator Modifications: Will issue NTP this week.
- Monitoring Wells: Have identified locations for two offsite monitoring wells.

8. BOARD MEETING AGENDA ITEMS REVIEW

Report By: Thomas O'Neill, CDA General Manager/CEO

General Manager O'Neill reviewed upcoming Board Items.

9. NEW BUSINESS/FUTURE TECHNICAL ADVISORY AGENDA ITEMS REVIEW

Report By: Thomas O'Neill, CDA General Manager/CEO

General Manager O'Neill reviewed upcoming TAC items.

There being no further business, the meeting was adjourned at 1:47 p.m.

Submitted by Casey Costa, CDA Executive Assistant



Technical Advisory Committee Meeting

Agenda Item

No. 2



**Chino I Desalter
Treatment Plant Operations**

Summary of Activities
June 5th to June 17th, 2020

Well Field

| Well Name | VFD Speed | Original Design Rate (gpm) | Current Production Rate (gpm) | Percent of Production | Operational (Yes/No) | Production Rate (gpm) | Status (Idle/Run) | Current Operation (gpm) |
|-----------|-----------|----------------------------|-------------------------------|-----------------------|----------------------|-----------------------|-------------------|-------------------------|
| ****I-1 | 0% | 600 | 0 | 0% | No | 0 | Idle | 0 |
| ****I-2 | 0% | 300 | 0 | 0% | No | 0 | Idle | 0 |
| ****I-3 | 0% | 600 | 0 | 0% | No | 0 | Idle | 0 |
| I-4 | 0% | 300 | 0 | 0% | Yes | 0 | Idle | 0 |
| I-5 | 100% | 1,200 | 1,347 | 12% | Yes | 1,347 | Run | 1,347 |
| *I-6 | 83% | 1,200 | 420 | 4% | Yes | 420 | Run | 420 |
| *I-7 | 82% | 1,200 | 410 | 4% | Yes | 410 | Run | 410 |
| I-8 | 100% | 900 | 1,029 | 9% | Yes | 1,029 | Run | 1,029 |
| I-9 | 100% | 1,200 | 1,322 | 12% | Yes | 1,322 | Run | 1,322 |
| I-10 | 100% | 1,200 | 1,308 | 12% | Yes | 1,308 | Run | 1,308 |
| I-11 | 100% | 1,200 | 1,225 | 11% | Yes | 1,225 | Run | 1,225 |
| **I-13 | 81% | 2,000 | 1,097 | 10% | Yes | 1,097 | Run | 1,097 |
| I-14 | 100% | 2,200 | 1,683 | 15% | Yes | 1,683 | Run | 1,683 |
| ****I-15 | 0% | 2,000 | 0 | 0% | No | 0 | Idle | 0 |
| I-16 | 100% | 250 | 193 | 2% | Yes | 193 | Run | 193 |
| I-17 | 0% | 200 | 0 | 0% | No | 0 | Idle | 0 |
| I-20 | 100% | 400 | 414 | 4% | Yes | 414 | Run | 414 |
| I-21 | 100% | 400 | 427 | 4% | Yes | 427 | Run | 427 |
| gpm | Total | 17,350 | 10,875 | 100% | 100% | 10,875 | 100% | 10,875 |
| MGD | | 24.98 | 15.66 | | | 15.66 | | 15.66 |

Primary RO Treatment

| Train | Recovery Rate | Production (gpm) | (MGD) |
|-------|---------------|------------------|-------|
| 1 | 79.0% | 1,267 | 1.82 |
| 2 | 79.0% | 1,267 | 1.82 |
| 3 | 79.0% | 1,267 | 1.82 |
| 4 | 79.0% | 1,267 | 1.82 |
| 5 | 79.0% | 1,267 | 1.82 |
| | | 6,335 | 9.12 |

Ion Exchange Treatment

| Train | (gpm) | (MGD) |
|-------|-------|-------|
| 1 | 506 | 0.73 |
| 2 | 506 | 0.73 |
| 3 | 506 | 0.73 |
| 4 | 506 | 0.73 |
| | 2,024 | 2.91 |

VOC Bypass

| Production (gpm) | (MGD) |
|------------------|-------|
| 0 | 0.00 |

Brine Flow

| Production (gpm) | (MGD) |
|------------------|-------|
| 1,625 | 2.34 |

Summary of Activities

- 6/4 AQMD site inspection notice
- 6/6 Vibration testing End User #2
- 6/8 Allocation changes
- 6/8 End User flow meter calibrations
- 6/9 RO motors oil changes
- 6/10 Well I-6 O/S due to leak
- 6/16 Clortec cleaning
- 6/16 Ram Fiber Glass

Plant Efficiency

| Flow in Vs. Flow Out | (gpm) | (MGD) |
|----------------------|--------|-------|
| Wells | 10,875 | 15.66 |
| Brine | -1625 | -2.34 |
| | 9,250 | 13.32 |

Plant Production

| All Treatment Trains | (gpm) | (MGD) |
|----------------------|-------|-------|
| Primary RO | 6,335 | 9.12 |
| Ion Exchange | 2,024 | 2.91 |
| Raw Bypass | 0 | 0.00 |
| | 8,359 | 12.04 |

