JOSHUA BASIN WATER DISTRICT
REGULAR MEETING OF THE BOARD OF DIRECTORS
WEDNESDAY, MARCH 6, 2019, AT 6:30 PM
61750 CHOLLITA ROAD, JOSHUA TREE, CA 92252

AGENDA

1. **CALL TO ORDER**

2. **PLEDGE OF ALLEGIANCE**

3. **DETERMINATION OF A QUORUM**

4. **APPROVAL OF AGENDA**

5. **PUBLIC COMMENT**
Members of the public may address the Board at this time with regard to matters within the Board's jurisdiction that are not listed on the agenda. State law prohibits the Board of Directors from discussing or taking action on items not included on the agenda. Members of the public will have the opportunity for public comment on any item listed on the agenda when it is addressed on the agenda. Please limit comments to three (3) minutes or less.

6. **CONSENT CALENDAR**
Matters on the Consent Calendar are considered routine in nature and will be enacted in a single motion without discussion. Any Board member or member of the public may request that an item be removed from the Consent Calendar and acted on separately.

Pages 3-4
Page 5
Pages 6-7

a. Draft Minutes February 6, 2019, Regular Board Meeting
b. Draft Minutes February 12, 2019, Special Board Meeting
c. Updated Exhibit 1 Timeline for Public Hearings (re-approval from Board of Directors)

Pages 8-14

7. **PRESENTATION FROM DUDEK ENGINEERING UPDATING THE WASTE WATER TREATMENT STRATEGY –**Mike Metts, Dudek Engineering. Staff report from GM Sauer and AGM Greer.

Pages 15-18

8. **ACCEPT SENSUS/AQUA METRIC PROPOSAL FOR WATER METER REPLACEMENT-** AGM Greer- Recommend that the Board of Directors accept a proposal from Sensus/Aqua Metric for multi-year AMR meter replacement project; Bid $1,343,719 plus a 10% contingency for a total of $1,478,091, (reviewed by Finance Committee and WRO Committee on February 13, 2019, and referred to the Board of Directors for approval).

Pages 19-21

9. **EMPLOYEE RECOGNITION AND AWARDS PROGRAM –** GM Sauer – Recommend that the Board of Directors approve the Employee Recognition and Awards Program (reviewed by the Finance Committee on February 13, 2019, and referred to the Board of Directors for approval).

Pages 22-23

10. **CAPITAL IMPROVEMENT AND REPLACEMENT PROGRAM (CIRP) CREW ALTERNATE WORK SCHEDULE –** AGM Ban – Recommend that the Board of Directors approve the alternative work schedule for the District's CIRP crew.

11. **DISTRICT GENERAL COUNSEL REPORT –** Mr. Gil Granito

12. **GENERAL MANAGER REPORT** – GM Sauer

13. **ASSISTANT GENERAL MANAGER-OPERATIONS REPORT –** AGM Ban

14. **DIRECTOR COMMENTS & REPORTS ON MEETINGS ATTENDED**

- Public Outreach Consultant – Kathleen Radnich
- Mojave Water Agency Board of Directors Meeting – February 28, 2019 – Director Luckman

15. **FUTURE DIRECTOR MEETINGS AND TRAINING OPPORTUNITIES**

- Citizens Advisory Committee – March 12, 2019, at 6:00 p.m. – Karen Tracy, Chairperson
- Finance Committee – March 13, 2019, at 9:00 a.m.-President Johnson & Vice President Unger
- Water Resources & Operations Committee –March 13, 2019, at 10:30 a.m.- Director Luckman and Director Hund
- ASBCSD – March 18, 2019, at 6:00 p.m., Panda Inn, 3223 E. Centrelake Dr., Ontario, CA Speaker is Chris Berch, IEUA Executive Manager of Engineering/Assistant General Manager "Defining the Future of Water-The Chino Basin Program and so Much More".
- Mojave Water Agency Board of Directors Meeting- March 28, 2019, at 9:30 a.m. – Director Unger (MWA first meeting is canceled due to audio/visual upgrades).
- Mojave Water Agency Technical Advisory Committee (TAC) – April 4, 2019, at 10:00 a.m. – Director Luckman

16. **ADJOURNMENT-**

INFORMATION

The public is invited to comment on any item on the Agenda during discussion of that item.

Any person with a disability who requires accommodation in order to participate in this meeting should telephone Joshua Basin Water District at (760) 974-0072, at least 48 hours prior to the meeting in order to make a request for a disability-related modification or accommodation.

Materials related to an item on this Agenda submitted to the Board of Directors after distribution of the agenda packet are available for public inspection in the District's office located at 61750 Chollita Road, Joshua Tree, California 92252 during normal business hours.

JOSHUA BASIN WATER DISTRICT
REGULAR MEETING MINUTES
WEDNESDAY, FEBRUARY 6, 2019

CALL TO ORDER/PLEDGE OF ALLEGIANCE
President Johnson called the meeting to order at 6:30 p.m.

DETERMINATION OF A QUORUM –President Johnson, Vice President Unger, Director Hund, Director Luckman, and Director Reynolds.

STAFF PRESENT -Curt Sauer, GM, Beverly Waszak, Executive Assistant, Susan Greer, AGM/Controller, Sarah Johnson, HR Manager, and Mark Ban, AGM-Ops.

CONSULTANTS PRESENT - Kathleen Radnich, Public Outreach, Mr. Gil Granito, District Counsel, and Ms. Jennifer Farrell, Legal Counsel. Rutan & Tucker, LLP.

APPROVAL OF AGENDA –Director Reynolds made a motion to approve the Agenda. Vice President Unger seconded.

