



Albuquerque Bernalillo County Water Utility Authority

Albuquerque/Bernalillo
County
Government Center
One Civic Plaza
Albuquerque, NM 87102

Agenda

Councilor Trudy E. Jones, Chair
Commissioner Debbie O'Malley, Vice-Chair
Councilor Pat Davis
Mayor Timothy M. Keller
Councilor Klarissa J. Peña
Commissioner Steven Michael Quezada
Commissioner Lonnie C. Talbert
Trustee Pablo Rael

Wednesday, March 21, 2018

5:00 PM

Vincent E. Griego Chambers

1. **CALL TO ORDER**
2. **INVOCATION/PLEDGE OF ALLEGIANCE**
3. **APPROVAL OF MINUTES - February 28, 2018**
4. **PROCLAMATIONS AND AWARDS**
5. **PUBLIC COMMENT**
6. **ANNOUNCEMENTS/COMMUNICATIONS**
- A. **Next Scheduled Meeting – April 18, 2018 at 5:00 PM**
7. **INTRODUCTION (FIRST READING) OF LEGISLATION**
 - A. [R-18-10](#) Establishing One Year Objectives for the Albuquerque Bernalillo County Water Utility Authority in Fiscal Year 2018 to Meet Five Year Goals
8. **CONSENT AGENDA**

(Any Board Member may request that a Consent Agenda item be placed under Approvals)

 - A. [C-18-11](#) Approving Continuation of San Juan Chama Drinking Water Project Environmental Mitigation Monitoring - Year Three Under GSA Contract # GS-10F-00209L, with SWCA Incorporated, CCN:2016-0050
9. **APPROVALS**
 - A. [O-18-1](#) Amending the Water Waste Ordinance

- B.** [O-18-2](#) Authorizing the Execution and Delivery of a Loan and Subsidy Agreement (“Loan Agreement) by and between the Albuquerque Bernalillo County Water Utility Authority (the “Water Authority”) and the New Mexico Finance Authority, Evidencing a Special Limited Obligation of the Water Authority to Pay a Principal Amount of No More Than Five Hundred Five Thousand Dollars (\$505,000), Together With Interest, Costs of Issuance and Administrative Fees Thereon, and to Accept a Loan Subsidy of No More Than Five Hundred Five Thousand Dollars (\$505,000), For the Purpose of Financing the Costs of Upgrading the Water Authority’s Water System, Including, Acquisition and Installation of Advanced Metering Infrastructure Meters; Providing For the Payment of the Principal, Interest and Administrative Fees Due Under the Loan Agreement Solely From Net Revenues; Setting A Maximum Interest Rate For the Loan; Approving the Form of and Other Details Concerning the Loan Agreement; Ratifying Actions Heretofore Taken; Repealing All Action Inconsistent With This Ordinance; and Authorizing the Taking of Other Actions In Connection With the Execution and Delivery of the Loan Agreement
- C.** [R-18-7](#) Confirming Approval of the Execution and Delivery of a Loan and Subsidy Agreement (the “Loan Agreement”) By and Between the Albuquerque Bernalillo County Water Utility Authority (the “Water Authority”) and the New Mexico Finance Authority Evidencing a Special Limited Obligation of the Water Authority to Pay a Principal Amount of No More Than Five Hundred Five Thousand Dollars (\$505,000), Together With Interest, Costs Of Issuance and Administrative Fees Thereon, and to Accept a Loan Subsidy of No More Than Five Hundred Five Thousand Dollars (\$505,000); and Ratifying Action Previously Taken in Connection Therewith
- D.** [R-18-8](#) Approving the Update to the Water Conservation Plan
- E.** [R-18-9](#) Authorizing Amendment to the 2007 Agreement with Western Albuquerque Land Holdings for the Antelope Site

10. OTHER BUSINESS

- A.** [OB-18-4](#) Water Report - Kirtland Air Force Base Cleanup Update
- B.** [OB-18-5](#) Drought Update

11. ADJOURNMENT

Visit Our Website at www.abcwua.org

NOTICE TO PERSONS WITH DISABILITIES: If you have a disability and require special assistance to participate in this meeting, please contact the Authority Office as soon as possible before the meeting date at 289-3100 or by the TTY at 1-800-659-8331.

Meeting Date: March 21, 2018
Staff Contact: Frank Roth, Senior Policy Manager

TITLE: R-18-10 - Establishing One-Year Objectives for the Albuquerque Bernalillo County Water Utility Authority in Fiscal Year 2018 to Meet Five-Year Goals

ACTION: Introduction March 21, 2018; Final Action April 18, 2018

SUMMARY:

Overview of Goal Development

The Albuquerque Bernalillo County Water Utility Authority (the Water Authority) established Five-Year Goals and One-Year Objectives in 2005 to help guide the Water Authority's budget process and address priority issues. In addition, the Water Authority's Budget Ordinance specifies that the Water Authority shall annually review and adopt one-year objectives related to the five year goals for the Water Authority. The Ordinance also states that the Water Authority's operating budget shall be formulated by the Water Authority's Executive Director and be consistent with the goals and objectives, and that they be major factors in determining funding for Water Authority programs and improvements in both the operating and capital improvements budgets.

The Five-Year Goals adopted by the Water Authority are based on American Water Works Association's (AWWA) business model using fifteen successful quality achievement programs, including the Malcolm Baldrige National Quality Award Program, the Deming Award, and the International Standards Organization series of quality standards. The model characterizes the work of the typical water and wastewater utility around five business systems:

1. Water Supply and Operations
2. Wastewater Collection and Operations
3. Customer Relations
4. Business Planning and Management
5. Organization Development

The Water Authority has participated in several continuous performance programs through AWWA including Benchmarking, Self-Assessment, and Peer Review. Since 2012, the Water Authority has incorporated the EPA's *Effective Utility Management* (EUM) into its strategic planning process which is designed to help utilities to make practical, systematic changes to achieve excellence in performance. The Water Authority has been using the EUM's Ten Attributes framework to identify areas for improvement.

Overview of One-Year Objectives

The One-Year Objectives in this resolution are categorized by the Water Authority's Five-Year Goal areas. The Water Authority has developed guiding goal statements for each goal area which explains the long-term desired result for that goal. The continuous performance programs mentioned above help the Water Authority to identify gaps in service delivery or performance. The Water Authority's performance measures are used to help monitor the Water Authority's performance and to develop performance targets. With the performance measures being used to identify gaps, the One-Year Objectives which are used to close performance or service delivery gaps and improve performance levels. In addition to identifying areas of improvement, some of the Objectives are related to completing projects or improving programs. A few of the objectives are carried over from FY18 either because they require more time to complete, or are ongoing issues.

FISCAL IMPACT:

Objectives are linked to the budget.

1 Objective 3. Evaluate the Automated Meter Infrastructure Pressure
2 Monitoring pilot project and assess operation and maintenance costs by eliminating
3 redundant pressure reducing valves by the end of the 4th Quarter of FY19.

4 Objective 4. Continue distribution water loss program by locating water leaks
5 from surveying 650 miles of small diameter water lines through conventional leak
6 detection methods and 2,200 miles of small diameter water lines through acoustic leak
7 detection by the end of the 4th Quarter of FY19. Pilot an acoustic leak detection system
8 with intelligent nodes to monitor and communicate possible leaks to a central data
9 collection hub by the end of the 4th Quarter of FY19.

10 Objective 5. Submit annual distribution and treatment data to the Partnership
11 for Safe Water program for inclusion in the program's annual report of aggregated
12 system water quality data; continue implementing action plans from the self-
13 assessments through the end of the 4th Quarter of FY19.

14 Objective 6. Maintain water use at or below 128 gallons per capita per day
15 through the end of the 4th Quarter of FY19.

16 Objective 7. Begin testing of the Large Scale Aquifer Storage and Recovery
17 project through the end of the 3rd Quarter of FY19. Complete an operational plan
18 based on the testing by the end of the 4th Quarter of FY19.

19 Objective 8. Complete an evaluation of the next Aquifer Storage and
20 Recovery project to determine the best location and project type by the end of the 4th
21 Quarter of FY19.

22 Objective 9. Track and report conservation education outreach to service
23 area customers and meet the following targets: 1) 100 Irrigation Audits; 2) 45 Meetings
24 with Landscapers; 3) 30 Meetings with Property Managers; and 4) 2 Water
25 Conservation Open House Meetings by the end of the 4th Quarter of FY19.

26 Objective 10. Continue implementation of Water 2120: 1) Complete
27 Environmental Plan; 2) Prepare draft of the Groundwater Management Plan; 3) Begin
28 development of the Reuse Plan by the end of the 4th Quarter of FY19.

29 Objective 11. Complete update to the source water protection plan by the
30 end of the 2nd Quarter of FY19. Begin implementation of the updated plan, including
31 monitoring for new and existing groundwater and surface water contamination and
32 education outreach through the end of the 4th Quarter of FY19. Participate in and
33 provide comments to protect the groundwater aquifer and surface water supplies

1 throughout the Middle Rio Grande; continue work with the Water Protection Advisory
2 Board through administrative, policy, and technical support.

3 GOAL 2. WASTEWATER COLLECTION AND OPERATIONS: Provide
4 reliable, safe and affordable wastewater collection, treatment and reuse systems to
5 protect the health of the Middle Rio Grande Valley by safeguarding the regional
6 watershed, minimizing environmental impacts, and returning quality water to the Rio
7 Grande for downstream users.

8 Objective 1. Limit overall permit excursions to no more than 5 operating
9 discharge permit violations through the end of the 4th Quarter of FY19.

10 Objective 2. Beneficially reuse biosolids by diverting 30% of the biosolids to
11 compost through the end of the 4th Quarter of FY19.

12 Objective 3. Complete Waste Water Plant Preventive Maintenance to
13 Corrective Maintenance ratio to at least 60% of all completed maintenance labor hours
14 by the end of the 4th Quarter of FY19.

15 Objective 4. Continue work on the Partnership for Clean Water program for
16 the water reclamation treatment to optimize system operations and performance; submit
17 a self-assessment to AWWA by the end of the 2nd Quarter of FY19.

18 Objective 5. Continue implementation of the Reclamation Rehabilitation
19 Asset Management Plan by planning, designing and constructing reclamation facility
20 improvements through the end of the 4th Quarter of FY19.

21 Objective 6. Televisе and assess the condition of approximately five percent
22 of the small diameter sanitary sewer system by the end of the 4th Quarter of FY19.

23 Objective 7. Monitor compliance with the Water Authority's Cross Connection
24 Prevention and Control Ordinance. Obtain a compliance rate goal of 75%.

25 Objective 8. Monitor compliance with the Water Authority's Sewer Use and
26 Wastewater Control Ordinance by continuing to inspect, monitor, and take enforcement
27 action for permitted industrial users, septage waste haulers, food service
28 establishments, and dental offices. Compliance rate goal is 87% for each category.

29 Objective 9. Implement the Fats, Oils, and Grease (FOG) Policy to reduce
30 impacts on the sewer system by inspecting each Food Service Establishment (FSE)
31 once every three years, working with the Collections section with Sanitary Sewer
32 Overflow (SSOs) investigations, and convene FOG Task Force of other governmental

1 entities to coordinate efforts to reduce FOG discharges. Track and report the number of
2 SSOs due to FOG compared with previous years.

3 GOAL 3. CUSTOMER SERVICES: Provide quality customer services by
4 communicating effectively, billing accurately, and delivering water and wastewater
5 services efficiently based on understanding the needs and perceptions of our customers
6 and the community at large.

7 Objective 1. Improve customer satisfaction and operational efficiency in
8 achieving the four call-center targets through the 4th Quarter of FY19: 1) Average Wait
9 Time of less than 1:30 minutes; 2) Average Contact Time of less than 4 minutes; 3)
10 Abandoned Call Ratio of less than 5; 4) First Call Resolution of greater than 90%.

11 Objective 2. Improve customer satisfaction by achieving a billing accuracy
12 ratio of less than 8 through the end of the 4th Quarter of FY19.

13 Objective 3. Provide communications support for the implementation of the
14 Water Assistance Fund and updates to CC&B billing system through the end of the 4th
15 Quarter of FY19.

16 Objective 4. Continue implementation of the Automated Meter Infrastructure
17 (AMI) project by modernizing aging meter infrastructure with smart meters to increase
18 revenue, support conservation efforts, and provide better customer service by the end
19 of the 4th Quarter of FY19.

20 Objective 5. Complete Customer Conversation meetings to engage
21 customers and obtain input from customers on the Water Authority's activities through
22 the end of the 4th Quarter of FY19.