- * Air Problem
- ** Sand Problem
- ***Cooling Problem
- ****Out of Service



Technical Advisory Committee Meeting

Agenda Item

No. 3



**Chino II Desalter
Treatment Plant Operations**

Summary of Activities

Jun 4, 2020 to June 17, 2020

Well Field

| Well Name | VFD Speed | Original Design Rate (gpm) | Current Production Rate (gpm) | Percent of Production | Operational (Yes/No) | Production Rate (gpm) | Status (Idle/Run) | Current Operation (gpm) |
|-----------|-----------|----------------------------|-------------------------------|-----------------------|----------------------|-----------------------|-------------------|-------------------------|
| II-1 | 100% | 2,000 | 1,606 | 11% | Yes | 1,606 | Run | 1,887 |
| II-2 | Fixed | 2,000 | 1,662 | 11% | Yes | 1,662 | Idle | 0 |
| II-3 | Fixed | 2,000 | 1,660 | 11% | Yes | 1,660 | Run | 1,810 |
| II-4 | 100% | 2,000 | 1,656 | 11% | Yes | 1,656 | Run | 1,740 |
| II-6 | 100% | 2,000 | 1,573 | 10% | Yes | 1,573 | Run | 1,675 |
| II-7 | 100% | 1,200 | 876 | 6% | Yes | 876 | Run | 1,020 |
| II-8 | Fixed | 1,500 | 1,103 | 7% | Yes | 1,103 | Run | 1,055 |
| II-9 | Fixed | 2,000 | 1,678 | 11% | Yes | 1,678 | Run | 1,750 |
| II-10 | 100% | 3,700 | 3,377 | 22% | Yes | 3,377 | Run | 3,602 |
| II-11 | 100% | 3,300 | 0 | 0% | Yes | 0 | Idle | 0 |
| II-12 | | | | | | | | |
| gpm | Total | 21,700 | 15,191 | 100% | 100% | 15,191 | 96% | 14,539 |
| MGD | | 31.25 | 21.88 | | | 21.88 | | 20.94 |

Primary RO Treatment

| Train | Recovery Rate | Production (gpm) | (MGD) |
|-------|---------------|------------------|-------|
| 1 | 83.5% | 0 | 0.00 |
| 2 | 83.5% | 1,380 | 1.99 |
| 3 | 83.5% | 1,380 | 1.99 |
| 4 | 83.5% | 2,200 | 3.17 |
| 5 | 83.5% | 2,200 | 3.17 |
| | | 7,200 | 10.37 |

Ion Exchange Treatment

| NRV | (gpm) (MGD) | | NRV | (gpm) (MGD) | |
|-----|-------------|------|-----|-------------|------|
| | | | | | |
| 1 | 660 | 0.95 | 5 | 685 | 0.99 |
| 2 | 0 | 0.00 | 6 | 685 | 0.99 |
| 3 | 685 | 0.99 | 7 | 725 | 1.04 |
| 4 | 715 | 1.03 | 8 | 0 | 0.00 |
| | | | | 4,150 | 5.98 |

Raw Bypass

| Production (gpm) | (MGD) |
|------------------|-------|
| 2,060 | 2.97 |

Brine Flow

| Production (gpm) | (MGD) |
|------------------|-------|
| 875 | 1.26 |

Secondary RO Treatment

| Train | Recovery Rate | Production (gpm) | (MGD) |
|-------|---------------|------------------|-------|
| 1 | 66.0% | 0 | 0.00 |
| 2 | 66.0% | 600 | 0.86 |
| 3 | 66.0% | | 0.00 |
| | | 600 | 0.86 |

Plant Efficiency

| | Flow in Vs. Flow Out (gpm) (MGD) | |
|-------|----------------------------------|-------|
| | (gpm) | (MGD) |
| Wells | 14,539 | 20.94 |
| Brine | -875 | -1.26 |
| | 13,664 | 19.68 |
| | 94.0% | |

Plant Production

| | All Treatment Trains (gpm) (MGD) | |
|--------------|----------------------------------|-------|
| | (gpm) | (MGD) |
| Primary RO | 7,200 | 10.37 |
| Ion Exchange | 4,150 | 5.98 |
| Raw Bypass | 2,060 | 2.97 |
| Secondary RO | 600 | 0.86 |
| | 13,410 | 20.2 |

Summary of Activities

- Aquasystec providing SCADA support
- Daily Plant Rounds/Weekly Samples
- JCSD staff calibrated instruments
- Annual meter calibrations complete for SAWPA
- Well II-2 General Pump continues well rehab
- Well II-11 General Pump continues to work on issues
- CRF online as of 6/17/20
- Iconics onsite to address SCADA issues at CRF



Technical Advisory Committee Meeting

Agenda Item

No. 5



SUBJECT: APPOINTMENT OF REPRESENTATIVE ON THE ACWA/JPIA BOARD OF DIRECTORS

RECOMMENDATION:

Staff recommends that the Board of Directors:

- 1. Appoint a Representative on the Association of California Water Agencies/Joint Powers Insurance Authority (ACWA/JPIA) Board of Directors.