MSC[1] (Reynolds/Unger) motion carried by the following vote:

Ayes: Hund, Johnson, Luckman, Reynolds, and Unger
Noes: None
Absent: None
Abstain: None

PUBLIC COMMENT – Gayle Austin, Joshua Tree, commented that in Walmart there is a sign that says "your tap water can hang out in some pretty seedy places, it's time to rethink your water". These are primo water dispensaries and feels this is underhanded and almost as wrong as the fake water test kits in Home Depot. She asked the Board if there was anything they could do or if they had any suggestions.

CONSENT CALENDAR - Director Reynolds made a motion to approve the Consent Calendar. Director Luckman seconded.

MSC[1] (Reynolds/Luckman) motion carried by the following vote

Ayes: Hund, Johnson, Luckman, Reynolds, and Unger
Noes: None
Absent: None
Abstain: None

PRESENTATION OF AWARD FOR PAST PRESIDENT MICKEY LUCKMAN FOR HER YEARS OF LEADERSHIP – GM Sauer and President Bob Johnson presented Director Luckman with an award for her years of service and leadership. Director Luckman graciously thanked everyone.

CONSIDERATION OF RESOLUTION OF INTENT PURSUANT TO ELECTIONS CODE SECTION 10010(e) (3) (A) TO INITIATE PROCEDURES FOR ESTABLISHING AND IMPLEMENTING DISTRICT BASED ELECTIONS FOR BOARD MEMBERS – RESOLUTION NO. 19-994- Ms. Jennifer Farrell, Legal Counsel, Rutan & Tucker, LLP, gave a brief report and overview of the letter that was received from Attorney Kevin Shenkman claiming the District was in violation of the California Voting Rights Act, which was passed in 2002, and it basically encouraged private law suits against public agencies to go from an "At-Large Election" to District based elections. Ms. Farrell went on to give the Board the next steps with a schedule dates of the next hearing dates. She then led a brief Q&A.

Director Hund made a motion to approve Resolution No. 19-994. Director Luckman seconded.
MSC[1] (Hund/Luckman) motion carried by the following vote:

Ayes: Hund, Johnson, Luckman, Reynolds, and Unger
Noes: None

Absent: None
Abstain: None

DISTRICT GENERAL COUNSEL REPORT – None.

GENERAL MANAGER REPORT – GM Sauer discussed the following with the Board:

- Water bill error from printing company, with corrected bills being mailed out with a new due date.

ASSISTANT GENERAL MANAGER OPS REPORT – AGM Ban informed the Board on the following:

- One leak from the latest storm with storm crews working diligently on the large washouts.
- CIRP Hiring for LEAD with other positions looking promising.
- CIRP Plan review meeting tomorrow to discuss combining pressure zones.
- Shop offices are completed.
- New equipment is now on site (Loader, Excavator and Roller) still waiting on the Kenworth trucks.

PUBLIC COMMENT

Al Marquez, Joshua Tree asked for a more comprehensive update on Well 14 at the next Board meeting.

DIRECTOR COMMENTS & REPORTS ON MEETINGS ATTENDED –

Kathleen Radnich updated the Board on the Low Income Assistance Program, Summerizing Class, Holiday Closure, Winterizing, Water Education Day, and the Cal Warn System.

Vice President Unger gave a brief report on her attendance at the Mojave Water Agency Board meeting on January 24, 2019. She also thanked Director Luckman for her service.

Director Reynolds congratulated and thanked Director Luckman for her years of service.

President Johnson thanked the first responders and the men & women in uniform. He asked everyone to remember the cold weather advisory and to ensure pets are safe.

FUTURE DIRECTOR MEETINGS AND TRAINING OPPORTUNITIES – President Johnson informed the Board on upcoming meetings.

ADJOURNMENT – At 7:15 p.m., Vice President Unger motioned to adjourn the Board meeting. Director Hund seconded.

MSC[1] (Unger/Hund) motion carried by the following vote

Ayes: Hund, Johnson, Luckman, Reynolds, and Unger
Noes: None
Absent: None
Abstain: None

Respectfully Submitted,

_____

Curt Sauer, General Manager and Secretary to the Board

JOSHUA BASIN WATER DISTRICT
SPECIAL MEETING MINUTES
WEDNESDAY, FEBRUARY 12, 2019

CALL TO ORDER/PLEDGE OF ALLEGIANCE
President Johnson called the Special meeting to order at 9:30 a.m.

ROLL CALL
Directors Present – President Johnson, Vice President Unger, Director Hund, Director Luckman, and Director Reynolds.

STAFF PRESENT
Curt Sauer, General Manager, Susan Greer, Assistant General Manager-Finance, Beverly Waszak – Executive Assistant

APPROVAL OF AGENDA – Vice President Unger made a motion to approve the Agenda. Director Hund seconded.

MSC[1] (Unger/Hund) motion carried by the following vote

Ayes: Hund, Johnson, Luckman, Reynolds, and Unger
Noes: None
Absent: None
Abstain: None

PUBLIC COMMENT – None

ADMINISTRATION CODE WORKSHOP – A review was completed of the Administration Code with updates.

ADJOURNMENT – Director Luckman made a motion to adjourn the Special Board meeting at 1:34 p.m. Vice President Unger seconded the motion.