23 Objective 6. Conduct periodic activities and communication initiatives to
24 engage and educate legislators, stakeholders and neighborhood coalitions regarding
25 Water Authority services, policies and projects through the end of the 4th Quarter of
26 FY19.

27 GOAL 4. BUSINESS PLANNING AND MANAGEMENT: Maintain a well-
28 planned, managed, coordinated, and financially stable utility by continuously evaluating
29 and improving the means, methods, and models used to deliver services.

30 Objective 1. Expend \$55 million in water and wastewater capital rehabilitation
31 and replacement programs to replace aging, high risk assets that are past their useful
32 life by the end of the 4th Quarter of FY19. \$1 million shall be dedicated and used for

1 identifying steel water pipes in critical or poor condition and rehabilitating or replacing at
2 least 2 miles of small diameter steel water lines by the end of the 4th Quarter of FY19.

3 Objective 2. Complete update to the Comprehensive Asset Management
4 Plan to determine the condition and criticality of the utility's assets by the end of the 2nd
5 Quarter of FY19.

6 Objective 3. Complete vehicle asset management plan to better plan for
7 capital replacement of vehicles by the end of the 2nd Quarter of FY19.

8 Objective 4. In order to provide a central location for processes and
9 procedures, complete a Utility Development Guide by the end of the 2nd Quarter of
10 FY19. Update System Expansion Ordinance to align to the Guide. Review fee
11 structure for Utility Development deliverables.

12 Objective 5. Continue design, planning, and construction of the Los Padillas
13 water system (South Valley Drinking Water Project Phase 7b). Identify funding for
14 Phase 7c for design and planning through the end of the 4th Quarter of FY19.

15 Objective 6. Begin implementation of recommendations from the vulnerability
16 assessment on utility facilities and systems to reduce risk for physical security, cyber
17 security, and business activities by the end of the 4th Quarter of FY19. Update
18 Emergency Response Plan by the end of the 4th Quarter of FY19.

19 Objective 7. Complete a Comprehensive Information Technology Security
20 Plan that is aligned with the standards, guidelines, and best practices of the National
21 Institute of Standards and Technology Cybersecurity Framework to protect the utility's
22 critical infrastructure from cyber-attacks by the end of the 4th Quarter of FY19.

23 Objective 8. Complete a needs assessment of the Supervisory Control And
24 Data Acquisition (SCADA) system; implement recommendations of the assessment in
25 order for the updated platform to align with the asset management program by the end
26 of the 4th Quarter of FY19.

27 Objective 9. Complete Phase 2 of the Maximo comprehensive asset
28 management system upgrade which includes asset onboarding and de-commissioning,
29 full life cycle accounting, barcoding, fleet management, and preventive and condition
30 monitoring by the end of the 4th Quarter of FY19.

31 Objective 10. Complete replacement of an applicant online system that aligns
32 to the OneSolution enterprise financial system by the end of the 4th Quarter of FY19.

1 Objective 11. Complete upgrade to the CC&B billing application by the end of
2 the 3rd Quarter of FY19.

3 Objective 12. Evaluate water and sewer rate structures to ensure equity
4 within the structures by the end of the 4th Quarter of FY19.

5 Objective 13. Finalize a conceptual plan to consolidate field, fleet, warehouse
6 and customer services operations from multiple locations to the Drinking Water Plant.
7 Complete design documents and start construction for building, site work and ancillary
8 facilities by the end of the 4th Quarter of FY19.

9 Objective 14. Maintain the Compliance Division Regulatory Compliance
10 Permit Matrix and the Regulatory Matrix Status Report to respectively maintain
11 schedules for permit submittals and monitor and report emerging Safe Drinking Water
12 Act (SDWA) and Clean Water Act (CWA) regulations, New Mexico Water Quality
13 Control Commission and Environmental Improvement Board regulations, and local laws
14 ordinances, etc. to identify and assess potential impacts on the Water Authority.
15 Provide quarterly reports through the end of the 4th Quarter of FY19.

16 Objective 15. Collect, monitor, and report weekly, monthly and quarterly key
17 laboratory performance metrics to include: WQL results approved and reported for
18 each laboratory section (chemistry, microbiology, metals, and external labs), laboratory
19 productivity (results reported per productive hour), and the percentage of results
20 reported late (turnaround time-TAT). Compare to industry benchmarks.

21 Objective 16. Continue collection and analyses of the operational data
22 necessary to determine and document the actual cost of service for laboratory services
23 for the analytical methods within the Water Quality Laboratory scope of accreditation.
24 The status of the data collection and analyses efforts will be reported quarterly. Use the
25 collected data to update the laboratory prices.

26 Objective 17. Continue to develop its LIMS, LabVantage, throughout FY19 to
27 increase the automation of data entry to reduce data entry errors and reduce the
28 amount paper used at the laboratory. Develop dashboards to help analysts and
29 management manage samples and workflows entirely in the application. Expand the
30 collection of electronic data to field analytics, balances, probes, and spectrophotometry
31 instruments stored in the Database of Compliance.

32 Objective 18. Continue to develop the Environmental Monitoring Program to
33 improve the reliability of results from field instrumentation and sample collection

1 techniques. Develop a program plan based on designated ISO standard to address
2 accreditation requirements to include standard operating procedures, document control
3 and records management plans, and a process for demonstration of staff capability.
4 Implement program plan by the end of the 4th Quarter of FY19.

5 Objective 19. Prepare for the New Mexico Environment Department Drinking
6 Water Laboratory Certification audit for microbiological water testing in the 4th quarter of
7 FY19. Prepare for the American Association for Laboratory Accreditation (A2LA)
8 annual assessment of the Water Quality Laboratory including completing required
9 internal audits and annual review and revision of Standard Operating Procedures.

10 Objective 20. Gather and report on external subcontract laboratory costs that
11 are processed by the Water Quality Laboratory (WQL). Improve how the WQL manages
12 BR numbers from purchasing and sample ids generated in LabVantage and the
13 corresponding invoices received from the external subcontract laboratories. Utilized the
14 existing Compliance Division 'Database of Compliance' (DOC), and make available the
15 cost of external subcontract laboratory analysis for reporting in COGNOS.

16 Objective 21. Monitor for Pharmaceuticals and Personal Care Products
17 (PPCPs) in the source water, drinking water and wastewater. Report the findings of
18 voluntary monitoring by the end of the 4th Quarter of FY19. Compare the results to
19 historical monitoring performed in 2009-2010.

20 GOAL 5. ORGANIZATION DEVELOPMENT: Sustain a well-informed,
21 trained, motivated, safe, organized, and competitive work force to effectively meet the
22 expectations of the customers, community, and Board in accordance with adopted
23 policies and mandates.

24 Objective 1. Align ongoing supervisor training to address issues identified during
25 Employee Connections meetings and from Employee Satisfaction Surveys; modify
26 supervisor training to incorporate employee appreciation, recognition and
27 communication by the end of the 2nd Quarter of FY19.

28 Objective 2. Maintain an average utility-wide vacancy rate of no greater than 5%
29 through the end of FY19.

30 Objective 3. Complete two employee wellness challenges per fiscal quarter
31 focusing on nutrition, physical activity and weight loss, and disease and injury
32 prevention to employees by the end of the 4th Quarter of FY19.

1 Objective 4. Continue updating the Knowledge Management Strategy to assure
2 that the right knowledge is systematically collected, stored, organized, and transferred
3 to the appropriate employee in a timely and effective manner by the end of the 4th
4 Quarter of FY19.

5 Objective 5. Reduce injury hours to 2,650 hours or less to improve productivity
6 and reliability of services provided by employees by the end of the 4th Quarter of FY19.

7 Section 2. That the Executive Director of the Water Utility Authority shall ensure
8 that these goals and objectives are carried out and integrated with the performance plan
9 and submit a report by Goal to the Water Authority Board at least semi-annually on the
10 progress made toward implementation of the one-year objectives.

11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

Meeting Date: March 21, 2018

Staff Contact: Rick Billings, Environmental Scientist, Water Resources Division

TITLE: C-18-11 – Approving Continuation of San Juan Chama Drinking Water Project Environmental Mitigation Monitoring – Year Three Under GSA Contract # GS-10F-00209L, with SWCA Incorporated, CCN:2016-0050

ACTION: Recommend Approval

SUMMARY:

This agreement will allow the Water Authority to continue National Environmental Policy Act and Endangered Species Act required environmental monitoring for the San Juan – Chama Drinking Water Project. It includes fish egg monitoring, fish monitoring, and monitoring of habitat restoration projects and related analysis and reporting.

FISCAL IMPACT:

\$153,530 budgeted in the San Juan Chama Drinking Water Project mitigation fund.

**THIRD SUPPLEMENTAL AGREEMENT
BETWEEN THE
ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY
AND
SWCA, INC.**

THIS THIRD SUPPLEMENTAL AGREEMENT is made and entered into on the date of the last signature entered below by and between the Albuquerque Bernalillo County Water Utility Authority, a New Mexico political subdivision, P.O. Box 568, Albuquerque, NM 87103-0568 (hereinafter referred to as the "Water Authority"), and SWCA, Inc., an Arizona corporation located at 5647 Jefferson St. NE, Albuquerque, NM 87109 (hereinafter referred to as the "Contractor").

RECITALS

WHEREAS, the Water Authority and the Contractor entered into an Agreement, dated December 11, 2015 as amended by a First Supplemental Agreement dated October 12, 2016, and a Second Supplement Agreement dated June 1, 2017, hereinafter referred to as the "Original Agreement", whereby the Contractor agreed to render certain professional services to the Water Authority; and

WHEREAS, the Water Authority has determined that the services are needed for an additional one (1) year period, and the GSA Contract No. GS-10F-0209L extension goes through March 18, 2021; and

WHEREAS, the Water Authority wishes to add \$153,530.00 to the total compensation of the Original Agreement; and

WHEREAS, the Contractor is agreeable to the additional compensation and one (1) year extension to the Original Agreement.

NOW, THEREFORE, in consideration of the premises and mutual obligations herein, the parties hereto do mutually agree as follows:

1. Section 2. of the Original Agreement is hereby amended to read as follows:

Time of Performance. Services of the Contractor shall commence on December 11, 2015, and shall be undertaken and completed in such sequence as to assure their expeditious completion in light of the purposes of this Agreement; provided, however, that in any event, all of the Services required hereunder shall be completed by November 30, 2019. This Agreement may be extended upon the written agreement of the parties.

2. Section 3.A of the Original Agreement is hereby amended to read as follows:

Compensation. For performing the Services specified in Section 1 hereof, the Water Authority agrees to pay the Contractor up to the amount of **Four Hundred Fifty Seven Thousand Sixty and 00/100 Dollars (\$457,060.00)**, which amount includes any applicable gross receipts taxes and which amount shall constitute full and complete compensation for the Contractor's Services under this Agreement, including all expenditures made and expenses incurred by the Contractor in performing such Services.

3. Except as herein expressly amended, the terms and conditions of the Original Agreement shall remain unchanged and shall continue in full force and effect unless there is a conflict between the terms and conditions of the Original Agreement and this Third Supplemental Agreement, in which event, the terms and conditions of this Third Supplemental Agreement shall control.

4. This Third Supplemental Agreement shall not become effective or binding until approved by the Water Authority's Executive Director.

IN WITNESS WHEREOF, the Water Authority and the Contractor have executed this Second Supplemental Agreement as of the date of the last signature entered below.

**ALBUQUERQUE BERNALILLO COUNTY
WATER UTILITY AUTHORITY**

CONTRACTOR: SWCA, INC.

Approved By:

Mark S. Sanchez, Executive Director

Date: _____

John M. Stomp III, P.E.
Chief Operating Officer

Date: _____

Reviewed by:

Peter S, Auh, General Counsel

Date: _____

By: _____

Print: _____

Title: _____

Date: _____

State Taxation and Revenue Department
Taxpayer Identification No.: 02-151423-00-2

Federal Taxpayer Identification No.
86-048317

Meeting Date: March 21, 2018
Staff Contact: Carlos A. Bustos, Water Conservation Program Manager

TITLE: O-18-1 – Amending the Water Waste Ordinance

ACTION: Recommend Approval

BACKGROUND:

Measures to reduce water waste were established to ensure adequate use of water resources since the inception of the long-range water conservation strategy. The Water Waste Ordinance has been in place since 1995 and has served as a regulatory tool to establish the importance of wise water usage stewardship in our community. The ordinance empowers the Water Authority to issue violations and subsequent fines. The Water Waste Ordinance goal is to reduce water waste in the service area by changing customer behavior. Over the past 22 years, water use compliance staff have issued thousands of fines which have modified customer water waste. The greatest benefit of this effort has been the change in public perception, as customers have learned the importance of efficient water use in the desert environment. Through time the ordinance has been modified to allow for better response to violations. The water use compliance team has also built an effective working relationship with the highest irrigation water users, the City of Albuquerque and Bernalillo County Parks and Recreation departments, to reduce response time to wasted water.