BACKGROUND:

In January 2017 the Board approved CDA’s membership in ACWA/JPIA to enable participation in various insurance programs they offer, including Health, Liability, Property, and Workers’ Compensation. The ACWA/JPIA Board of Directors is comprised of one representative from each member, who must be a Director of the member’s governing board, and an alternate, who may be a Director or an employee of CDA.

Director Betty Anderson, Jurupa Community Services District, was appointed as representative in January 2017 and Director Robert Stockton, Western Municipal Water District was appointed at the June 6, 2019 Board Meeting. Due to the tragic loss of Director Stockton, staff requests the appointment of a representative. The alternate representative is the General Manager/CEO.

The ACWA/JPIA Board of Directors meets twice per year: once at the ACWA/JPIA Spring Conference and once at the ACWA/JPIA Fall Conference. The ACWA/JPIA Conferences are held at the same locations and immediately prior to the ACWA Spring and Fall Conferences.

IMPACT ON BUDGET:

There is no impact to the budget.



Technical Advisory Committee Meeting

Agenda Item

No. 6



SUBJECT: CHINO AIRPORT PLUME PROJECT: AMENDMENT 1 TO HAZEN & SAWYER'S AGREEMENT FOR DESIGN OF CHINO I DESALTER VOC TREATMENT FACILITY

RECOMMENDATION:

Staff recommends that the Board:

1. Approve an amendment to the professional services agreement with Hazen and Sawyer for engineering design services in the not-to-exceed amount of \$138,368; and
2. Authorize the General Manager/CEO to finalize and execute the amendment, with subsequent authorizations up to a not-to-exceed total of \$1,244,914.

BACKGROUND:

The Board authorized an agreement with Hazen and Sawyer in January 2020 in the amount of \$993,372 for design of the Chino I Desalter VOC Treatment Facility, with an associated authorization limit of \$1,092,709 for the General Manager/CEO.

The following additional scope items have been necessary to the completion of the design process:

- Updates to BODR due to changes to the County extraction wells flow rate, which requires re-design of the GAC treatment system for the County extraction wells.
- Enhanced effort for coordination of 97-005 compliance with DDW, including compilation of data from multiple sources for the analysis of production wells and monitoring well data, data gap analysis for evaluation of additional treatment systems, and completion of Baseline SAP for submittal to DDW.
- The 97-005 effort has also required coordination with Chino Basin Watermaster/Wildermuth Environmental to provide groundwater modeling services to support compliance with Division of Drinking Water (DDW). The modeling is required to estimate the 10-year groundwater capture zone for the County of San Bernardino's extraction well field that is designed to extract and clean up the Chino Airport VOC's groundwater contaminant plume. Wildermuth's proposal is attached for reference. Wildermuth cost is not included in this amendment and will not require additional funding from CDA.

The total amount of Amendment No. 1 is \$138,368, for a total contract amount of \$1,131,740 and recommended authorization limit of \$1,244,914 for the General Manager/CEO.

This agenda item was reviewed/approved by the Technical Advisory Committee on June 23, 2020, and the Finance Committee on June 25, 2020.

Prepared by: Thomas O'Neill, CDA General Manager/CEO

Board of Directors: Approved Continued Denied

CDA GM/CEO Acknowledgement: _____ **Date:** _____

IMPACT ON BUDGET:

The project cost of \$138,368 will be shared by the County (\$113,654.3) and CDA (\$24,713.70), per the agreement with the County of San Bernardino regarding Joint Facility Development.

ATTACHMENTS: Hazen and Sawyer Proposal
Wildermuth Proposal

Prepared by: Thomas O’Neill, CDA General Manager/CEO

Page 2 of 2

Board of Directors: Approved Continued Denied

CDA GM/CEO Acknowledgement: _____ **Date:** _____



Hazen and Sawyer
7700 Irvine Center Drive, Suite 200
Irvine, CA 92618

June 16, 2020

Mr. Tom O'Neill, General Manager/CEO
Chino Basin Desalter Authority (CDA)
2151 S. Haven Avenue, Suite 202
Ontario, CA 91761

Subject: Chino I Desalter VOC Treatment Project – Amendment No. 1

Dear Tom:

Hazen and Sawyer (Hazen) is pleased to submit Amendment No. 1 for additional tasks required to complete the Preliminary Design Report (PDR) and the support of Policy Memo 97-005 process and permitting for the CDA's Chino I Desalter VOC Treatment Facilities Project.

Should you have any questions or comments with regards to the Additional Scope of Services or attached fee estimate, please feel free to contact me at (714) 814-4909 or cmiller@hazenandsawyer.com.