MSC[1] (Luckman/Unger) motion carried by the following vote

Ayes: Hund, Johnson, Luckman, Reynolds, and Unger
Noes: None
Absent: None
Abstain: None

Respectfully Submitted:

_____
Curt Sauer, GM and Board Secretary

EXHIBIT 1
TENTATIVE TIMELINE

PROPOSED DATE	BOARD ACTION	NOTES
02/06/19	**Public Meeting:** Adopt Resolution of Intent to Convert to District Voting	• Must adopt resolution within 45 days (02/09/19) • If adopted, District gets additional 90 days of legal immunity (05/07/19)
03/13/19	**Public Hearing #1:** First of two public hearings before maps drawn	• PH 1 and PH 2 must be held within 30 days of each other • Notice for all PH must be published and posted 10 days prior (03/03/19)
03/20/19	**Hold Public Hearing #2:** Second of two public hearings after maps drawn	• Notice for all PH must be published and posted 10 days prior (03/10/19)
03/27/19	**Release Draft Map(s):** Post on District's website	• This must occur 7 days prior to public hearing
04/03/19	**Public Hearing #3:** First of two public hearings after maps drawn	• PH 3 and PH 4 must occur within 45 days of each other • Notice for all PH must be published and posted 10 days prior (03/24/19)
04/03/19	**Release Revised/Amended/New Draft Map(s):** Post on District's website	• Only if map revised after PH 3
04/10/19	**Public Hearing #4:** Second of two public hearings after maps drawn. Hold Public Hearing to introduce ordinance establishing districts.	• Notice for all PH must be published and posted 10 days prior (04/07/19)

PROPOSED DATE	BOARD ACTION	NOTES
04/17/19	**Public Hearing #5:** If Ordinance introduced at PH 4, final public hearing and second reading. If ordinance not introduced at PH 4, must introduce ordinance establishing district	• Notice for all PH must be published and posted 10 days prior (04/07/19) • If second reading occurs at this meeting, ordinance becomes effective 05/17/19
05/01/19	**Public Meeting #6 (?):** Second reading of ordinance establishing districts	• Likely only needed if map amended after PH 4. Effective Date: 06/01/19

JOSHUA BASIN WATER DISTRICT
MEETING AGENDA REPORT

Meeting of the Board of Directors March 6, 2019

Report to: President and Board of Directors

Prepared by: Susan Greer and Curt Sauer

TOPIC: UPDATING THE WASTE WATER TREATMENT STRATEGY

RECOMMENDATION:

Approve update of 2009 Wastewater Treatment Strategy, by the original author of the document, Dudek Engineering, at a cost not to exceed $44,000 with a ten percent contingency.

ANALYSIS:

The WTS was adopted in 2009, nearly 10 years ago. At the same time, wastewater capacity fees were put in place, which have been increased each year since in accordance with the construction industry cost index, although utilizing the same methodology as from 2009.

Applying the existing strategy, we project that income to be generated via wastewater capacity fees will not be near enough to fund the future wastewater system infrastructure, as the WTS suggests. We should revisit the WTS for the following reasons:

- Actual cost of future facilities will likely be significantly greater than projected in the WTS.
- We have thousands of meters already located in the WTS area that never contributed fees towards the wastewater system infrastructure, although the sewer project will be constructed in front of their parcels and we will want them to connect to protect groundwater.
- The WTS has deducted acreage that is presumed not to be developed, such as slopes, rock outcroppings and flood plain. We don't expect to need a wastewater system in those areas, so the cost is not included. To the extent that any of those areas **are** developed, the system would have to be expanded, at additional cost.
- The WTS includes currently-occupied parcels as projected contributors of future capacity fees if the general plan indicates a potential for higher density. If those parcels never develop further, we have overestimated the number of contributors.

The table below indicates how the number of parcels with new meters in the WTS are compared against overall meters sold since the wastewater capacity charges were implemented in 2009:

Fiscal Year	# Water	# Wastewater
09/10	2	0
10/11	8	5

11/12	7	2
12/13	8	2
13/14	4	1
14/15	5	0
15/16	5	0
16/17	14	1
17/18	22	5
TOTAL	75	16

- In nine years, only 16 of the 75 new meters purchased have been in the WTS area, meaning that only 21% of new meters have paid fees associated with construction of a future wastewater system.
- In the last fiscal year alone, that means we didn't collect wastewater capacity charges for 59 parcels totaling at least $369,989.
- Note the significant increase in meter purchases in the last two years totaling 36, while the meters sold in the previous seven years total 39.

Because of the current upward development trend, we recommend that the Board move forward as quickly as possible to revisit the Wastewater Treatment Strategy in order to ensure that new development pays its own way and the District collects appropriate amounts required to fund the future wastewater system.

Updating the WTS is not currently budgeted. This action will approve $44,000 so that work may begin immediately.

Mike Metts is here tonight to present more detail about the rewrite.

FISCAL IMPACT: $44,000 with 10 percent contingency

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ENCINITAS CALIFORNIA 92024
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January 22, 2019 6079

Curt Sauer
General Manager
Joshua Basin Water District
61750 Chollita Road
Joshua Tree, CA 92252

Subject: 2019 Wastewater Treatment Strategy Update

Dear Mr. Sauer:

Thank you for the opportunity to meet and discuss specific concerns with the 2009 Wastewater Treatment Strategy (WTS), as well as specific components of the 2019 WTS Update. During out meeting, we discussed a variety of topics including the basis upon which the 2009 WTS was developed, WTS fees and their development, and other important topics. This letter documents our discussions, as well as defines specific changes that the District discussed for incorporation into the 2019 WTS Update.