SUMMARY:

The most recent change to water waste was in 2015 with a pilot study to determine if a warning system could be offered in lieu of violations. An educational warning system for residential customers after first complaint was implemented as a pilot to determine effectiveness. Based on the success of the pilot program, an amendment to the Water Waste Ordinance is proposed to utilize the warning system with all customers. Due to the success of the Water Conservation Program, water use compliance will focus more education and less on enforcement. The ordinance will be implemented in calendar year 2019 to allow time to educate customers of the changes.

Proposed changes to the Water Waste Ordinance include:

- A. Ordinance will be known as “Water Waste Reduction Ordinance”

B. All customer classes will receive at least one warning notice and the opportunity to schedule a free irrigation efficiency visit prior to receiving a fee. Upon identifying water waste the process will be:

- Reported Warning Notice - report of Water Waste
- Observed Warning Notice - observation and documentation of Water Waste
- Certified Notice of Violation – observation and documentation of Water Waste
- Opportunity to schedule an Irrigation Efficiency Consultation upon receipt of Certified Notice of Violation
- Fee assessed if not audit scheduled/problem not fixed

C. Reduction to the Fee Structure from 8 tiers to 3 tiers (after receiving warning and opportunity for irrigation consultation or fix problem)

a. meter size of 1.5 inch or less

- First observed violation - \$20
- Second observed violation - \$50
- Third observed violation - \$100

b. meter size larger than 1.5 inch and up to 4 inches

- First observed violation - \$100
- Second observed violation - \$250
- Third observed violation - \$500

c. meter size larger than 4 inches and up to 8 inches

- First observed violation - \$250
- Second observed violation - \$500
- Third observed violation - \$1,000

The amended Water Waste Reduction Ordinance will provide the following benefits:

1. Emphasize less enforcement and more education
2. Create opportunities for more positive interaction with the public
3. Increase participation in Efficient Irrigation Audits and education
4. Lessen staff tracking efforts
5. Increase staff response effectiveness
6. Streamline workflow

FISCAL IMPACT:

No fiscal impact is anticipated.

1 WATER AUTHORITY. The Albuquerque Bernalillo County Water Utility
2 Authority or its authorized agent. It includes the water, wastewater and reuse
3 facilities and all operations and management of such facilities necessary to provide
4 water, ~~and~~ wastewater and reuse service in the Service Area.

5 BARREN. Land which produces inferior or little to no vegetation.

6 BUBBLERS. Irrigation heads which deliver water directly to the soil adjacent
7 to the heads.

8 ~~CURBSIDE CAR WASHING.~~ VEHICLE WASHING. ~~Car~~ vehicle washing
9 near a public right-of-way, hose sweeping, charity or fundraiser ~~car~~ vehicle
10 washes, ~~car~~ vehicle washing on dealer lots.

11 CUSTOMER. Any person, association, corporation or other entity
12 receiving Water Authority's service in the Service Area.

13 DRIP IRRIGATION. Low pressure, low volume irrigation applied slowly, near
14 or at ground level to minimize runoff and loss to evaporation.

15 DROUGHT. Drought occurs when there is insufficient precipitation combined
16 with other environmental factors that cause an increase of overall water usage.

17 DROUGHT MANAGEMENT STRATEGY. The Water Authority's Drought
18 Management Plan as adopted by the Water Authority Board. ~~which contains four~~
19 ~~different drought severity levels, with each level containing increasingly stringent~~
20 ~~measures to reduce demand on the Authority's water system.~~

21 EFFICIENT IRRIGATION CONSULTATION. A way to inventory outdoor
22 irrigation practices, identify ways to fix water waste problem to increase water use
23 efficiency.

24 EXECUTIVE DIRECTOR. The Executive Director of the Water Authority's
25 or his/her designee.

26 EXEMPTION. A Water Authority approved watering schedule that permits
27 watering during Time-of-Day-Watering Restrictions to establish newly seeded turf
28 or to support inter-seeding.

29 FUGITIVE WATER. The pumping, flow, release, escape, or leakage of any
30 water from any pipe, valve, faucet, connection, diversion, well, or any facility for the
31 purposes of water supply, transport, storage, disposal, recreational, cleaning

1 process or delivery onto adjacent property or the public right-of-way.

2 HAND WATERING. The application of water for irrigation purposes
3 through a hand-held hose, including hoses moved into position by hand and
4 left to flow freely or through a shut-off nozzle.

5 IMPERVIOUS SURFACES. Solid surfaces, such as asphalt and
6 concrete that do not allow water to penetrate, forcing the water to run off.

7 INFILTRATION RATE. The amount of water absorbed by the soil per unit of
8 time, usually expressed in inches per hour

9 INSPECTION. An ~~entry into and~~ examination of ~~premises~~ site for the purpose
10 of ascertaining the existence or nonexistence of violations of this article.

11 INTER-SEEDED: Seeding of an area within an existing turf area to repair
12 damage.

13 This type of process is also known as re-seeding.

14 ~~MISTER. A device that produces a cooling effect by emitting fine particles of~~
15 ~~water into the air in the form of a mist.~~

16 NEWLY SEEDED. Seed planted in a barren area with the intent of
17 establishing a turf area.

18 NEWLY SODDED. Sodded harvest grass transplanted in a barren area
19 with the intent of establishing a turf area

20 PUBLIC RIGHT-OF-WAY. The area of land acquired or obtained by the
21 city, county, or state primarily for the use of the public for the movement of
22 people, goods, vehicles, or storm water. For the purposes of this article the
23 public right-of-way shall include sidewalks, curbs, streets, alleyways,
24 easements and storm water drainage inlets.

25 RESPONSIBLE PARTY. The owner, manager, supervisor, or person who
26 receives the water bill, or person in charge of the property, facility, or operation
27 during the period of time the violation(s) is observed.

28 RUNOFF. Water which is not absorbed by the soil or landscape to which it is
29 applied. Runoff occurs when water is applied too quickly (application rate exceeds
30 infiltration rate), particularly if there is a ~~severe~~ slope. This article does not apply
31 to stormwater runoff which is created by natural precipitation rather than human-

1 caused or applied water use.

2 SERVICE AREA. ~~All parts of Bernalillo County that are served or may be~~
3 ~~served in the future by the Authority.~~ Those parts of Bernalillo County and
4 contiguous territory served by the Water Authority.

5 SHUT-OFF NOZZLE. Device attached to end of hose that completely shuts
6 off the flow when left unattended.

7 SLOPE. A surface of which one end or side is at a higher level than another.
8 For Xeric conversions, anything greater than 6 to 1 grade.

9 SPRAY IRRIGATION. The application of water to landscaping by means of
10 a device that projects water through the air in the form of small particles or
11 droplets.

12 VALVE. A device used to control the flow of water in the irrigation system.

13 VARIANCE. A Water Authority approved deviation from the Time-of-Day
14 Watering Restrictions that allows for irrigation of newly landscaped areas, or long
15 term maintenance.

16 WATER WASTE. The non-beneficial use of potable or non-potable water.
17 Non-beneficial uses include but are not restricted to:

18 (1) Landscape water applied in such a manner, rate and/or
19 quantity that it overflows the landscaped area being watered and runs onto
20 adjacent property or public right-of-way;

21 (2) Landscape water which leaves a sprinkler, sprinkler system,
22 or other application device in such a manner or direction as to spray onto
23 adjacent property or public right-of-way;

24 (3) Washing of vehicles, equipment, or hard surfaces such as
25 parking lots, aprons, pads, driveways, or other surfaced areas when water is
26 applied in sufficient quantity to flow from that surface onto adjacent property or
27 the public right-of-way;

28 (4) Water applied in sufficient quantity to cause ponding on
29 impervious surfaces.

30 (5) Water applied in sufficient quantity to cause ice formation on
31 adjacent property or the public right-of-way including sidewalks.

1 4-1-4 WATERING RESTRICTIONS.

2 These restrictions apply to all customers within the Water Authority's service
3 area.

4 (A) All spray irrigation during the period beginning on April 1 and ending
5 on October 31 of each year must occur between 7:00 p.m. and 11:00 a.m. This
6 restriction shall not apply to drip irrigation and low precipitation bubblers, hand
7 watering, or watering of containerized plants and plant stock.

8 (B) Shutoff nozzles are required on any hoses used for hand
9 watering, ~~car~~vehicle washing or other outdoor uses.

10 (C) If approved by the Water Authority Board under the adopted ~~Under~~
11 ~~the four levels of Drought defined in the~~ Drought Management Strategy, the Water
12 Authority's may, at its sole discretion, require that customers water every other
13 day. The Authority's may require that customer's water no more than one, two, or
14 three time(s) per week. The Water Authority's may also prohibit ~~curbside~~vehicle
15 ~~car-washing~~ if the water used runs off the property.

16 (D) Restrictions in divisions (A), and (C) above do not apply to the
17 following:

18 (1) Outdoor irrigation necessary for the establishment of *newly sodded*
19 lawns and landscaping within the first 30 days of planting upon the issuance of a
20 Watering Restriction Exemption;

21 (2) Outdoor irrigation necessary for the establishment of *newly seeded*
22 lawns within the first 120 days of planting upon the issuance of a Watering
23 Restriction Variance.

24 (3) Outdoor irrigation necessary for the establishment of *inter-seeded*
25 lawns within the first 45 days of planting upon the issuance of a Watering
26 Restriction Exemption.

27 (4) Irrigation necessary for one day only where treatment with an
28 application of chemicals requires immediate watering to preserve an existing
29 landscape or to establish a new landscape;

30 (5) Water used to control dust or compact soil;

1 (6) Attended watering systems that have one or more repair or maintenance
2 personnel present at the irrigated zone being serviced for purposes of inspecting
3 system condition and function and/or repairing or maintaining the watering
4 system.

5 4-1-5 WATER WASTE.

6 These restrictions apply to all customers within the Water Authority's service
7 area.

8 (A) No person, firm, corporation, or municipal or other government
9 facility or operation shall waste, cause or permit any water to be wasted.

10 (B) No person, firm, corporation, or municipal or other government
11 facility or operation shall cause or permit the flow of fugitive water onto adjacent
12 property, ~~or~~ public right-of-way, or impervious surfaces.

13 (C) The restrictions in divisions (A), and (B) above do not apply to the
14 following:

15 (1) Storm runoff allowed under provisions of the City of
16 Albuquerque or Bernalillo County drainage ordinances as currently adopted or
17 subsequently amended;

18 (2) Flow resulting from temporary water supply system failures
19 or malfunctions. These failures or malfunctions shall be repaired within 48 hours
20 of notification or the system shut off until repair can be completed;

21 (3) Flow resulting from firefighting or routine inspection of fire
22 hydrants or from fire training activities;

23 (4) Water applied as a dust control measure;

24 (5) Water applied to abate spills of flammable or otherwise
25 hazardous materials, where water is the appropriate methodology;

26 (6) Water applied to prevent or abate health, safety, or accident
27 hazards when alternate methods are not available;

28 (7) Flow resulting from routine inspection, operation, or
29 maintenance of a utility water supply system;

30 (8) Water used in the course of installation or maintenance of
31 traffic flow control devices;

1 (9) Water used for construction or maintenance activities
2 where the application of water is the appropriate methodology and where no
3 other practical alternative exists.

4 ~~4-1-6~~ SPECIAL PERMITS

5 ~~These restrictions apply to all customers within the Authority's service area.~~

6 ~~(D) Use of Misters~~

7 ~~(1) The use of misters shall require a special permit, issued by~~
8 ~~the Authority. The Executive Director shall develop regulations and administrative~~
9 ~~procedures for the issuance and conditions of such permits. The Executive~~
10 ~~Director shall have the authority to limit the number of permits or revoke permits as~~
11 ~~deemed necessary to protect the public interest.~~

12 ~~(2) The use of misters without a permit, or in violation of~~
13 ~~permit conditions, shall constitute a violation of this article and shall be~~
14 ~~subject to the fee assessment processes described in § 4-1-8 and 4-1-99.~~

15 ~~(3) Any person, firm, corporation, or municipal or other~~
16 ~~government facility selling, leasing, renting, installing or otherwise making misters~~
17 ~~available to any other person, firm, corporation, or municipal or other government~~
18 ~~facility shall provide notification to their customers of the special permit~~
19 ~~requirement for mister use. Notice may be delivered by prominently posting a sign~~
20 ~~at the point of purchase or by providing a document to each individual customer.~~
21 ~~The Authority shall provide approved language for such notification.~~

22 ~~4-1-7~~ 4-1-6 VARIANCES, EXEMPTIONS AND APPEALS

23 The Executive Director or his/her designee shall be responsible for the
24 enforcement of this article. The Executive Director may prescribe policies, rules, or
25 regulations to carry out the intent and purposes of this article.