Sincerely,

Cindy Miller, PE
Vice President

Attachments:

- Exhibit A – Scope of Services
- Exhibit B - Compensation

EXHIBIT A
AMENDMENT NO. 1 – ADDITIONAL SCOPE OF SERVICES
FOR
CHINO I DESALTER VOCT TREATMENT FACILITIES PROJECT

Revisions to Task 6 – Preliminary Design Report (PDR)

Hazen will revise the draft PDR based on changes to the County extraction wells (EW-1 through EW-10) flow rate (provided by County's consultant Tetra Tech), which will require redesign of the South GAC treatment system and all appurtenances. The County originally identified a total flow rate of 900 gpm from their proposed extraction wells (EW-1 through EW-10), which was the agreed-to basis for sizing the South GAC system. Subsequent to substantial completion of preliminary design and preparation of the Basis of Design Report, the County identified a higher flow rate projection for the ten (10) proposed extraction wells, with total revised flow rate of 1,695 gpm. This capacity increase will require additional effort to redesign the South GAC system, including resizing the treatment plant, re-evaluating treatment plant siting (including potential impacts to the existing onsite equalization basin due to the larger treatment plant footprint), revising the site layout, P&IDs, hydraulic analysis, and cost estimates,. It should be noted that the preliminary design completed for the North GAC system (CDA Wells I-1 through I-4) is unaffected by the County's flowrate change and therefore will not require any re-design.

Hazen will submit the revised first draft PDR to CDA and County (PDF electronic copy) for review and comments. Hazen will incorporate the comments received from CDA and County into the report and prepare the final PDR. An electronic PDF file of the final PDR will be submitted to CDA and the County.

Additional Scope for Task 10 – Permitting

New Sub-Task 10.3:

Hazen is tasked to prepare 97-005 permit reports for the CDA's Chino I Desalter VOC Treatment Facilities project, including a source and contaminant assessment (Step 1) and raw water quality characterization (Step 2). Early analysis revealed that a number of additional scope items were necessary to enable preparation of the permit reports, including the items identified below. These additional tasks are due to Hazen taking over the 97-005 permitting process from the County who was originally tasked to perform these following tasks.

- Coordination with the Chino Basin Watermaster and consultant Wildermuth on hydrogeological modeling to define the capture zone inclusive of the CDA's bypass wells I-1 thru I-4, CDA Wells I-16, I-17, and I-18, and the proposed County wellfield (EW-1 thru EW-10).
- Compilation of data from multiple sources to enable analysis of production well and monitoring well data. Sources will include the Watermaster database (assuming approval of the request), DDW database, CDA spreadsheets, and County Excel spreadsheets. QA/QC

will be performed on 10% of data to eliminate duplicate entries. Data will be compiled simply in Excel rather than in a database program for greater accessibility.

- Identification of data gaps based on the data evaluation for purposes of the treatment evaluation and 97-005 permitting.
- Assume responsibility for coordinating the water quality testing necessary to satisfy 97-005 water quality testing requirements for the future County wells. Complete the Baseline SAP for submittal to DDW. Provide one revision based on DDW comments.
- Meet with DDW (assuming 3 additional meetings) to review findings of this evaluation and obtain input on the proposed treatment approach.




Mr. Tom O'Neill
Amendment No. 1
Exhibit B - Compensation
June 16, 2020

EXHIBIT B
COMPENSATION

The total fee for the services described in the above scope of work (Exhibit A) is **\$138,368.00** in accordance with the assigned hours and associated rates as shown on the attached Fee Estimate.

Fee Schedule
 Chino Basin Desalter Authority
 Chino I Desalter VOC Treatment Facilities Project
 Amendment No. 1

|  | Hazen and Sawyer | | | | | | | | | | | | | | Subconsultants | | GRAND TOTAL |
|---|------------------|-------------------------|------------------|--------------------|---------------------|-------------|--------------|---------------------|---------------------|------------|----------------|--------------------|---------------|--------------------|------------------|----------------------|------------------|
| | Project Director | Technical Advisor QA/QC | Project Engineer | Electrical Manager | Electrical Engineer | I&C Manager | I&C Engineer | Structural Engineer | Site Civil Engineer | Permitting | Cost Estimator | Assistant Engineer | CAD Designers | Policy Memo 97-005 | | | |
| | CM | NB | AR/FG | CT | DL | CT | AM | WD | TY | MH | CP | PM | Admin | | | | |
| | \$298 | \$298 | \$210 | \$245 | \$198 | \$245 | \$198 | \$175 | \$235 | \$195 | \$180 | \$145 | \$145 | TMH | Labor | Avocet Environmental | |
| Task 6 - Preliminary Design Report (PDR) | | | | | | | | | | | | | | | | | |
| 6.1 Revisions to PDR | 24 | 12 | 100 | 2 | 4 | 2 | 16 | 2 | 32 | 8 | 16 | 40 | 60 | 318 | \$63,478 | \$ - | \$63,478 |
| TASK 6 TOTALS | 24 | 12 | 100 | 2 | 4 | 2 | 16 | 2 | 32 | 8 | 16 | 40 | 60 | 318 | \$63,478 | \$0 | \$63,478 |
| Task 10 - Permitting | | | | | | | | | | | | | | | | | |
| 10.1 Permitting Assistance | | | | | | | | | | | | | | 0 | \$0 | \$ - | \$0 |
| 10.2 Policy Memo 97-005 Assistance | | | | | | | | | | | | | | 0 | \$0 | \$ - | \$0 |
| 10.3 Additional Scope of Work - Policy Memo 97-005 Assistance | 24 | 40 | 60 | | | | | | | | | 120 | | 244 | \$49,072 | \$ 25,818 | \$74,890 |
| TASK 10 TOTALS | 24 | 40 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 120 | 0 | 244 | \$49,072 | \$25,818 | \$74,890 |
| TASKS 6 AND 10 TOTALS | | | | | | | | | | | | | | | | | |
| | 48 | 52 | 160 | 2 | 4 | 2 | 16 | 2 | 32 | 8 | 16 | 160 | 60 | 562 | \$112,550 | \$25,818 | \$138,368 |