2009 WTS Development

The 2009 WTS was developed based on a series of preliminary directions, each of which contributed to the final strategy promulgation. In addition, the United States Geological Survey (USGS) was concurrently conducting groundwater studies that also contributed to the findings of the 2009 WTS. The following is a summary of specific decisions affecting the 2009 WTS development:

- The 2009 WTS Study Area did not include the entire District. The study area was defined to include an area approximately two miles either side of and along Highway 62. Within the wastewater treatment area, any construction or new service greater than 2.0 equivalent dwelling units per acre (EDU/acre) is required to contribute to future wastewater facilities costs.

- The USGS established a threshold of 2.0 EDU/acre as the point at which wastewater production resulted in a negative impact on the District groundwater basin.

- Existing customers at the time the 2009 WTS was developed were exempt. The 2009 WTS did not impose any fees or improvement requirements on existing development (residential or commercial), which are currently served by on-site septic systems. Any existing customer that connects to the sewer system in the future would pay required fees at that time.

- Commercial properties represent greater impacts to the groundwater basin. All customers pay fees based on its EDU/acre calculation, which is based on water use and wastewater production.

- The 2009 WTS estimated $90 million for a centralized treatment plant and trunk sewer in 2009 dollars. This cost is accelerated using the Engineering News Record Construction Cost Index (ENR CCI) each year. This acceleration is intended to increase fees in accordance with construction industry trends.

- The $90 million cost identified in the 2009 WTS was not intended to represent the entire cost of implementing complete wastewater collection. The intent was to collect the cost of the treatment plant and the primary trunk sewer. It was understood that other costs were involved and future funding would

be needed to construct additional sewers. These additional sewers were defined to be constructed by developers directly, or through other funding mechanisms at the time (SRF low interest loans, grant funding or other opportunities).

- The WTS was intended to be revisited on a periodic basis to make certain that the WTS is properly reflecting required facilities, regulatory changes, and the costs thereto.

- Development is intended to pay for future wastewater facilities. Package treatment plants are required where development is above the 2.0 EDU/acre threshold. Involvement of existing customers in the WTS was excluded, unless they specifically requested to be included or required inclusion resulting from septic system failure.

- District groundwater studies evaluated the availability of groundwater within the District's hydrologic unit. The reports discuss the anticipated natural recharge of the basin, and the extent of overdraft experienced. In addition, the reports identify the impact of localized septic tank use on the underlying groundwater basin, projecting the time required for nitrates to reach the groundwater. The result identified a maximum of 15 years before existing septic tank operations would affect the groundwater supplies of the District.

- Existing development is predominantly residential, with smaller areas of commercial and institutional development. Developing over the last 40 years, existing customers use on-site septic systems exclusively for treatment and disposal of wastewater. Based on previous studies and considering an increasing water conservation trend in California, wastewater production is estimated to be 220 gallons per day per equivalent dwelling unit (EDU). Statewide conservation increases since 2009 may revise this estimate.

- For the purposes of the WTS, vacant undeveloped land within the study area is assumed to become tributary to a near- or long-term wastewater collection and treatment system. Occupied parcels are included in the WTS evaluation only where the general plan indicates a potential for denser development in the future.

- Existing developed parcels are assumed to be safely treating and discharging wastewater flows through use of septic tanks in accordance with existing environmental law and permits. As such, it would be unnecessary to require changes to existing conditions. The cost of implementing the WTS are borne by future development, and not existing customers. As such, future impacts to local groundwater resources will be curtailed, but not eliminated.

- The 2009 WTS evaluation assumes that existing vacant land within the project study area will not be allowed to use on-site septic systems, unless the development is on half-acre lots or larger. As a result, these parcels are assumed to become tributary to the District's future wastewater collection and treatment system.

- The District's 2006 Wastewater Study estimated BOD and TSS loadings of 250 mg/L. As water conservation is increased, flow estimates are reduced and wastewater strength is correspondingly increased. Therefore, District treatment facilities need to be designed for the lower flow rate and an influent BOD5 and TSS concentration of 300 mg/L, each.

- Facility cost assumptions are outlined in the 2009 WTS. These assumptions are based on 2009 information and are intended to be updated in the future.

As discussed above, these assumptions framed the development of the 2009 WTS. Changes to any or all of these assumptions can dramatically change the way the District plans for and ultimately constructs future wastewater facilities. One particular assumption, exempting existing customers from the WTS, is concerning. Many existing commercial establishments exceed the 2.0 EDU/acre threshold. As such, they are already potentially affecting the

groundwater basin. The 2019 WTS Update should address this assumption, and develop a means by which existing groundwater impacts can be mitigated and/or reversed over time.

2019 WTS Update

The scope of work for the 2019 WTS Update will be similar to that of the 2009 WTS development. Use of updated information will be required, without duplication of previous efforts. Each of the previous discussed assumptions will be discussed with District staff. The following tasks are anticipated to complete the update:

Task 1 – Data Collection & Review

Dudek has already reviewed available documents in preparation of the 1009 WTS. We will work with District staff to collect and review updated information. Dudek will collect and review:

- Currently available wastewater planning studies from High Desert Water District, City of 29 Palms, Big Horn Water District, and County of San Bernardino Special Districts
- San Bernardino County standards for wastewater treatment and disposal
- Data compiled for the 2006 wastewater and groundwater studies,
- Topographic/GIS information for identifying wastewater drainage basin boundaries,
- JBWD Groundwater Basin Management Plan,
- Current Joshua Tree General Plan,
- Current regulatory and permitting requirements,
- Currently planned land development projects within the project study area, and
- Current groundwater recharge information.