26 (E) Variances or Exemptions to 4-1-4 (Watering Restrictions) and 4-1-
27 5 (Water Waste), and ~~4-1-6 (Special Permits).~~

28 (1) Administrative variances or exemptions to the restrictions in
29 §4-1-4, and 4-1-5, and ~~4-1-6~~ may be issued by the Executive Director or his/her
30 designee, only for the purposes of installing or retrofitting landscaping, provided
31 that the general intent of this article has been met, compliance with this article is

1 ~~determined~~ proven to cause practical difficulties and unnecessary hardship, and
2 all options for abatement through modified water management have been
3 exhausted. ~~The criteria to determine hardship shall include level of capital outlay~~
4 ~~and time required to be in compliance with this article.~~ For the purpose of
5 advancing the general intent of this article, the Executive Director may at his
6 discretion waive, credit, and or remove penalty fees or other fees from any
7 account.

8 (2) Water Waste Variances may be issued for a period not to
9 exceed one year and shall stipulate both short-term corrective measures and a
10 schedule for completion of long-term corrective measures. Variances may be
11 renewed on an annual basis if long-term corrective measures cannot be
12 completed within one year.

13 (3) Watering Restriction Variances may be issued for a period
14 not to exceed 120 days to establish a turf area on properly prepared barren
15 ground.

16 (4) Watering Restriction Exemptions may be issued for a period
17 not to exceed 30 days to establish newly *sodded turf* and/or landscape.

18 (5) Watering Restriction Exemptions may be issued for a period
19 not to exceed 45 days to establish *inter-seeded* areas with an established turf
20 area.

21 (B) Appeal of 4-1-4 (Watering Restrictions), 4-1-5 (Water Waste), and 4-
22 ~~4-6 (Special Permits)~~. Any responsible party may appeal fees for violations of §4-
23 1-4, and 4-1-5, and 4-1-6 to the Executive Director or his/her designee by filing an
24 appeal within seven calendar days of receiving a notice of violation. The notice of
25 violation shall provide information on the right to appeal and the procedures to
26 follow. The appeal shall identify the property and state the grounds of appeal
27 together with all material facts in support thereof. A non-refundable \$50 filing fee ~~of~~
28 \$50 must accompany each appeal filed. ~~be added to the water bill in the event the~~
29 ~~violation is upheld by the Executive Director or his/her designee.~~ When a hearing
30 is requested, the Executive Director or his/her designee shall send written notice
31 by certified mail, return receipt requested, to the appellant of the time and place of

1 the hearing. At the hearing the appellant shall have the right to present evidence
2 as to the alleged facts upon which the Executive Director or his/her designee
3 based the determination of the need for assessment of fee or restriction of service
4 and any other facts which may aid the Executive Director or his/her designee in
5 determining whether this article has been violated. The Executive Director or
6 his/her designee shall, within seven working days following the hearing, issue a
7 written decision specifying the fee, if appropriate, and the action that must be
8 taken to avoid additional penalty. ~~Fees will be void and service will not be~~
9 ~~restricted if the written decision is not issued within seven working days.~~

10 (C) Judicial Review. The exclusive remedy for parties dissatisfied with
11 the action of the Executive Director or his/her designee on §4-1-4, and 4-1-5,
12 ~~and 4-1-6~~ shall be the filing of a petition for a writ of certiorari with the State
13 District Court. The petition for review shall be limited to the record made at the
14 administrative hearing held pursuant to this article.

15 ~~4-1-8~~ 4-1-7 FEES; ASSESSMENT

16 (A) Fees. Any responsible party who violates any of the provisions of
17 §4-1-4, and 4-1-5, ~~and 4-1-6~~ shall be subject to progressively higher fees until the
18 violation ceases or a variance is granted. The assessment of fees shall be
19 consecutive for violations separated by less than ~~five calendar years~~ one calendar
20 year. Fees shall be suspended pending the outcome of an appeal or variance
21 request.

22 (B) Assessment of Fees. Assessment of fees for violations of the
23 regulations in
24 §4-1-4, 4-1-5, ~~and 4-1-6~~ will be through the utility bills for the responsible party's
25 billing account. Fees shall be assessed to the account within 15 days following
26 expiration of the appeal period or issuance of appeal findings. ~~Responsible parties~~
27 ~~shall be notified of the fee through certified mail within 15 days of the assessment.~~
28 Fees must be paid within the normal payment period allowed by the utility billing
29 system. In the event the individual property to be assessed a fee is sub-metered
30 through a master meter account(s), the property in violation will be assessed the
31 fee in accordance with this ordinance through the master meter account(s). It shall

1 be the responsibility of the master meter account(s) to assess and collect the fee
2 from the individual sub-metered property.

3 (C) In lieu of fees for violations of §4-1-4 and 4-1-5, the responsible
4 party may ~~have a landscape water audit~~ schedule an efficient irrigation
5 consultation performed by an ~~authorized~~ a qualified landscape irrigation auditor
6 ~~certified by the Irrigation Association. The audit will be conducted in accordance~~
7 ~~with the current edition of the Landscape Auditor's Handbook. The audit must be~~
8 ~~performed~~ consultation must be scheduled within 15 days and ~~performed within~~
9 ~~30 days of~~ following the notification of violation and the ~~audit~~ recommendation
10 must be implemented within 60 days of the consultation ~~audit~~. If these deadlines
11 are not met, the fees for violation will apply.

12 ~~4-1-99 4-1-8~~ PENALTY.

13 (A) A Warning system will be initiated upon receipt of the first report of
14 Water Waste. A minimum of one warning notice will be issued to the responsible
15 party via USPS mail prior to assessing fees as follows:

16 (1) Reported Warning Notice - report of Water Waste

17 (2) Observed Warning Notice - observation and documentation of Water
18 Waste

19 (3) Certified Notice of Violation – observation and documentation of
20 Water Waste

21 (B) The schedule for assessment of fees for a violation of ~~§4-1-4, and 4-~~
22 ~~1-5, and 4-1-6~~ that have a meter size of 1.5 inch or less shall be as follows:

23 (1) ~~First observed violation - \$20;~~

24 (2) ~~Second observed violation - \$50;~~

25 (3) ~~Third observed violation - \$100;~~

26 (4) ~~Fourth observed violation - \$300;~~

27 (5) ~~Fifth observed violation - \$400;~~

28 (6) ~~Sixth observed violation - \$600;~~

29 (7) ~~Seventh observed violation - \$800;~~

30 (8) ~~Eighth observed violation - \$1,000;~~

31 (9) ~~Each observed violation over the eighth - \$2,000 each~~

- 1 (1) Observed Warning Notice;
- 2 (2) First observed violation - \$20;
- 3 (3) Second observed violation - \$50;
- 4 (4) Third observed violation - \$100;

5 (C) The schedule for assessment of fees for a violation of §4-1-4 and 4-
6 1-5 that have a meter size larger than 1.5 inch and up to 4 inches shall be as
7 follows:

- 8 (1) Observed Warning Notice;
- 9 (2) First observed violation - \$100;
- 10 (3) Second observed violation - \$250;
- 11 (4) Third observed violation - \$500;

12 (D) The schedule for assessment of fees for a violation of §4-1-4 and 4-
13 1-5-that have a meter size larger than 4 inches and up to 8 inches shall be as
14 follows:

- 15 (1) Observed Warning Notice;
- 16 (2) First observed violation - \$250;
- 17 (3) Second observed violation - \$500;
- 18 (4) Third observed violation - \$1,000;

19 (E) If approved by the Water Authority Board under the adopted ~~Under~~
20 ~~the four levels of Drought defined in the Drought Management Strategy, the~~ Water
21 ~~Authority's~~ may, at its sole discretion, increase water waste fees described above
22 by a factor of two, three, four or more as may be necessary to assist in water waste
23 reduction during a drought. During a drought, the Water Authority's shall declare to
24 the public the Drought Level, which can be raised and lowered by the Water
25 Authority's, and the proposed increase in water waste fees. The Drought level only
26 applies to the current year and must be approved by the Water Authority's on a year
27 by year basis.

28 ~~The Authority delegates the implementation of the Drought~~
29 ~~Management Strategy including the increase of water waste fees to the Executive~~
30 ~~Director. Based on the Drought Level approved by the Authority, the~~ The Executive
31 Director shall direct water waste enforcement staff of the Effective Date of the new

1 water waste fines. Water waste fees, however, shall revert to the fees described in
2 Section ~~4-1-99~~ 4-1-8 after November 1 of that same year.

3 (F) For the purpose of assessing fees for violations of §4-1-4, 4-
4 1-5, and ~~4-1-6~~, any previous violation shall not be considered if:

5 (1) A period of ~~five years~~ one calendar year has elapsed
6 since the violation was incurred; or

7 (2) The property is acquired by a new owner.

8 (G) Any person who violates the provisions of this article for
9 which no other penalty is set forth, shall be subject to the general penalty
10 provision of this code set forth in ~~4-1-99~~ 4-1-8.

11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

Changes to Water Waste Ordinance

1. “Water Waste Reduction Ordinance”

1. All customer classes with equal actions:
 - **Warning** for first report
 - Certified notice of violation with opportunity for Irrigation Efficiency Consultation
 - Fee assessed if audit not scheduled/problem not fixed

2. Modify fee schedule by meter size:

- a) Meter size of 1.5 inches or less
 - First observed violation – \$20
 - Second observed violation – \$50
 - Third observed violation – \$100
- b) Meter size larger than 1.5 inch and up to 4 inches
 - First observed violation – \$100
 - Second observed violation – \$250
 - Third observed violation – \$500
- c) Meter size larger than 4 inches and up to 8 inches
 - First observed violation – \$250
 - Second observed violation – \$500
 - Third observed violation – \$1,000



The amended Water Waste Reduction Ordinance will provide the following benefits:

- Emphasize less enforcement and more education
- Create opportunities for more positive interaction with the public
- Increase participation in Efficient Irrigation Visits for education
- Lessen staff tracking efforts
- Increase staff response effectiveness



Meeting Date: March 21, 2018
Staff Contact: Stan Allred, Chief Financial Officer

TITLE: O-18-2 – Authorizing the Execution and Delivery of a Loan and Subsidy Agreement (“Loan Agreement”) by and Between the Albuquerque Bernalillo County Water Utility Authority (“The Water Authority”) and the New Mexico Finance for the Advanced Metering Infrastructure

ACTION: Recommend Approval

BACKGROUND:

The Water Authority submitted an application for financial assistance for the Advanced Metering Infrastructure Project. Approximately 19,681 meters, in selected cycle routes throughout the metro Albuquerque area, will be retrofitted with Advanced Metering Infrastructure (AMI) Flexnet devices. The customer benefits of the AMI devices consist of streamlined high bill investigations, detection of tampering of meters to protect the customer, accurate information, faster customer service, and flag and alert continuous usage.

Phase 4c will continue the progress made by the Water Authority to convert old mechanical meters to AMI meters. Approximately 76,000 meters have been converted to AMI. About 48% of total monthly water revenue is processed through the AMI system. It is estimated that Phase 4c will increase total monthly water revenue by 5% with the completion of Phase 4c. AMI implementation has also helped the utility decrease apparent water loss from 2.2% in 2012 to 0.5% in 2016 by decreasing meter inaccuracies and data handling errors. In addition, AMI was reduced outstanding bill meter work orders from 5,400 to less than 100 per month. Moreover, AMI has reduced the amount of inoperable meters from 3,000 to approximately 20 per month which saves \$500,000 in annual operation costs associated with reading the meters.

SUMMARY:

Ordinance O-18-2 authorizes the execution and delivery of a loan and subsidy agreement in the amount of \$1,010,000 between the New Mexico Finance Authority (NMFA) and the Water Authority for the Water Authority submitted an application for financial assistance for the Advanced Metering Infrastructure Project. This is a special limited obligation of the water Authority to pay a principal amount of no more than \$505,000 together with interest, costs of issuance and administrative fees and to accept a loan subsidy (Grant) of no more than \$505,000. The purpose of the financing is for the costs of upgrading the Water Authority’s water system which includes the acquisition and installation of advanced metering infrastructure meters. The loan

portion is a Senior Lien obligation and the AMI work has been appropriated by the Water Authority Board

The application for funding has been approved by the Water Authority Board.