June 8, 2020

Chino Basin Desalter Authority
Attn: Tom O'Neill
3550 E. Philadelphia Street
Suite 170
Ontario, CA 91761

Subject: Proposal to Provide Modeling Support Services for 97-005 Compliance for Chino Airport Extraction Well Field

Hello Tom,

This proposal is for Wildermuth Environmental, Inc. (WEI) to provide modeling services to the Chino Basin Desalter Authority (CDA) to support compliance with California Division of Drinking Water (DDW) 97-005 Policy for direct domestic use of extremely impaired water sources.

The proposed scope of work is to use the Chino Basin Watermaster's updated groundwater-flow model to estimate the 10-year groundwater capture zone for the County of San Bernardino's extraction well field that is designed to extract and clean up the Chino Airport TCE/TCP groundwater contaminant plume. The pumped groundwater will be conveyed to the CDA's Chino-I Desalter facility for treatment and direct use of the product water and, therefore, the CDA must comply with the DDW's 97-005 policy.

We understand that the project includes two separate treatment systems. One system will treat groundwater pumped from CDA Wells I-1, I-2, I-3 and I-4; the other system will treat groundwater pumped from CDA Wells I-16, I-17, I-18 and the new extraction well field. The scope of work is to define the 10-year groundwater capture zone for each of the two well fields and provide the CDA with the available groundwater-quality data within each capture zone that are of interest to the DDW. These groundwater-quality data are stored within the Chino Basin Watermaster database. The specific deliverables for the project are:

1. Two GIS shapefiles of 10-year capture zone boundaries.
2. A map of 10-year capture zones.
3. Two Microsoft Access database files of the water-quality constituents of interest to DDW from wells within capture zone.¹

The scope of work and cost estimate for the modeling support services are shown in the attached

¹ Data from private wells will require a separate agreement with the Agricultural Pool.

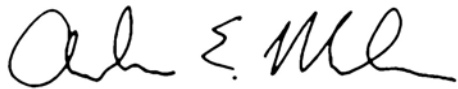
Table 1. The estimated cost to complete the project is not to exceed \$41,126.

WEI will invoice the Chino Basin Watermaster. Our understanding is that the Watermaster will invoice the CDA, and the CDA will reimburse the Watermaster (please coordinate with Peter Kavounas on this arrangement).

Please call Andy Malone at 949-285-6908 or Mark Wildermuth at 949-842-9430 if you have any questions or desire additional information.

Very truly yours,

Wildermuth Environmental, Inc.



Andrew E. Malone, PG
Vice President, Principal Geologist
amalone@weewater.com



Mark J. Wildermuth, PE
President, Principal Engineer
mwildermuth@weewater.com

cc: Peter Kavounas

Table 1
Work Breakdown Structure and Line-Item Fee Estimate
Modeling and Database Support for CDA 97-005 Study for CDA