Task 2 – Regulatory & Permitting Requirements

Dudek will incorporate new regulatory promulgations since development of the 2009 WTS. Of particular note will be the San Bernardino and Regional Water Quality Control Board regulations pertinent to wastewater treatment and disposal in the Joshua Tree area. Recent discussions with these agencies, as well as the Local Area Formation Commission (LAFCO), will be incorporated into the 2019 WTS Update.

Task 3 – Wastewater Quantities

Based on existing and projected land development, Dudek will evaluate near-term and long-term wastewater production with the project study area. Existing users dispose of wastewater through individual septic system. We will define the wastewater production from existing uses on a parcel-by-parcel basis. We will also project wastewater quantities from known new developments, and potential in-fill development. This task will identify the quantity of wastewater for each land use type in the near-term scenario. The long-term strategy continues to include wastewater treatment at a centralized facility. Disposal of treated wastewater will include subsurface disposal (leach fields), surface disposal (percolation basins), direct injection, indirect reuse, or other such disposal options.

Inherent in this task will be the definition of the project study area. The 2009 WTS evaluated a specific project study area. The 2019 WTS Update will evaluate other options including expanding WTS coverage to existing customers, as well as extending the study area beyond that of the 2009 study. The update will evaluate equitable alternative to assure that all customers are contributing to the near- and long-term wastewater collection, treatment and disposal of wastewater for the protection of local groundwater supplies.

Task 4 – Treatment Alternatives

Since the 2009 WTS development, alternative treatment options may be available. Dudek will update the WTS discussions on allowable treatment options for implementation within the District service area, with the goal of transitioning District wastewater operations from the existing septic systems to distributed treatment systems

and/or a regional treatment system. The District will require a near-term solution for smaller distributed treatment systems, and a long-term solution for the ultimate regional treatment objective. Dudek will update its previous evaluations to identify available treatment alternatives for use. From these alternatives, low-cost and reliable treatment options will be identified,

Available treatment option will be identified for near-term wastewater treatment, with preferred options identified for various development sizes. Dudek will develop new cost opinions for near-term alternatives including capital, operations and maintenance (energy and labor), and lifecycle costs. The cost tables in the 2009 WTS will be updated to reflect the new treatment alternative.

Task 5 – Financial Alternatives

During development of the 2009 WTS, the project team developed a macro-level financial plan to assess the viability of funding sources for implementation of the WTS. As part of that financial forecasting effort, we reviewed, analyzed and incorporated into the financial plan the following components:

- District fiscal policies,
- Capital financing objectives (CIP),
- Operating plans and costs,
- Projected revenue and expenditure sources, and
- District results and action plans.

The final updated plan will allow the District to evaluate the long-term viability of its goals, as well as current and future revenue sources. An updated financial evaluation will be provided including a list of available funding sources. As with the 2009 WTS, the primary focus for revenue generation will be on future utility rates and connection (or development impact) fees. We will provide an updated implementation plan.

Task 6 – Updated WTS Document

Dudek will prepare an updated report describing the components of the strategic plan, including:
Identifying the near- and long-term challenges and solutions for wastewater treatment
Identifying logical drainage areas requiring future local wastewater treatment
Updating criteria and thresholds where by a District wide treatment facility will be constructed
Documenting threshold criteria for local wastewater treatment to transition to a central treatment facility

The updated strategic plan will not constitute a master plan of required facilities. Rather, it will continue to be a guidance document outlining the overall intent of the WTS, as well as how the District approaches wastewater treatment and disposal as development continues. The updated WTS document will serve as the basis for revisions to the Region 7 Basin Plan and the District's Groundwater Management Plan with respect to near- and long-term wastewater treatment and disposal planning.

Task 7 – Project Management

This task provide critical project management functions required to perform the WTS update. Monthly progress meetings will be held with District staff. Dudek will prepare written progress reports that present the progress of the project, completed work, projected work, and identification of any considerations that may affect the performance or schedule of the project. The progress reports will be delivered via electronic transmission.

Fee Proposal

Based on the revised information developed from Tasks 1 through 7, Dudek will prepare the 2019 WTS Update. It is understood that significant coordination will be required with District management to address existing challenges

concerning the 2009 WTS. Dudek proposes to use as much information from the 2009 WTS development as is appropriate to avoid duplication of effort, as we as to lower the update cost. The following table defines the proposed fee for completion of the 2019 WTS Update.

TABLE 1. FEE PROPOSAL

		Labor Hours and Rates									
	Project Team Role: / *Team Member:* / *Billable Rate:*	PM/PIC Metts $245	Sr Engr Guillen $205	Proj Engr Harvey $160	CADD King $155	Admin Kinney $95	TOTAL HOURS	LABOR COST	SUBS	ODCs	TOTAL FEE
SAMP Amendment											
1	Data Collection & Review	2	2	8			12	$ 2,180			$ 2,180
2	Regulatory & Permitting Requirements	2	8				10	$ 2,130			$ 2,130
3	Wastewater Quantities	2	4	32			38	$ 6,430			$ 6,430
4	Treatment Alternatives	2	16	4			22	$ 4,410			$ 4,410
5	Financial Alternatives	4					4	$ 960	$ 7,500		$ 8,460
6	Updated WTS Document	8	24	32	16	16	96	$ 16,000			$ 16,000
7	Project Management	8	8				16	$ 3,600			$ 3,600
	Total	28	62	76	16	16	198	$ 35,730		$ -	$ 43,230

Thank you for the opportunity to update the District's Wastewater Treatment Strategy. We are prepared to begin work upon your authorization. We anticipate completing the update in two to three months, depending on data availability and other factors. If you have any questions or require any additional information, please do not hesitate to call me at 760.479.4111 or email at mmetts@dudek.com.