FISCAL IMPACT:

This loan portion of the agreement is for 20 years with an effective interest rate of 0.25%. Gross Revenues, all income and revenues directly or indirectly derived by the Water Authority from the operation and use of the System, are pledged as security for these loans. The annual Debt Service for the loan portion of this agreement is \$30,884.

COMMENTS:

This Ordinance gives the Executive Director authorization to enter into the loan agreement with the NMFA to secure a loan for the purpose of financing the costs of the completion of Phase 4 of the Water Authority's Advanced Metering Infrastructure Project.

1 WHEREAS, the Water Authority owns, operates and maintains the System as
2 a joint public utility water and sanitary sewer system; and

3 WHEREAS, the Water Authority is obligated on the following Senior
4 Obligations, payable from Net Revenues, Outstanding on the date of the adoption of
5 this Ordinance in the following principal amounts:

	Amount
<u>Senior Obligations</u>	<u>Outstanding</u>
6	
7	
8 Series 2009A-1 Bonds	\$ 31,925,000
9 Series 2013A&B Bonds	\$ 83,620,000
10 Series 2014A Bonds	\$ 88,270,000
11 Series 2015 Bonds	\$208,730,000
12 Series 2017 Bonds	\$ 87,970,000
13 Drinking Water State Revolving Fund Loan Agreement (2009)	\$ 766,470
14 Public Project Revolving Fund Loan Agreement (2011)	\$ 35,855,000

15 and

16 WHEREAS, the Water Authority is obligated on the following Subordinate
17 Obligations, payable from Net Revenues with a lien on the Net Revenues
18 subordinated to the Senior Obligations, and superior to the lien of the Super
19 Subordinate Obligations, Outstanding on the date of the adoption of this Ordinance
20 in the following principal amounts:

	Amount
<u>Subordinate Obligations</u>	<u>Outstanding</u>
21	
22	
23 Series 2014B Bonds	\$ 66,950,000
24 Drinking Water State Revolving Fund Loan Agreement (2008)	\$ 7,370,187

25 and

26 WHEREAS, the Water Authority is obligated on the following Super
27 Subordinate Obligations, payable from Net Revenues with a lien on the Net
28 Revenues subordinated to the Senior Obligations and Subordinate Obligations,
29 Outstanding on the date of the adoption of this Ordinance in the following principal
30 amounts:

31

32

1		Amount
2	<u>Super Subordinate Obligations</u>	<u>Outstanding</u>
3	Water Trust Board Loan/Grant Agreement (2017)	\$ 669,550

4 and

5 WHEREAS, except as stated in these preambles, the Net Revenues have not
6 been pledged or hypothecated to the payment of any Outstanding obligations and no
7 other obligations are payable from the Net Revenues on the date of this Ordinance;
8 and

9 WHEREAS, there are no obligations which have a lien on the Net Revenues
10 superior to the lien thereon of the Senior Obligations;

11 WHEREAS, funds may be provided from the Drinking Water State Revolving
12 Loan Fund to finance infrastructure projects in the State; and

13 WHEREAS, the Board has determined that the Project may be financed with
14 amounts borrowed under the Loan Agreement and that it is in the best interest of the
15 Water Authority and its customers that the Loan Agreement be executed and
16 delivered and that the financing of the construction of the Project take place by
17 executing and delivering the Loan Agreement; and

18 WHEREAS, the Board has determined that it may lawfully pledge the Net
19 Revenues for repayment of the Loan Agreement; and

20 WHEREAS, the Water Authority intends to use a portion of the proceeds of
21 the Loan Agreement for the purpose of acquiring and installing additional System
22 assets and improving the System; and

23 WHEREAS, all required authorizations, consents and approvals in
24 connection with (i) the use and pledge of the Net Revenues to the Finance Authority
25 (or its assigns) for the payment of amounts due under the Loan Agreement, (ii) the
26 use of the proceeds of the Loan Agreement to finance the Project, and (iii) the
27 authorization, execution and delivery of the Loan Agreement, which are required to
28 have been obtained by the date of the Ordinance have been obtained or are
29 reasonably expected to be obtained prior to the Closing Date.

30 BE IT ORDAINED BY THE BOARD OF THE WATER AUTHORITY:

31 Section 1. DEFINITIONS AND RULES OF CONSTRUCTION.

1 (A) DEFINITIONS. As used in this Ordinance, the following terms
2 have the meanings specified, unless the context clearly requires otherwise:

3 ACT. The DWSRLF Act, and the general laws of the State, including
4 Section 72-1-10 NMSA 1978, Sections 3-31-1 through 3-31-12 NMSA 1978,
5 Sections 4-62-1 to 4-62-10 NMSA 1978, as amended, and enactments of the Board
6 relating to the Loan Agreement, including this Ordinance.

7 ADMINISTRATIVE FEE or ADMINISTRATIVE FEE COMPONENT.
8 The 0.25% annual fee payable to the Finance Authority as 0.125% of the Loan
9 Agreement Principal Amount then outstanding as a part of each Loan Agreement
10 Payment for the costs of originating and servicing the Loan.

11 AGGREGATE DISBURSEMENTS. At any time after the Closing Date,
12 the sum of all Disbursements.

13 AGGREGATE FORGIVEN DISBURSEMENTS. The amount of
14 Subsidy provided in the form of principal forgiveness, and shall at any time after the
15 Closing Date be equal to fifty percent (50%) of the Aggregate Disbursements, up to
16 a maximum of five hundred five thousand dollars (\$505,000).

17 AGGREGATE REPAYABLE DISBURSEMENTS. At any time after the
18 Closing Date, the Aggregate Disbursements less the Aggregate Forgiven
19 Disbursements.

20 APPROVED REQUISITION. A requisition in the form of Exhibit "C" to
21 the Loan Agreement, together with supporting documentation submitted to and
22 approved by the Finance Authority pursuant to Section 4.2 of the Loan Agreement.

23 AUTHORIZED OFFICER. The Chair, the Executive Director of the
24 Water Authority, or other officer or employee of the Water Authority when designated
25 by a certificate signed by the Chair from time to time.

26 BOARD. The governing body in which is vested the legislative power
27 of the Water Authority.

28 CHAIR. The duly elected Chair of the Board or the Vice Chair of the
29 Board acting in the absence of the Chair.

30 CITY. The City of Albuquerque, in the County of Bernalillo and State
31 of New Mexico.

1 CLOSING DATE. The date of execution, delivery and funding of the
2 Loan Agreement authorized by this Ordinance.

3 COMPLETION DATE. The date of completion of the Project.

4 COUNTY. Bernalillo County, New Mexico.

5 CREDIT FACILITY. A letter of credit, line of credit, bond insurance
6 policy or reserve account surety bond, guaranty or similar agreement provided by a
7 Credit Source to provide support to pay the purchase price of, or the payment when
8 due of the principal of and interest on, System Obligations.

9 CREDIT SOURCE. Any bank, insurance company or other financial
10 institution which provides a Credit Facility for a series of System Obligations.

11 DEBT SERVICE ACCOUNT. The debt service account established in
12 the name of the Water Authority and administered by the Finance Authority to pay
13 principal and interest on the Loan Agreement as the same become due.

14 DEBT SERVICE FUND. The Debt Service Fund previously established
15 by the Water Authority and continued in Section 13 of this Ordinance.

16 DEBT SERVICE REQUIREMENTS. With respect to System
17 Obligations and for any given period, the sum of: (1) the amount required to pay the
18 interest, or to make reimbursements for payments of interest, becoming due on
19 System Obligations during that period, plus (2) the amount required to pay the
20 principal or to make reimbursements for the payment of principal becoming due on
21 System Obligations during that period, whether at maturity or upon mandatory
22 sinking fund redemption dates, plus (3) the periodic payments required to be made
23 by the Water Authority pursuant to a Qualified Exchange Agreement minus (4) the
24 periodic payments to be received by the Water Authority pursuant to a Qualified
25 Exchange Agreement. No payments required for any System Obligations which may
26 be tendered or otherwise presented for payment at the option or demand of the
27 owners of System Obligations, or which may occur because of the exercise of an
28 option by the Water Authority, or which may otherwise become due by reason of any
29 other circumstance or contingency, including acceleration or early termination
30 payments, which constitute other than regularly scheduled payments of principal,

1 interest or other regularly scheduled payments on System Obligations shall be
2 included in any computation of Debt Service Requirements for that period.

3 Unless, at the time of computation of Debt Service Requirements, payments
4 on System Obligations are owed to, or System Obligations are owned or held by, the
5 provider of a Credit Facility pursuant to the provisions of that Credit Facility, the
6 computation of interest for the purposes of this definition shall be made without
7 considering the interest rate payable pursuant to a Credit Facility.

8 In any computation of Debt Service Requirements relating to the issuance of
9 additional System Obligations, there shall be excluded from the computation of the
10 Debt Service Requirements amounts and investments which are irrevocably
11 committed to make designated payments on System Obligations during the
12 applicable period, including, without limitation, money on deposit in any Debt Service
13 Account and amounts on deposit in an escrow account irrevocably committed to
14 make designated payments on System Obligations during the applicable period and
15 earnings on such investments which are payable and committed to the payment of
16 such System Obligations during the applicable period.

17 Unless otherwise required by a Water Authority ordinance or resolution
18 relating to a series of System Obligations, to determine Debt Service Requirements
19 of Variable Rate Obligations, the Water Authority shall use the procedures set forth
20 in the following paragraphs to determine the amount of interest or other payments to
21 be paid by the Water Authority on Variable Rate Obligations.

22 (1) During any historical period for which the actual variable
23 interest rate or rates are determinable, the actual variable interest rate shall be used.
24 During any historical period when the actual variable interest rate is not
25 determinable, the variable interest rate shall, for the purpose of determining Debt
26 Service Requirements, be deemed to be the higher of:

27 (a) the actual variable interest rate, if any, at the time
28 of computation; or

29 (b) a fixed annual rate equal to the prevailing rate on
30 the Variable Rate Obligations on the date of computation (which, for the purpose of
31 determining the Debt Service Requirements, shall be a date which is no more than

1 60 days prior to the date of issuance of the applicable System Obligations) as
2 certified by the Water Authority's financial advisor, the underwriters of the System
3 Obligations, an investment banker designated by the Water Authority from time to
4 time or a counterparty with respect to a Qualified Exchange Agreement.

5 (2) Prospective computations of interest payable on Variable
6 Rate Obligations, including those relating to the issuance of additional System
7 Obligations or required by the Rate Covenant, shall be made on the assumption that
8 such obligations bear interest at a fixed annual rate equal to:

9 (a) the average of the daily rates of such System
10 Obligations during the 365 consecutive days (or any lesser period such System
11 Obligations have been Outstanding) next preceding a date which is no more than 60
12 days prior to the date of the issuance of the additional System Obligations; or

13 (b) with respect to System Obligations initially issued
14 or incurred as or being converted to Variable Rate Obligations, the estimated initial
15 rate of interest of such System Obligations upon the date of issuance, exchange or
16 conversion as certified by the Water Authority's financial advisor, another investment
17 banker, as designated by the Water Authority from time to time, or a counterparty
18 with respect to a Qualified Exchange Agreement.

19 DISBURSEMENT. An amount caused to be paid by the Finance
20 Authority for an Approved Requisition for costs of the Project, including the Expense
21 Fund Component.

22 DRINKING WATER STATE REVOLVING FUND LOAN AGREEMENT
23 (2008). The loan agreement dated November 7, 2008 between the Finance
24 Authority and the Water Authority in the original principal amount of \$9,627,877,
25 authorized and approved by Water Authority Ordinance Enactment No. F/S O-08-4
26 and Resolution Enactment No. F/S R-08-13 as amended by Ordinance No. F/S O-
27 14-2 and the Amendment to the Loan Agreement dated July 24, 2014 constituting a
28 subordinate lien on the Net Revenues.

29 DRINKING WATER STATE REVOLVING FUND LOAN AGREEMENT
30 (2009). The loan agreement between the Finance Authority and the Water Authority
31 in the original principal amount of \$1,010,000, authorized and approved by Water

1 Authority Ordinance Enactment No. O-09-9 and Resolution Enactment No. R-09-24
2 constituting a senior lien on the Net Revenues.

3 DRINKING WATER STATE REVOLVING LOAN FUND. The drinking
4 water state revolving loan fund established by the DWSRLF Act.