| Description | Notes | Labor (person days) | | Other Direct Charges | | | | Total Project Costs | | |
|---|--|---------------------|--------------|----------------------|-----------------|------------|------------|---------------------|-----------------|------|
| | | Total Labor | | Travel | Reproduction | Total ODCs | | Subtask | Task | |
| | | Person Days | Cost | | | Subtask | Task | | | |
| | | | Subtask | | | | | | | Task |
| Task 1 Project Management and Meetings | | | | | | | | \$0 | \$2,970 | |
| 1.1 | Project management (client communications, staffing, scheduling, billing, etc) | a | 1.0 | \$1,980 | | | \$0 | \$1,980 | | |
| 1.2 | Meetings other than called out in tasks below | b | 0.5 | \$990 | | | \$0 | \$990 | | |
| Task 2 - Prepare Planning Scenario | | | | | | | | \$0 | \$4,656 | |
| 2.1 | Prepare for and attend meeting with CDA, their consultants and others to develop fulsome planning scenario description and agreement on the precise description of deliverables (contents of maps, tables, etc.) | b | 1.3 | \$2,358 | | | \$0 | \$2,358 | | |
| 2.2 | Prepare written summary of meeting that documents assumptions used in planning scenario and final deliverable | | 0.8 | \$1,308 | | | \$0 | \$1,308 | | |
| | CDA and other stakeholder review and comment | | | | | | | | | |
| 2.3 | Finalize scenario | | 0.5 | \$990 | | | \$0 | \$990 | | |
| Task 3 - Simulate Planning Scenario to Delineate 10-Year Capture Zone and Basin Response | | | | | | | | \$0 | \$21,970 | |
| 3.1 | Update the 2020 SYR1 scenario to incorporate planned pumping by the County and CDA and new replenishment, if any | | | | | | | | | |
| | 3.1.1 Update pumping files and check | | 1.0 | \$1,600 | | | \$0 | \$1,600 | | |
| | 3.1.2 Update recharge files for replenishment and check | | 1.0 | \$1,600 | | | \$0 | \$1,600 | | |
| 3.2 | Run groundwater flow model simulation | | | | | | | | | |
| | 3.2.1 Make preliminary simulation to debug input files; then complete the simulation | c | 0.8 | \$1,118 | | | \$0 | \$1,118 | | |
| | 3.2.2 Develop water budget table; review for adequacy of replenishment estimate | c | 1.3 | \$1,754 | | | \$0 | \$1,754 | | |
| | 3.2.3 Review projected groundwater elevations for reasonableness | c | 0.8 | \$1,308 | | | \$0 | \$1,308 | | |
| | 3.2.4 Develop tables, charts and maps and characterize modeling results | c | 1.5 | \$2,236 | | | \$0 | \$2,236 | | |
| | 3.2.5 Internal QA/QC | c | 1.3 | \$2,392 | | | \$0 | \$2,392 | | |
| | 3.2.6 Review preliminary results with CDA and Watermaster | b,c | 0.8 | \$1,308 | | | \$0 | \$1,308 | | |
| 3.3 | Develop ten-year capture zone | | | | | | | | | |
| | 3.3.1 Construct input files for MODPATH | | 1.0 | \$1,600 | | | \$0 | \$1,600 | | |
| | 3.3.2 Perform backwards particle tracking to establish the 10-year boundary of capture zone following startup of extraction well field | c | 0.8 | \$1,118 | | | \$0 | \$1,118 | | |
| | 3.3.3 Develop map graphics and other charts as needed to delineate the capture zone | c | 1.5 | \$2,236 | | | \$0 | \$2,236 | | |
| | 3.3.4 Internal QA/QC | c | 1.3 | \$2,392 | | | \$0 | \$2,392 | | |
| | 3.3.5 Review preliminary results with CDA and Watermaster | b,c | 0.8 | \$1,308 | | | \$0 | \$1,308 | | |
| Task 4 - Prepare Required Deliverables to Comply with 97-005 | | | | | | | | \$0 | \$4,676 | |
| 4.1 | Prepare two shapefiles of 10-year capture zone boundaries and populate metadata | | 0.8 | \$1,074 | | | \$0 | \$1,074 | | |
| 4.2 | Prepare two MS Access database files of water-quality constituents of interest to DDW from wells within capture zone | d | 1.0 | \$1,512 | | | \$0 | \$1,512 | | |
| 4.3 | Prepare map of 10-year capture zones | | 0.8 | \$1,100 | | | \$0 | \$1,100 | | |
| 4.4 | Conduct meeting with CDA and consultant to review final deliverables | b | 0.5 | \$990 | | | \$0 | \$990 | | |
| Subtotal Expected Cost at Completion | | | 20.50 | \$34,272 | \$34,272 | \$0 | \$0 | \$0 | \$34,272 | |
| Contingency at 20% | | | | | | | | | \$6,854 | |
| Budget | | | | | | | | | \$41,126 | |

- a Project duration is two months
- b Assumed to be a GoToMeetings
- c Assumes no do-overs after review with CDA
- d May require agreement with Ag pool



Technical Advisory Committee Meeting

Agenda Item

No. 7



SUBJECT: PROFESSIONAL SERVICES AGREEMENT FOR ON-CALL SUPPORT SERVICES FOR CONCENTRATE REDUCTION FACILITY OPERATIONS

RECOMMENDATION:

Staff recommends that the Board:

1. Approve a Professional Services Agreement with Carollo Engineers, Inc., in the not-to-exceed amount of \$150,000 for concentrate reduction facility operations support services for FY 2020/21; and
2. Authorize the General Manager/CEO to finalize and execute the agreement and approve up to \$150,000 in authorized expenditures.

BACKGROUND:

Since the Concentrate Reduction Facility (CRF) was placed in service in May 2017, operations staff has worked to optimize operations of the different unit processes. The approach is typical for complex water treatment facilities like the CRF. Operators have a good understanding of most treatment process and its objectives. However, water chemical softening is one of the most, if not the most, difficult process and requires additional training.

Carollo Engineers, Inc. (Carollo), the CRF design engineer, has been working with staff to optimize the operation which has been invaluable for long-term improvement of the facility’s components and operation strategy. Carollo’s proposed scope of work for support services continues to build on this operational experience. As part of the continued effort to optimize CRF operations and lower operational costs, CDA has assigned the following tasks to Carollo:

- Project Management
- Operations Assessment Services
- Operator Training Services

The Professional Services Agreement with Carollo is a sole source award, in accordance with the adopted Purchasing Policy. All work under this contract will be based on an hourly rate, on an as-needed basis with specific tasks assigned and authorized by the CDA.

This item has been reviewed/approved by the Technical Advisory Committee (TAC) on 06/23/2020 and the Finance Committee on 06/25/2020.