Respectfully Submitted,
DUDEK

D. Michael Metts, PE
District Engineer

JOSHUA BASIN WATER DISTRICT
MEETING AGENDA REPORT

Meeting of the Board of Directors March 6, 2019

Report to: Board of Directors

Prepared by: Susan Greer

TOPIC:
ACCEPT SENSUS/AQUA METRIC PROPOSAL FOR WATER METER REPLACEMENT

RECOMMENDATION:
ACCEPT PROPOSAL FROM SENSUS/AQUA METRIC FOR MULTI-YEAR AMR METER REPLACEMENT PROJECT; BID $1,343,719 PLUS 10% CONTINGENCY, FOR TOTAL $1,478,091

ANALYSIS:
The majority of water meters in the District were installed in 2000 and it is time for replacement. More than 75% of the meters that have been tested are failing, all under-reporting, mostly in the 2% range, but some flows under-reporting by nearly 15%. The rate study includes $2.5M funding of $500,000 per year over five years for meter replacement (although the final year falls outside of the five years of rates established with the current rate study.) The current budget includes $250,000 for meter replacement as we assumed phased-in installation in year one. Requests for proposals were sent to four different meter vendors; **National** Meter/Badger, Core & Main/**Master** Meter, Inland Water/Itron/**Zenner**, and Aqua-Metric/**Sensus**, which is our current meter supplier.

The District solicited bids for both AMR (Automatic Meter Reading) and AMI (Advanced Metering Infrastructure) technologies. The District currently utilizes AMR, the drive-by meter reading system. AMI is more sophisticated technology, requiring towers to collect meter read data without the need to drive by, and provides more alerts and reporting, which customers can access through a customer portal. AMI installation and ongoing costs are approximately 40% greater than AMR. Some of the reported advantages of AMI meter reading over AMR are indicated below:

- Reduce meter reading labor and vehicle costs.
- Improve employee safety.
- Remote verification of meter reads and re-reads, as well as some other CS questions.
- Early detection of leaks, reduction of revenue given for assistance.
- Faster identification of dead meters, reduces lost revenue.
- Over time, customers are expected to do more self-service through the customer portal, reducing call volume and roll-outs.
- Reduction of need to estimate bills that takes extra staff effort.
- Water conservation – timely notification of leaks, helps meet state conservation requirements.

Note that AMI also has the potential to reduce customer bills as they can more easily monitor ongoing water use throughout the month and promptly be informed of leaks.

While AMI will reduce meter reading labor and vehicle costs, we have no idea what additional labor might be required from our customer service staff if customers are receiving much more information about their water use. We don't know what customer service expectations our customers will have and what level of "self-service" can be expected of them.

Staff currently recommends the AMR option, but if the Board elects it, AMI also fits within the $2.5M budget that has been established and funded via the recent rate study. We recommend AMR because we know it works and we know what staff resources are required to operate it as we've been using it for almost 19 years. We don't know exactly what AMI will entail, staffing-wise, and there is approximately one week of labor savings per month if we eliminate meter reading by using AMI, which time we assume would be then devoted to customer service responding to customer inquiries. If even more staff resources are required to respond to inquiries raised by customers, we will incur additional labor cost that isn't considered in this evaluation.

Bids were received from all four vendors, summarized below:

	AMR		AMI	
	Install	No Install	Install	No Install
National	1,343,236	906,341	2,180,494	1,743,599
Master	1,879,955	1,196,382	2,793,715	2,045,109
Sensus	2,017,878	1,343,719	2,911,245	1,868,002
Zenner	1,822,726	1,187,005	2,790,743	1,769,283

Install includes contractor/vendor installation
No Install includes installation by District CIRP crew

Note that AMI costs from all bidders include some assumptions about required tower infrastructure that may differ when actual installation occurs. This variable is another reason that Staff doesn't currently recommend AMI.

Staff recommends that we move forward with Aqua Metric/Sensus (Sensus) for the following reasons:

Technology: Sensus is the only proposer that has ¾" magnetic meters already in production. The District has been using the Sensus magnetic meters since 2012 although Sensus has sold the non-moving part technology magnetic meters since approximately 2007. The meters have proven to work well with our water, which can be an issue because of the high mineral content. The magnetic meters also record lower flows than the non-magnetic meters (more about that later.) The other vendors don't have magnetic meters yet in all sizes although some say they are in the works. Staff doesn't recommend that the District be the test site for any first generation magnetic meters from other vendors.

Currently In-Use: The District has already installed 650 of the latest Sensus magnetic meters, which won't have to be replaced yet. We also have the applicable meter reading equipment already. Using equipment and technology that Staff is already familiar with reduces costs and time associated with training, technology purchase and implementation, and current operational procedures and understandings from Finance to Field Operations.

Excellent Service and Staff Support: The District has a nearly 19-year relationship with Sensus already. We have an account manager assigned to JBWD that is very knowledgeable about the District and responsive to our needs and concerns, whether meter technology questions or responding to inquiries from our own customers. Our Sensus account manager has come in person to JBWD whenever requested to help us out in the field, such as if there was a meter reading problem.

Low Flow Collection: One of the advantages of the Sensus magnetic meters is that they are capable of measuring lower flows of water than the non-magnetic meters, as indicated in the table below:

	1" Meter Low Flow	¾" Meter Low Flow
National	.75 gpm	.25 gpm
Master	.75 gpm	.50 gpm
Sensus	.11 gpm	.11 gpm
Zenner	.75 gpm	.50 gpm

Measurement of low flows is an important issue as related to small leaks, lower flows for irrigation systems or partially-open faucets and especially swamp coolers. With an average 10 gallons of water per hour swamp cooler use, that's equivalent to approximately .16 gallons per minute, with the Sensus meters being the only meter that can pick up those low flows. That water would pass through the other meters undetected. That creates both unaccounted for water loss and lost revenue.