5 DWSRLF ACT. The general laws of the State, particularly the Drinking
6 Water State Revolving Loan Fund Act, NMSA 1978 §§ 6-21A-1 through 6-21A-9, as
7 amended.

8 EXPENSE FUND. The expense fund hereby created to be held and
9 administered by the Finance Authority to pay Expenses.

10 EXPENSE FUND COMPONENT. An amount equal to one percent
11 (1%) of each Disbursement for the Project, minus any amount forgiven under the
12 Loan Agreement, simultaneously withdrawn and deposited in the Expense Fund to
13 pay Expenses.

14 EXPENSES. The reasonable and necessary fees, costs and
15 expenses incurred by the Water Authority and the Finance Authority with respect to
16 the execution and delivery of the Loan Agreement, including, without limitation,
17 attorneys' fees and costs, financial advisor's fees and costs, costs of advertising and
18 publication, and all reasonable and necessary fees and administrative costs of the
19 Water Authority and Finance Authority relating to the foregoing.

20 FINAL LOAN AGREEMENT PAYMENT SCHEDULE. The schedule of
21 Loan Agreement Payments due on the Loan Agreement following the Final
22 Requisition, as determined on the basis of the Aggregate Repayable Disbursements.

23 FINAL REQUISITION. The final requisition of moneys to be submitted
24 by the Water Authority, which shall be submitted by the Water Authority on or before
25 the date provided for in Section 4.1(b) of the Loan Agreement.

26 FINANCE AUTHORITY. The New Mexico Finance Authority, created
27 by the New Mexico Finance Authority Act, NMSA 1978, §§ 6-21-1 through 6-21-31,
28 as amended.

29 GROSS REVENUES. All income and revenues directly or indirectly
30 derived by the Water Authority from the operation and use of the System, or any part
31 of the System, and includes, without limitation, all revenues received by the Water

1 Authority, or any municipal corporation or agency succeeding to the rights of the
2 Water Authority, from the System and from the sale and use of water, water services
3 or facilities, sewer service or facilities or any other service, commodity or facility or
4 any combination thereof furnished to the inhabitants of the geographic area served
5 by the Water Authority by means of the System as the same may at any time exist to
6 serve customers outside the Water Authority's geographical limits as well as
7 customers within the Water Authority's geographical limits. Such term also includes:

8 (1) All income derived from the investment of any money in
9 the Joint Water and Sewer Fund, Debt Service Account, Program Account and Rate
10 Stabilization Fund and income derived from surplus Net Revenues;

11 (2) Money released from a rebate fund to the Water
12 Authority;

13 (3) Money released from the Rate Stabilization Fund to the
14 Water Authority to the extent that the amount released is used to pay Operation and
15 Maintenance Expenses or Debt Service Requirements on System Obligations in the
16 year released; provided that withdrawals from the Rate Stabilization Fund shall not
17 be included in Gross Revenues for the purposes of the Rate Covenant in any two
18 consecutive calendar years;

19 (4) Property insurance proceeds which are not necessary to
20 restore or replace the property lost or damaged and the proceeds of the sale or
21 other disposition of any part of the System; and

22 (5) Funds received from users of the System as a
23 reimbursement of, or otherwise in connection with, franchise fees to be paid by the
24 Water Authority.

25 Gross Revenues do not include:

26 (1) any money received as grants or gifts from the United
27 States of America, the State or other sources, or the proceeds of any charge or tax
28 intended as a replacement therefor or other capital contributions from any source
29 which are restricted as to use; and

30 (2) condemnation proceeds or the proceeds of any
31 insurance policy, except any property insurance proceeds described above in clause

1 (4) of this definition or derived in respect of loss of use or business interruption.

2 INTEREST COMPONENT. The portion of each Loan Agreement
3 Payment paid as interest accruing on the Aggregate Repayable Disbursements then
4 outstanding, calculated from the date of each Disbursement.

5 INTEREST RATE. The rate of interest on the Loan Agreement as
6 shown on the Term Sheet.

7 JOINT WATER AND SEWER FUND. The “City of Albuquerque, New
8 Mexico, Joint Water and Sewer Fund” originally established in Section 16 of City
9 Ordinance No. 18-1984 and continued in Section 13 of this Ordinance as the
10 “Albuquerque Bernalillo County Water Utility Authority Joint Water and Sewer Fund.”

11 LOAN. The funds to be loaned to the Water Authority by the Finance
12 Authority pursuant to the Loan Agreement, up to the Maximum Principal Amount.

13 LOAN AGREEMENT. The loan and subsidy agreement and any
14 amendments or supplements thereto, including the exhibits attached to the loan
15 agreement.

16 LOAN AGREEMENT PAYMENT. Collectively, the Principal
17 Component, the Interest Component, Expense Fund Component, and the
18 Administrative Fee Component to be paid by the Water Authority as payment on the
19 Aggregate Repayable Disbursements under the Loan Agreement, as shown on
20 Exhibit “B” thereto.

21 LOAN AGREEMENT PRINCIPAL AMOUNT. As of any date of
22 calculation, the Aggregate Repayable Disbursements (including the Expense Fund
23 Component) then outstanding.

24 MAXIMUM PRINCIPAL AMOUNT. One million ten thousand dollars
25 (\$1,010,000).

26 NMSA 1978. New Mexico Statutes Annotated, 1978 Compilation, as
27 amended and supplemented.

28 NET REVENUES. The Gross Revenues after deducting Operation
29 and Maintenance Expenses.

30 OPERATION AND MAINTENANCE EXPENSES. All reasonable and
31 necessary current expenses of the System, paid or accrued, related to operating,

1 maintaining and repairing the System including, without limiting the generality of the
2 foregoing:

3 (1) legal and overhead expenses directly related and
4 reasonably allocable to the administration of the System;

5 (2) insurance premiums for the System, including, without
6 limitation, premiums for property insurance, public liability insurance and workmen's
7 compensation insurance, whether or not self-funded;

8 (3) premiums, expenses and other costs (other than required
9 reimbursements of insurance proceeds and other amounts advanced to pay Debt
10 Service Requirements on System Obligations) for Credit Facilities;

11 (4) Expenses other than expenses paid from the proceeds of
12 System Obligations;

13 (5) the costs of audits of the books and accounts of the
14 Water Authority and the System;

15 (6) amounts required to be deposited in a rebate fund or
16 otherwise required to make rebate payments to the United States Government;

17 (7) salaries, administrative expenses, labor costs, surety
18 bonds and the cost of materials and supplies used for or in connection with the
19 current operation of the System; and

20 (8) franchise tax payments to the City, County or any other
21 local government.

22 Operation and Maintenance Expenses do not include any allowance for
23 depreciation, payments in lieu of taxes, liabilities incurred by the Water Authority as
24 a result of its negligence or other misconduct in the operation of the System or any
25 charges or costs allocable to capital improvements or replacements. Operation and
26 Maintenance Expenses do not include any payment of or reimbursement for the
27 payment of Debt Service Requirements on the Loan Agreement.

28 ORDINANCE. This Ordinance, as amended or supplemented from
29 time to time.

30

1 OUTSTANDING. When used in reference to System Obligations, on
2 any particular date, the aggregate of all System Obligations issued and delivered
3 under the applicable Water Authority ordinance authorizing the issuance of, System
4 Obligations except:

5 (1) those canceled at or prior to such date or delivered to or
6 acquired by the Water Authority at or prior to such date for cancellation;

7 (2) those which have been paid or are deemed to be paid in
8 accordance with the Water Authority ordinance or resolution authorizing the
9 issuance of the applicable System Obligations or otherwise relating thereto, provided
10 that the payment of insured Obligations with the proceeds of a bond insurance policy
11 shall not result in those insured obligations ceasing to be Outstanding;

12 (3) in the case of Variable Rate Obligations, System
13 Obligations deemed tendered but not yet presented for payment;

14 (4) any System Obligation which has been refunded in
15 accordance with this Ordinance or other ordinances of the Water Authority
16 authorizing the defeasance of such designated System Obligations; and

17 (5) those in lieu of or in exchange or substitution for which
18 other System Obligations shall have been delivered, unless proof satisfactory to the
19 Water Authority and the paying agent for the applicable System Obligations is
20 presented that any System Obligation for which a new System Obligation was
21 issued or exchanged is held by a bona fide holder in due course.

22 PROGRAM ACCOUNT. The the book account established by the
23 Finance Authority in the name of the Water Authority for purposes of tracking
24 expenditure of the Loan by the Water Authority to pay for the costs of the Project, as
25 shown in the Term Sheet, which account shall be kept separate and apart from all
26 other accounts of the Finance Authority.

27 PROJECT. Acquiring additional System assets, extending, repairing,
28 replacing and improving the Water Authority's System, including, acquisition and
29 installation of Advanced Metering Infrastructure meters and the payment of
30 Expenses associated with the execution and delivery of the Loan Agreement.

1 PUBLIC PROJECT REVOLVING FUND LOAN AGREEMENT (2011).
2 The loan agreement dated December 15, 2011 between the Finance Authority and
3 the Water Authority in the principal amount of \$53,400,000 and approved by
4 Ordinance No. O-11-5 and Resolution No. R-11-17 constituting a senior lien on the
5 Net Revenues.

6 QUALIFIED EXCHANGE AGREEMENT. Any interest rate exchange
7 between the Water Authority and a counterparty which, when entered into by the
8 Water Authority, satisfies the requirements of Section 6-18-8.1 NMSA 1978.

9 RATE COVENANT. The covenants in the Loan Agreement relating to
10 charging rates for use of the System to pay Debt Service Requirements.

11 RATE STABILIZATION FUND. The Rate Stabilization Fund for
12 System Obligations previously established by the Water Authority and continued in
13 Section 13 of this Ordinance.

14 SENIOR OBLIGATIONS. The Series 2009A-1 Bonds, the Drinking
15 Water State Revolving Fund Loan Agreement (2009), the Public Project Revolving
16 Fund Loan Agreement (2011), the Series 2013A&B Bonds, the Series 2014A Bonds,
17 the Series 2015 Bonds, the Series 2017 Bonds, the Loan Agreement and obligations
18 related thereto designated as Senior Obligations, in any ordinance or resolution of
19 the Water Authority relating to those Senior Obligations, and any other System
20 Obligations issued with a lien on the Net Revenues on parity with the lien of the
21 Outstanding Senior Obligations on Net Revenues.

22 SERIES 2009A-1 BONDS. The Senior Obligations designated as
23 "Albuquerque Bernalillo County Water Utility Authority Joint Water and Sewer
24 System Improvement Revenue Bonds, Series 2009A-1" in the original principal
25 amount of \$135,990,000, authorized and issued pursuant to Ordinance No. O-09-1
26 and Resolution No. R-09-7 constituting a senior lien on the Net Revenues.

27 SERIES 2013A&B BONDS. The Senior Obligations designated as the
28 "Albuquerque Bernalillo County Water Utility Authority Joint Water and Sewer
29 System Improvement Revenue Bonds, Series 2013A" and the "Albuquerque
30 Bernalillo County Water Utility Authority Joint Water and Sewer System Refunding
31 Revenue Bonds, Series 2013B" in the combined original principal amount of

1 \$118,215,000, authorized and issued pursuant to Ordinance No. O-13-2 and
2 Resolution R-13-13 constituting a senior lien on the Net Revenues.

3 SERIES 2014A BONDS. The Senior Obligations designated as the
4 “Albuquerque Bernalillo County Water Utility Authority Senior Lien Joint Water and
5 Sewer System Refunding Revenue Bonds, Series 2014A” in the original principal
6 amount of \$97,270,000, authorized and issued pursuant to Ordinance No. F/S O-14-
7 2 and Resolution F/S R-14-10 constituting a senior lien on the Net Revenues.

8 SERIES 2014B BONDS. The Subordinate Obligations designated as
9 the “Albuquerque Bernalillo County Water Utility Authority Subordinate Lien Joint
10 Water and Sewer System Refunding Revenue Bonds, Series 2014B” in the original
11 principal amount of \$87,005,000, authorized and issued pursuant to Ordinance No.
12 F/S O-14-2 and Resolution F/S R-14-10 constituting a subordinate lien on the Net
13 Revenues.

14 SERIES 2015 BONDS. The Senior Obligations designated as the
15 “Albuquerque Bernalillo County Water Utility Authority Senior Lien Joint Water and
16 Sewer System Refunding and Improvement Revenue Bonds, Series 2015” in the
17 original principal amount of \$211,940,000, authorized and issued pursuant to
18 Ordinance No. O-15-2 and Resolution F/S R-15-6 constituting a senior lien on the
19 Net Revenues.