IMPACT ON BUDGET:

The approved FY 2020/21 budget includes \$150,000 for these CRF Support Services.

ATTACHMENT

Carollo Scope of Work and Fee Proposal

EXHIBIT A
CHINO BASIN DESALTER AUTHORITY
CONSULTING AGREEMENT
SCOPE OF WORK
CONCENTRATE REDUCTION FACILITY – OPERATIONS SUPPORT SERVICES

BACKGROUND

The Chino Basin Desalter Authority (CDA) requires the services of Carollo Engineers, Inc. (CONSULTANT) to provide operations assessment, operator training, and analytics services related to the Concentrate Reduction Facility (CRF)

Since the CRF went online in May 2017, the operations staff has worked to optimize operations of the different unit processes. The approach is typical for complex water treatment facilities like the CRF. The operational experience gained is invaluable for long-term improvement of the facility's components and operation strategy. The scope of work for the support services is built on this operational experience.

The objective for the scope of work is to empower the operators and provide them with the tools required to operate and trouble shoot the CDA CRF on their own.

PURPOSE

The purpose of this Exhibit A is to describe the project management, operations assessment, operator training, and analytics services provided by CONSULTANT related to the CDA CRF.

SCOPE OF WORK

CONSULTANT's services described in this Scope of Work include:

1. Project management
2. Operations assessment
3. Operator training

TASK 1 - PROJECT MANAGEMENT

CONSULTANT's Project Manager will provide project management services to complete the project. These services will include development of a project plan, project controls and reporting, preparation of invoices, progress reports, and directing CONSULTANT's staff and internal resources in a manner so that project milestones and deliverables are met as scheduled. The tasks associated with managing the project are as follows:

1.1 PROJECT PLAN

Prepare a Project Plan, including quality management plan, staffing plan, risk management plan, and project delivery plan. Include project schedule and deliverables. Identify information

needed to complete the work and establish the contact information and procedures for the project.

1.2 PROJECT CONTROL AND REPORTING

Prepare a monthly Project Summary Report and submit with monthly invoice. This report will contain the following elements:

- a. Progress associated with each of the major tasks
- b. Schedule Performance: Planned versus actual schedule
- c. Work completed performance: Planned versus actual
- d. Cost Performance: Planned versus actual (total contract)
- e. Summary overview of activities scheduled for the upcoming month
- f. Outstanding project issues that may affect performance under this contract.

1.3 PROJECT INVOICING

Prepare monthly invoice based on the project progress. Submit monthly invoices to the CDA in approved format. Invoices shall be submitted with the monthly progress report.

Task 1 deliverables by CONSULTANT include: Project plan, monthly progress reports, and monthly invoices

TASK 2 - OPERATIONS ASSESSMENT SERVICES

2.1 ON-CALL SUPPORT SERVICES

CONSULTANT shall provide up to eight (8) hours per months for responding to CDA questions related to alarms, emergency conditions or other circumstances. CONSULTANT will not exceed this authorized amount of time without written approval from the CDA. CONSULTANT shall keep a record (i.e., phone logs) of operator questions and CONSULTANT's responses as a means of documenting on-call services that were furnished. These phone logs shall be provided to the CDA with billing invoice.

CONSULTANT shall provide up to six (6) hours per months for attending bi-weekly calls. CONSULTANT will not exceed this authorized amount of time without written approval from the CDA. Minutes shall be provided to the CDA with billing invoice.

Task 2.1 Deliverables by CONSULTANT:

- Phone logs, agendas and minutes for bi-weekly calls.

2.2 MONTHLY DATA ASSESSMENT

Monthly data analysis is required to verify that treatment equipment is not operated outside of the range that would void manufacturer warranties (e.g., membrane warranties). CONSULTANT

will receive and analyze data on a monthly basis. If corrective action or maintenance is required, CONSULTANT will notify CDA both verbally and in writing within five (5) days after receiving the data.

CONSULTANT's data analysis shall include the following:

- Raw water quality summary
- Treated water quality summary
- Pellet reactors
- Solids contact clarifiers
- Granular media filters
- Normalized reverse osmosis (RO) performance data review. Raw data computing by SCADA or others.
- Pertinent events documented in Operator's Log

CDA will transmit **electronic** treatment plant's operator's log book and data record forms on the first weekday day of every month.

Task 2.2 deliverable by CDA:

- Monthly transmission of electronic operator's log and data records to CONSULTANT.

Task 2.2 deliverables by CONSULTANT:

- Verbal and written notification of maintenance or corrective action required.
- Schematic design to address maintenance or corrective actions

2.3 QUARTERLY REPORT

Every three months, CONSULTANT shall prepare a written quarterly report that summarized the monthly data that was collected and analyzed during Task 2.2. The quarterly report shall document any possible warranty issues, maintenance events, water quality and equipment performance issues that were experienced and provide recommendations for corrective actions that are either imminently required, or may be expected to be required within the near future.

CONSULTANT shall prepare one (1) draft copy of the quarterly report for CDA to review. After CDA's review, CONSULTANT shall finalize and deliver three (3) final copies (each quarter). A quarterly meeting is included to either present the draft report to the CDA or gather comments. An allowance is also included for presentation to the CDA Technical Advisory Committee (TAC).