Considering an average swamp cooler water use of 10 gallons per hour, with most use occurring in a 10-hour period, that would be 100 gallons per day. Using the quarter June 1 to August 31 (92 days,) and assuming that 75% of our active water use customers utilize swamp coolers as their primary means of cooling, that's over 27 million gallons or 84 acre feet of water that would be undetected by the non-magnetic meters in just one quarter. Using the lowest tier rate for each of the next four years with rates already established, then increasing that water rate by 2% per year after, we could be picking up $160,700 additional revenue from low flows at the beginning and then over $202,000 per year by 23/24, for a *total of $4.13M over 20 years*. If we add additional hotter months to the equation, additional revenues could be even greater. So, while the Sensus bid is higher than most, this ability to detect and bill for lower water flows significantly changes the analysis, resulting in gained revenues over the 20-year life of the meters that aren't possible with the other non-magnetic meters.

Note that I did not consider the normal increase to revenues that will occur with meter replacement, because that is the same for ALL of the proposals. We can expect an increase in revenue due to improved meter accuracy, which will add another one million dollars or more over 20 years depending on the overall accuracy of meters being replaced. The $4.13M found revenue discussed above only relates to the additional revenue that the Sensus meters will provide because of their ability to measure low flows that other meters currently cannot.

Transition from AMR to AMI: If the District elects AMR now and wants to transition to AMI in the future before meters need to be replaced again, it's a fairly simple process. We would have to install the tower infrastructure, update software and then integrate billing with the customer portal. Some of the other vendors require purchase of additional metering infrastructure for this AMI to AMR transition, which Sensus does not.

Return on Investment (ROI): Assuming water rates already in place through 12/31/22 and then an annual rate increase of 2%, ROI is 308% for AMR, over 15% per year. ROI is 210% for AMI, over 10% per year. Breakeven for AMR is fiscal year 27/28 and fiscal year 30/31 for AMI, meaning that we

break even well before our warranty expires on the meters. Meters have a 20-year warranty, with full replacement for first 10 years and prorated replacement thereafter.

This report was presented to both the Finance and Water Resources & Operations Committees on February 13, and both Committees recommend for approval by the Board.

FISCAL IMPACT:

Assuming JBWD installs meters and infrastructure with the CIRP crew, costs for Sensus meter replacement are indicated in the table below. Note that after we consider the $4,133,110 revenue gained from low flows measured by the Sensus meters, the cost is negative, meaning that we more than cover the actual cost. We will gain over $2M in revenue as a result of the meter replacement because of the low flow measurement.

OPTION	UP-FRONT COST	MINUS $4.13M LOW FLOW REVENUE GAINED OVER 20 YEARS	TOTAL COST (REVENUE GAINED - COVERS ALL COSTS PLUS THIS AMOUNT)
AMR	$1,343,719	$4,133,110	$2,789,391
AMI	$1,868,002	$4,133,110	$2,265,108

Rates are currently in place to fund $500,000 meter replacement each year over the current and next three years. Allowing for a 10% contingency, the AMR cost is $1,478,091, which is $1,021,909 LESS than the $2,500,000 projected cost, which was funded via the rate study.

JOSHUA BASIN WATER DISTRICT
MEETING AGENDA REPORT

Meeting of the Board of Directors March 6, 2019

Report to: President and Board of Directors

Prepared by: Sarah Johnson

TOPIC: EMPLOYEE RECOGNITION AND AWARDS PROGRAM

RECOMMENDATION: Recommend that the Board approve the Employee Recognition and Awards Program

ANALYSIS:

In accordance with Water Code Section 30580 (d), the General Manager shall fix and alter the compensation of employees and assistants subject to approval by the board. By the board adopting this program, the General Manager will have the authority to administer the Employee Recognition and Awards program within guidelines set in the policy.

A thoughtfully administered Employee Recognition and Awards Program benefits both the organization and the employee. Employees feel valued, morale increases, which aids in overall reduced employee stress. In turn the District benefits by increased productivity; improved performance and safety; better-quality customer service; reduced absenteeism, and the increased ability to attract and retain talented employees.

Staff recommends that the Board adopts the Employee Recognition and Awards program authorizing the General Manager to administer this program.

Employee Recognition and Awards Program

Purpose: The District strives to recognize individuals and groups for superior achievements which reinforce the District's goals and objectives for performance improvement and staff development.

Policy: By recognizing the truly significant contributions of its employees, the District endeavors to build and maintain a highly motivated workforce and contribute to employee job satisfaction. Awards are based on budget availability and the final approval of the General Manager. Contingent on availability of funds, the District will administer the Employee Recognition and Awards Program in accordance with the following categories, eligibility requirements, and procedures. A line item in each years budget will establish annual maximum expenditures, as approved by the Board.

Definition: This policy describes the Employee Recognition and Awards Program. Employees may be recognized for substantial District or job-related contributions in the areas defined below.

Performance Award Categories:
This award category may convey a monetary value.

The Outstanding Service Award: Recognizes a substantial contribution to the District.

Examples:
Performing duties of a substantial nature, often for an extended period; sustained dedication to quality service for internal/external customers; creating efficiencies that save the District's resources; creating effective work procedures that increase overall performance; substantial leadership skills that lead to the success of a major District activity.