20 SERIES 2017 BONDS. The Senior Obligations designated as the
21 “Albuquerque Bernalillo County Water Utility Authority Senior Lien Joint Water and
22 Sewer System Refunding and Improvement Revenue Bonds, Series 2017” in the
23 original principal amount of \$87,970,000, authorized and issued pursuant to
24 Ordinance No. WUA O-16-2 and Resolution WUA R-16-13 constituting a senior lien
25 on the Net Revenues.

26 STATE. The State of New Mexico.

27 SUBORDINATE OBLIGATIONS. The Drinking Water State Revolving
28 Fund Loan Agreement (2008), the Series 2014B Bonds, and all other bonds and
29 other obligations of the Water Authority now or hereafter issued with a lien on the
30 Net Revenues subordinate to the lien of Senior Obligations and superior to the lien
31 of the Super Subordinate Obligations on the Net Revenues.

1 SUBSIDY. The subsidy in the form of principal forgiveness for the
2 Water Authority, to be applied proportionally at the time of each disbursement of
3 moneys from the Program Account to the Water Authority, being fifty percent (50%)
4 of such disbursements.

5 SUPER SUBORDINATE OBLIGATIONS. The Water Trust Board
6 Loans, and all other bonds and other obligations of the Water Authority now or
7 hereafter issued with a lien on the Net Revenues subordinate to the liens of the
8 Senior Obligations and the Subordinate Obligations on the Net Revenues.

9 SYSTEM. The public utility owned by the Water Authority and
10 designated as the Water Authority's water system and sanitary sewer system
11 (continued as a joint utility system in Section 4 of this Ordinance) consisting of all
12 properties, real, personal, mixed or otherwise, now owned or hereafter acquired by
13 the Water Authority, through purchase, construction or otherwise, including all
14 extensions, enlargements and improvements of or to the water and sanitary sewer
15 system and used in connection therewith or relating thereto, and any other related
16 activity or enterprise of the Water Authority designated by the Board as part of the
17 water and sanitary sewer system, whether situated within or without the
18 geographical limits of the Water Authority.

19 SYSTEM OBLIGATIONS. All bonds and other similar indebtedness
20 payable solely or primarily from Net Revenues, including, without limitation, the
21 Senior Obligations, the Subordinate Obligations and the Super Subordinate
22 Obligations.

23 TERM SHEET. Exhibit "A" to the Loan Agreement.

24 VARIABLE RATE OBLIGATIONS. System Obligations, including
25 reimbursement obligations pursuant to a Credit Facility, the interest rate on which is
26 subject to change from time to time.

27 WATER AUTHORITY. The Albuquerque Bernalillo County Water
28 Utility Authority created by Section 72-1-10 NMSA 1978 as a joint agency of the City
29 and the County and operating under the name Albuquerque Bernalillo County Water
30 Utility Authority.

1 WATER TRUST BOARD. The board created by Section 72-4A-4
2 NMSA 1978.

3 WATER TRUST BOARD LOANS. As of the date of adoption of the
4 Ordinance, the Water Trust Board Loan/Grant Agreement (2017).

5 WATER TRUST BOARD LOAN/GRANT AGREEMENT (2017). The
6 loan/grant agreement between the Finance Authority and the Water Trust Board in
7 the original principal amount of \$1,673,874, comprised of \$669,550 loan and
8 \$1,004,324 grant, authorized and approved by Water Authority Ordinance
9 Enactment No. O-16-3 and Resolution Enactment No. R- constituting a super
10 subordinate lien on the Net Revenues.

11 (B) RULES OF CONSTRUCTION. For purposes of this Ordinance,
12 unless otherwise expressly provided or unless the context requires otherwise:

13 (1) Unless otherwise stated in this Ordinance, all references
14 in this Ordinance to designated Sections and other subdivisions are to the
15 designated Section and other subdivisions of this Ordinance.

16 (2) The words “herein”, “hereof”, “hereunder”, and “herewith”
17 and other words of similar import in this Ordinance refer to this Ordinance, as a
18 whole, and not to any particular Section or other subdivision.

19 (3) All accounting terms not otherwise defined in this
20 Ordinance have the meanings assigned to them in accordance with generally
21 accepted accounting principles.

22 (4) Words of the masculine gender shall be deemed and
23 construed to include correlative words of the feminine and neuter genders.

24 (5) The headings used in this Ordinance are for convenience
25 of reference only and shall not define or limit the provisions of this Ordinance.

26 (6) Terms in the singular include the plural and vice versa.

27 Section 2. RATIFICATION. All actions previously taken (not inconsistent
28 with the provisions of this Ordinance) by the Board and the officers of the Water
29 Authority, directed toward the authorization, pledge, collection and distribution of the
30 Net Revenues, the Project, and the authorization, execution and delivery of the Loan
31 Agreement are ratified, approved and confirmed.

1 Section 3. FINDINGS.

2 (A) The Water Authority declares that it has considered all relevant
3 information and data and finds that the execution and delivery of the Loan
4 Agreement under the Act in the Maximum Principal Amount to finance the Project is
5 necessary and in the interest of the public health, safety and welfare of the residents
6 of the geographic area served by the Water Authority.

7 (B) The Water Authority will finance the Project with the proceeds of
8 the Loan Agreement, together with other funds of the Water Authority, if necessary.

9 (C) It is economically feasible to accomplish the Project by the
10 execution and delivery of the Loan Agreement.

11 (D) The Net Revenues may lawfully be pledged to secure the
12 payment of amounts due under the Loan Agreement.

13 Section 4. JOINT UTILITY. The System shall continue to be operated and
14 maintained as a joint public utility.

15 Section 5. LOAN AGREEMENT – AUTHORIZATION AND DETAIL.

16 (A) AUTHORIZATION. This Ordinance has been adopted by the
17 affirmative vote of at least a majority of all of the members of the Board. For the
18 purpose of protecting the public health, conserving the property, and protecting the
19 general welfare and prosperity of the public served by the Water Authority and
20 acquiring and constructing the Project, it is hereby declared necessary that the
21 Water Authority, pursuant to the Act, execute and deliver the Loan Agreement
22 evidencing a special limited obligation of the Water Authority to pay a principal
23 amount of five hundred five thousand dollars (\$505,000) and interest thereon, and to
24 accept a loan subsidy in the amount of five hundred five thousand dollars (\$505,000)
25 and the execution and delivery of the Loan Agreement is hereby authorized. The
26 Water Authority shall use the proceeds of the Loan and Subsidy (i) to finance the
27 acquisition and construction of the Project and (ii) to pay Expenses. The Project will
28 be owned by the Water Authority.

29 (B) DETAIL. The Loan Agreement shall be in substantially the form
30 of the Loan Agreement presented at the meeting of the Board at which this
31 Ordinance was adopted. The Loan shall be in an amount not to exceed the

1 Maximum Principal Amount of one million ten thousand dollars (\$1,010,000). The
2 Loan Agreement Principal Amount shall be payable in installments of principal due
3 on May 1 of the years designated in the Final Loan Agreement Payment Schedule
4 and bear interest payable on May 1 and November 1 of each year, commencing on
5 November 1, 2018, at the rates designated in the Loan Agreement, including Exhibit
6 “A” thereto, which rates include the Administrative Fee. Interest on Loan Agreement
7 will be computed on the basis of a 360-day year consisting of twelve 30-day months.

8 Section 6. AUTHORIZATION OF PROJECT AND EXPENSES.

9 (A) PROJECT. The Project is hereby authorized and approved.

10 (B) EXPENSES. The payment of Expenses is authorized and
11 approved.

12 (C) PROCEEDS. The proceeds of the Loan Agreement will be
13 used exclusively to finance the Project including the payment of Expenses.

14 Section 7. APPROVAL OF THE LOAN AGREEMENT. The form of the
15 Loan Agreement as presented at the meeting of the Board at which this Ordinance
16 was adopted is hereby approved. Authorized Officers are hereby individually
17 authorized to execute, acknowledge and deliver the Loan Agreement with such
18 changes, insertions and omissions as may be approved by such individual
19 Authorized Officers, and the Executive Director is hereby authorized to affix the seal
20 of the Water Authority on the Loan Agreement and attest the same. The execution
21 of the Loan Agreement by an Authorized Officer shall be conclusive evidence of
22 such approval.

23 Section 8. SPECIAL LIMITED OBLIGATIONS. The Loan Agreement shall
24 be secured by the pledge of the Net Revenues as set forth in the Loan Agreement
25 and shall be payable solely from the Net Revenues. The Loan Agreement, together
26 with interest thereon and other obligations of the Water Authority thereunder, shall
27 be a special, limited obligation of the Water Authority, payable solely from the Net
28 Revenues as provided in this Ordinance, and the Loan Agreement shall not
29 constitute a general obligation of the Water Authority, the City, the County, or the
30 State, and the holders of the Loan Agreement may not look to any general or other
31 fund of the Water Authority for payment of the obligations thereunder. Nothing

1 contained in this Ordinance nor in the Loan Agreement, nor any other instruments,
2 shall be construed as obligating the Water Authority (except with respect to the
3 application of the Net Revenues) or as imposing a pecuniary liability or a charge
4 upon the general credit of the Water Authority, nor shall a breach of any agreement
5 contained in this Ordinance, the Loan Agreement, or any other instrument impose
6 any pecuniary liability upon the Water Authority or any charge upon its general
7 credit. The Loan Agreement shall never constitute an indebtedness of the Water
8 Authority within the meaning of any State constitutional provision or statutory
9 limitation and shall never constitute or give rise to a pecuniary liability of the Water
10 Authority or a charge against its general credit. Nothing herein shall prevent the
11 Water Authority from applying other funds of the Water Authority legally available
12 therefor to payments required by the Loan Agreement, in its sole and absolute
13 discretion.

14 Section 9. DISPOSITION OF PROCEEDS; COMPLETION OF
15 ACQUISITION AND CONSTRUCTION OF THE PROJECT.

16 (A) ACCOUNT. The Water Authority hereby consents to creation of
17 the Program Account, Expense Fund and Debt Service Account to be held and
18 maintained by the Finance Authority as provided in the Loan Agreement. The Water
19 Authority hereby approves of the deposit of a portion of the proceeds of the Loan
20 Agreement in the Program Account and Expense Fund. The proceeds derived from
21 the execution and delivery of the Loan Agreement shall be deposited promptly upon
22 receipt thereof in the Expense Fund and the Program Account, as provided in the
23 Loan Agreement. Until the Completion Date or the date of the Final Disbursement,
24 the money in the Program Account shall be used and paid out solely for the purpose
25 of acquiring and constructing the Project and to pay Expenses in compliance with
26 applicable law and the provisions of the Loan Agreement.

27 (B) PROMPT COMPLETION OF THE PROJECT. The Water
28 Authority will acquire, construct and complete the Project with all due diligence.
29 Upon the acquisition and completion of the Project, the Water Authority shall
30 execute and send to the Finance Authority a certificate stating that the completion of
31 and payment for the Project has been completed.

1 (C) FINANCE AUTHORITY NOT RESPONSIBLE FOR
2 APPLICATION OF LOAN PROCEEDS. The Finance Authority shall in no manner
3 be responsible for the application or disposal by the Water Authority or by its officers
4 of the net proceeds derived from the Loan Agreement.

5 Section 10. DEPOSIT OF NET REVENUES; DISTRIBUTIONS OF NET
6 REVENUES AND FLOW OF FUNDS.

7 (A) DEPOSIT OF NET REVENUES. Net Revenues shall be paid
8 directly by the Water Authority to the Finance Authority in an amount sufficient to pay
9 principal and interest due under the Loan Agreement, as provided in Section 5.2 of
10 the Loan Agreement.

11 (B) TERMINATION OF DEPOSITS TO MATURITY. No payment
12 shall be made into the Debt Service Account if the amount in the Debt Service
13 Account totals a sum at least equal to the entire aggregate amount of Loan
14 Agreement Payments to become due as to principal and interest due under the Loan
15 Agreement, in which case moneys in such account in an amount at least equal to
16 such principal and interest requirements shall be used solely to pay such obligations
17 as the same become due, and any moneys in excess thereof in such accounts shall
18 be transferred to the Water Authority and used as provided in Section 10(C) below.

19 (C) USE OF SURPLUS REVENUES. After making all the
20 payments hereinabove required to be made by this Section, any moneys remaining
21 in the Debt Service Account shall be transferred to the Water Authority on a timely
22 basis and applied to any other lawful purpose, including, but not limited to, the
23 payment of any Senior Obligations, Subordinate Obligations or Super Subordinate
24 Obligations, or purposes authorized by the Water Authority, the Constitution and
25 laws of the State, as the Water Authority may from time to time determine.