Task 2.3 deliverables by CDA include: Comments on draft quarterly report

Task 2.3 deliverables by CONSULTANT:

- One (1) e-copy draft quarterly report, each quarter.
- One (1) e-copy final quarterly reports, each quarter.

2.4 TREATMENT PROCESS MONITORING AND CONTROL OPTIMIZATION

The CRF is an innovative treatment process. As the operations team gains experience with monitoring and controlling the treatment process, it may appear that changes should be

implemented. These changes include but are not limited to: different chemical injection doses and locations, different control parameters, and upgraded analyzers.

When such a change is identified, CONSULTANT shall prepare a design package to allow the CDA to obtain bids from qualified contractors.

Task 2.4 deliverables by CONSULTANT include: Marked up drawings, schematics, diagrams, plans, specifications

TASK 3 - OPERATOR TRAINING SERVICES

3.1 MATERIALS PREPARATION

CONSULTANT shall prepare materials for classroom and field training. These materials include a binder of all technical reference guides, power point presentations, instructor biographies, and other pertinent materials. These materials will be used for both the CEU application (Task 3.2) and for course participants. It is anticipated that the CDA will require binders for six (6) course participants. One (1) additional binder will be prepared for the CEU application process.

It is anticipated that a representative of the CDA will review the course materials before the CEU application process and provide comments on the course content.

Task 3.1 deliverables by CDA include: Comments on draft course materials binder

Task 3.1 deliverables by CONSULTANT include:

- One (1) draft course materials binder
- Six (6) final course materials binders to CDA
- One (1) final course materials binder for CEU Application

3.2 CONTINUING EDUCATION UNIT (CEU) APPLICATION

CONSULTANT shall prepare application for Continuing Education Units (CEUs) that will be valid for operators (from California Drinking Water Operator Certification Program (DWOCP)) to use toward their required training for their license renewal. CONSULTANT will be responsible for providing the application, materials and then the end of course attendance records for the CEU credits.

Task 3.2 deliverables by CONSULTANT include: Application for CEUs, CEU certificates.

3.3 CLASSROOM TRAINING

CONSULTANT shall provide as-needed hours of classroom training. Topics may include:

- Introduction to Concentrate Reduction Facility (CRF)
- CRF pellet reactor operations and maintenance
- CRF solids contact clarifier operations and maintenance
- CRF granular media filter operations and maintenance
- Reverse osmosis (RO) operations and maintenance
- RO post treatment (decarbonators)

Task 3.3 deliverables by CONSULTANT include: training session video recordings

3.4 FIELD TRAINING

CONSULTANT shall provide as-needed hours of field training. Topics may include:

- RO data normalization
- Pellet reactor operations parameters
- Solids contact clarifier operations parameters

3.5 EXAMINATION

CONSULTANT shall prepare an examination for course participants to take at the end of the training. Participants will take the exam and the instructor will review any wrong answers with the participant to make certain that they understand the course content.

Task 3.5 deliverables by CONSULTANT include: Examination of course materials



Technical Advisory Committee Meeting

Agenda Item

No. 9

Chino Basin Desalter Authority
Board Meeting Agenda Items

| July 2, 2020 Board Meeting (Regular) | | TAC | Finance |
|---|-------------|------------|----------------|
| Quarterly Financial Reports | Garcia/CDA | - | 6/25/2020 |
| Investment Policy Review | Chung/CDA | 6/9/2020 | 6/25/2020 |
| Appoint CDA Representative for ACWA/JPIA Board of Directors | O'Neill/CDA | 6/23/2020 | 6/25/2020 |
| Amend 1 to Hazen & Sawyer PSA for Design of CI GAC Facility | O'Neill/CDA | 6/23/2020 | 6/25/2020 |
| Carollo PSA for CRF Support | O'Neill/CDA | 6/23/2020 | 6/25/2020 |
| Quarterly Operations Report/Presentation | Minten/CDA | - | - |
| Quarterly South Archibald Plume Report/Presentation | Miller/H&S | - | - |

| August 6, 2020 Board Meeting (Special) | | TAC | Finance |
|---|-------------|------------|----------------|
| Richmond Property Swap | O'Neill/CDA | 7/14/2020 | 7/23/2020 |
| | | | |

| FUTURE | TAC | Finance | Board |
|----------------------------------|------------|----------------|--------------|
| O&M Agreement | | | |
| Well II-1 Site Property Exchange | | | |



Technical Advisory Committee Meeting

Agenda Item

No. 10

Chino Basin Desalter Authority

TAC Meeting Agenda Items

| |
|----------------------------|
| July 14, 2020 |
| Meeting Minutes |
| Chino I Operations Report |
| Chino II Operations Report |
| CRF Update |
| Water Deliveries |
| Richmond Property Swap |

| |
|----------------------------|
| July 28, 2020 |
| Meeting Minutes |
| Chino I Operations Report |
| Chino II Operations Report |

| |
|----------------------|
| FUTURE |
| O&M Agreement Update |