The Safety Award: Recognizes when employees go beyond the call of duty to maintain a safe workplace.

Special Achievement Award Categories:
This award category does not convey a monetary value.

The Professional Goal Attainment Award: Recognizes a staff member who has achieved a job-related educational or professional goal such as completing a formal program of study or to earning an industry-recognized certification.

Milestone Anniversary Award: Recognizes the contributions, knowledge, and experience of long-term employees. In appreciation of this dedicated service, the District recognizes employees as they reach milestone anniversaries of employment. Active employees become eligible for this award in the year in which they complete 5, 10, 15, 20, 25, 30, and every five years of service thereafter.

Retirement Award: In appreciation of this dedicated service, the District recognizes employees as they retire. Retirement recognition awards are given upon retirement after completion of 20 years of employment without a break in service.

Eligibility:

Performance Award Categories:

In order for employees to be eligible for the Performance Award Category, they must have successfully completed probation, must be on active service, and not have had a formal disciplinary action within the preceding 12 months of the award date.

Special Achievement Award Categories:

In order for employees to be eligible for the Special Achievement Category, they must have successfully completed probation and must be on active service.

Procedures: Human Resources (HR) oversees the administration of the Employee Recognition and Awards Program. Awards will be presented by the supervisor and the General Manager. The General Manager may arrange for a special award presentation. Awards will be documented and placed in the awarded employee's personnel file.

Performance Award Categories:

1. Based on guidance provided by HR, the supervisor may recommend a performance award to recognize the truly significant contribution of an employee.

2. Award types may be non-monetary recognition (i.e., certificate, trophy, paid time off, etc.) or monetary recognition (i.e., cash award, step increase, etc.).

3. The supervisor must complete the award recommendation form and submit it to HR.

4. Completed forms will be submitted by HR to the General Manager for final approval.

Special Achievement Award Categories:

1. Special achievement awards will be presented during a District-wide meeting or event closest to the date of achievement.

2. The supervisor must complete the award recommendation form and submit it to HR.

3. Completed forms will be submitted by HR to the General Manager for final approval.

4. HR will coordinate the gift, trophy, and/or certificate in recognition of the employee's special achievement.

JOSHUA BASIN WATER DISTRICT
MEETING AGENDA REPORT

Meeting of the Board of Directors March 6, 2019

REPORT TO: Board of Directors

PREPARED BY: Mark Ban

TOPIC: CAPITAL IMPROVEMENT AND REPLACEMENT PROGRAM (CIRP) CREW ALTERNATE WORK SCHEDULE

RECOMMENDATION: That the Board of Directors approves an alternative work schedule for the District's CIRP crew.

ANALYSIS:

The District's Capital Improvement and Replacement (CIRP) Program's main objective is to improve the efficiency, lifespan and service capabilities of the District's facilities and equipment. Most of these improvements will be realized through the replacement of water mains that have either exceeded their expected service life or are undersized and do not provide proper water conveyance requirements for peak and fire flow rates.

The installation of water mains, like all types of underground construction, consistently requires a substantial effort to setup and teardown daily activities. Traffic control, utility potholing, trench delineation, stringing out pipe, equipment maintenance, material preparation, and cleanup are all examples of tasks that must be completed either at the beginning and/or end of the work shift in order to allow for an efficient and productive day. On average, these tasks can take up to 2 - 4 hours per day to complete during the pipelaying process and directly correlate to the amount of pipe that can be installed within any single day.

If the CIRP crew worked the current 9/80 schedule utilized by the District and setup, teardown and cleanup took employees a cumulative three (3) hours per day, this would leave approximately 5 hours (considering a 30-minute lunch and two (2) 15-minute breaks) for excavation, material installation and backfill to take place. Assuming an excavation and backfill rate of approximately 150 linear feet (l.f.) per hour, this would allow for an average of 750 l.f. of pipe installation, per day. With a goal of achieving closer to 1,000 l.f. per day of pipe installation in order to maintain a project average closer to 150 - 300 l.f. per day at the time the project is completed, the amount of time available for excavation and backfill can be increased by moving the CIRP crew to a 4/10 schedule. As the amount of pipe that can be installed directly correlates to the amount of trench that can be excavated and backfilled, a 4/10 schedule would allow for 6.5 hours of full excavation and backfill to take place thereby increasing the pipe installation average closer to the goal of 1,000 l.f. per day during the pipe installation phase.

A 9/80 schedule also requires employees to work a minimum day every other Friday. While Monday through Thursday work shifts require employees to work nine (9) hour per day, the Friday that is worked (every other Friday employees are off) contains only an eight (8) hour day. Assuming the same three (3) hour setup and teardown requirements discussed previously, due to lunch and break times, the available time for excavation and backfill to take place is reduced to only four (4) hours per day. It is important to

note that these four (4) hours are reduced further as the amount of clean up required would take almost as long to address as a full nine (9) hour day. Due to the weekend, a more comprehensive clean up should be performed which requires the crew to shut down excavation earlier than normal to ensure the jobsite is left safe and orderly for residents and vehicle travel. Due to these considerations, Friday's worked are not as productive as the other nine (9) hour days of the 9/80 schedule. It is due to these constraints that it is typical for underground construction companies to work alternate schedules that contain 10-12 hours per day rather than the 9/80 or more typical 5/40 schedules.

While the above provides key considerations for the recommendation of a 4/10 schedule for the CIRP program, there are other efficiency and productivity gains that are associated with the change from the current schedule that range from reducing the potential for overtime to impacts the program will have on other District departments. These additional considerations will be provided and discussed in more detail during the meeting.