26 Section 11. LIEN ON NET REVENUES. The Loan Agreement shall be
27 issued with a lien on the Net Revenues on parity with the lien of the Senior
28 Obligations on the Net Revenues and a lien superior to the liens of the Subordinate
29 Obligations and the Super Subordinate Obligations on the Net Revenues. The Net
30 Revenues are hereby authorized to be pledged, and are hereby pledged, and the
31 Water Authority grants a security interest therein, for the payment of the principal

1 and interest due under the Loan Agreement, subject to the uses thereof permitted by
2 and the priorities set forth in this Ordinance and the Loan Agreement. The Loan
3 Agreement constitutes an irrevocable first lien, but not necessarily an exclusive first
4 lien, on the Net Revenues as set forth herein and therein, and the Water Authority
5 shall not create a lien on the Net Revenues superior to that of the Loan Agreement
6 without the express prior written approval of the Finance Authority.

7 Section 12. AUTHORIZED OFFICERS; DELEGATED POWERS.

8 Authorized Officers are hereby individually authorized and directed to execute and
9 deliver any and all papers, instruments, opinions, affidavits and other documents
10 and to do and cause to be done any and all acts and things necessary or proper for
11 carrying out this Ordinance, the Loan Agreement and all other transactions
12 contemplated hereby and thereby. Authorized Officers are hereby individually
13 authorized to do all acts and things required of them by this Ordinance and the Loan
14 Agreement for the full, punctual and complete performance of all the terms,
15 covenants and agreements contained in this Ordinance and the Loan Agreement
16 including, but not limited to, the execution and delivery of closing documents,
17 additional agreements and reports required in connection with the execution and
18 delivery of the Loan Agreement, and the publication of the summary of this
19 Ordinance set out in Section 19 of this Ordinance (with such changes, additions and
20 deletions as may be necessary).

21 Section 13. FUNDS AND ACCOUNTS.

22 (A) JOINT WATER AND SEWER FUND. The Water Authority shall
23 continue the Joint Water and Sewer Fund as a separate, distinct and segregated
24 fund. As long as the Loan Agreement is outstanding, all Gross Revenues shall
25 continue to be set aside and credited to the Joint Water and Sewer Fund.

26 (B) DEBT SERVICE FUND AND ACCOUNTS. The Water Authority
27 shall continue the Debt Service Fund as a separate, distinct and segregated fund for
28 the deposit of Net Revenues for the payment of System Obligations, including the
29 Loan Agreement. The Water Authority shall continue the Expense Account as part
30 of the Debt Service Fund. Money on deposit or credited to the Expense Account
31 shall be used for the purpose of payment of Expenses.

1 (C) RATE STABILIZATION FUND. The Water Authority shall
2 continue the Rate Stabilization Fund as a separate, distinct and segregated fund.

3 Section 14. AMENDMENT OF ORDINANCE. Prior to the Closing Date, the
4 provisions of this Ordinance may be supplemented or amended by ordinance of the
5 Board with respect to any changes which are not inconsistent with the substantive
6 provisions of this Ordinance. After the Closing Date, this Ordinance may be
7 amended without receipt by the Water Authority of any additional consideration, but
8 only with the prior written consent of the Finance Authority.

9 Section 15. LIMITATION OF RIGHTS. Nothing in this Ordinance expressed
10 or implied is intended or shall be construed to give to any person other than the
11 Water Authority, the Finance Authority and the parties to which such right, remedy or
12 claim is expressly granted by this Ordinance any legal or equitable right, remedy or
13 claim under or in respect to the Ordinance.

14 Section 16. ORDINANCE IRREPEALABLE. After the Closing Date, this
15 Ordinance shall be and remain irrevocable until all obligations due under the Loan
16 Agreement shall be fully paid, canceled and discharged, as herein provided.

17 Section 17. SEVERABILITY CLAUSE. If any section, paragraph, clause or
18 provision of this Ordinance shall for any reason be held to be invalid or
19 unenforceable, the invalidity or unenforceability of that section, paragraph, clause or
20 provision shall not affect any of the remaining provisions of this Ordinance.

21 Section 18. REPEALER CLAUSE. All bylaws, orders, resolutions and
22 ordinances, or parts thereof, inconsistent with this Ordinance are repealed to the
23 extent only of such inconsistency. This repealer shall not be construed to revive any
24 bylaw, order, resolution or ordinance, or part thereof, previously repealed.

25 Section 19. GENERAL SUMMARY FOR PUBLICATION. The title and a
26 general summary of the subject matter contained in this Ordinance shall be
27 published in substantially the following form:

28 (Form of Summary of Ordinance for Publication)

29 Albuquerque Bernalillo County Water Utility Authority

30 Notice of Adoption of Ordinance

1 NOTICE IS HEREBY GIVEN, pursuant to the provisions of Section 6-14-6
2 NMSA 1978, that on March 21, 2018, the Board of Albuquerque Bernalillo County
3 Water Utility Authority (the "Water Authority") adopted Water Authority Ordinance
4 No. O-18-2, an ordinance which authorizes the execution and delivery of a loan
5 agreement with the New Mexico Finance Authority in an aggregate principal amount
6 of \$1,010,000 to make improvements to the Water Authority's Joint Water and
7 Sanitary Sewer System.

8 The title of the Ordinance is:

9 **ORDINANCE**

10 **AN ORDINANCE AUTHORIZING THE EXECUTION AND DELIVERY OF A LOAN**
11 **AND SUBSIDY AGREEMENT ("LOAN AGREEMENT") BY AND BETWEEN THE**
12 **ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY (THE**
13 **"WATER AUTHORITY") AND THE NEW MEXICO FINANCE AUTHORITY,**
14 **EVIDENCING A SPECIAL LIMITED OBLIGATION OF THE WATER AUTHORITY**
15 **TO PAY A PRINCIPAL AMOUNT OF NO MORE THAN FIVE HUNDRED FIVE**
16 **THOUSAND DOLLARS (\$505,000), TOGETHER WITH INTEREST, COSTS OF**
17 **ISSUANCE AND ADMINISTRATIVE FEES THEREON, AND TO ACCEPT A LOAN**
18 **SUBSIDY OF NO MORE THAN FIVE HUNDRED FIVE THOUSAND DOLLARS**
19 **(\$505,000), FOR THE PURPOSE OF FINANCING THE COSTS OF UPGRADING**
20 **THE WATER AUTHORITY'S WATER SYSTEM, INCLUDING, ACQUISITION AND**
21 **INSTALLATION OF ADVANCED METERING INFRASTRUCTURE METERS;**
22 **PROVIDING FOR THE PLEDGE AND PAYMENT OF THE PRINCIPAL, INTEREST**
23 **AND ADMINISTRATIVE FEES DUE UNDER THE LOAN AGREEMENT SOLELY**
24 **FROM NET REVENUES; SETTING A MAXIMUM INTEREST RATE FOR THE**
25 **LOAN; APPROVING THE FORM OF AND OTHER DETAILS CONCERNING THE**
26 **LOAN AGREEMENT; RATIFYING ACTIONS HERETOFORE TAKEN;**
27 **REPEALING ALL ACTION INCONSISTENT WITH THIS ORDINANCE; AND**
28 **AUTHORIZING THE TAKING OF OTHER ACTIONS IN CONNECTION WITH THE**
29 **EXECUTION AND DELIVERY OF THE LOAN AGREEMENT.**

30 The title contains a general summary of the subject matter contained in the
31 Ordinance.

1 This notice constitutes compliance with § 6-14-6 NMSA 1978.

2 (End of Summary of Ordinance for Publication)

3 PASSED AND ADOPTED THIS 21st DAY OF MARCH, 2018.

4 BY A VOTE OF ____ FOR AND ____ AGAINST.

5

6

7

8

Chair

9 ATTEST:

10

11

12

Secretary

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

SOURCES AND USES OF FUNDS

Albuquerque Bernalillo County Water Utility Authority
4200-DW, Albuquerque Advanced Meter Infrastructure Upgrade

Sources:

Bond Proceeds:

Par Amount	505,000.00
------------	------------

Other Sources of Funds:

DWSRLF Subsidy (50% Principal Forgiveness)	500,000.00
--	------------

COI Subsidy (50% Forgiveness)	5,000.00
-------------------------------	----------

	<u>505,000.00</u>
--	-------------------

	1,010,000.00
--	--------------

Uses:

Project Fund Deposits:

Project Fund	500,000.00
--------------	------------

Delivery Date Expenses:

Cost of Issuance	5,000.00
------------------	----------

Other Uses of Funds:

DWSRLF Subsidy (50% Principal Forgiveness)	500,000.00
--	------------

COI Subsidy (50% Forgiveness)	5,000.00
-------------------------------	----------

	<u>505,000.00</u>
--	-------------------

	1,010,000.00
--	--------------

BOND SUMMARY STATISTICS

Albuquerque Bernalillo County Water Utility Authority
4200-DW, Albuquerque Advanced Meter Infrastructure Upgrade

Dated Date	04/06/2018
Delivery Date	04/06/2018
Last Maturity	05/01/2040
Arbitrage Yield	1.999931%
True Interest Cost (TIC)	1.999931%
Net Interest Cost (NIC)	2.000000%
All-In TIC	2.087983%
Average Coupon	2.000000%
Average Life (years)	13.226
Duration of Issue (years)	11.432
Par Amount	505,000.00
Bond Proceeds	505,000.00
Total Interest	133,584.53
Net Interest	133,584.53
Total Debt Service	638,584.53
Maximum Annual Debt Service	30,884.70
Average Annual Debt Service	28,935.23
Underwriter's Fees (per \$1000)	
Average Takedown	
Other Fee	
Total Underwriter's Discount	
Bid Price	100.000000

Bond Component	Par Value	Price	Average Coupon	Average Life
Loan Component	505,000.00	100.000	2.000%	13.226
	505,000.00			13.226

	TIC	All-In TIC	Arbitrage Yield
Par Value	505,000.00	505,000.00	505,000.00
+ Accrued Interest			
+ Premium (Discount)			
- Underwriter's Discount			
- Cost of Issuance Expense		-5,000.00	
- Other Amounts			
Target Value	505,000.00	500,000.00	505,000.00
Target Date	04/06/2018	04/06/2018	04/06/2018
Yield	1.999931%	2.087983%	1.999931%

DETAILED BOND DEBT SERVICE

Albuquerque Bernalillo County Water Utility Authority
4200-DW, Albuquerque Advanced Meter Infrastructure Upgrade

Loan Component (LOAN)

Period Ending	Principal	Coupon	Interest	Debt Service	Annual Debt Service
11/01/2018			5,751.39	5,751.39	
05/01/2019			5,050.00	5,050.00	10,801.39
11/01/2019			5,050.00	5,050.00	
05/01/2020			5,050.00	5,050.00	10,100.00
11/01/2020			5,050.00	5,050.00	
05/01/2021	20,784	2.000%	5,050.00	25,834.00	30,884.00
11/01/2021			4,842.16	4,842.16	
05/01/2022	21,200	2.000%	4,842.16	26,042.16	30,884.32
11/01/2022			4,630.16	4,630.16	
05/01/2023	21,624	2.000%	4,630.16	26,254.16	30,884.32
11/01/2023			4,413.92	4,413.92	
05/01/2024	22,056	2.000%	4,413.92	26,469.92	30,883.84
11/01/2024			4,193.36	4,193.36	
05/01/2025	22,497	2.000%	4,193.36	26,690.36	30,883.72
11/01/2025			3,968.39	3,968.39	
05/01/2026	22,947	2.000%	3,968.39	26,915.39	30,883.78
11/01/2026			3,738.92	3,738.92	
05/01/2027	23,406	2.000%	3,738.92	27,144.92	30,883.84
11/01/2027			3,504.86	3,504.86	
05/01/2028	23,874	2.000%	3,504.86	27,378.86	30,883.72
11/01/2028			3,266.12	3,266.12	
05/01/2029	24,352	2.000%	3,266.12	27,618.12	30,884.24
11/01/2029			3,022.60	3,022.60	
05/01/2030	24,839	2.000%	3,022.60	27,861.60	30,884.20
11/01/2030			2,774.21	2,774.21	
05/01/2031	25,336	2.000%	2,774.21	28,110.21	30,884.42
11/01/2031			2,520.85	2,520.85	
05/01/2032	25,843	2.000%	2,520.85	28,363.85	30,884.70
11/01/2032			2,262.42	2,262.42	
05/01/2033	26,359	2.000%	2,262.42	28,621.42	30,883.84
11/01/2033			1,998.83	1,998.83	
05/01/2034	26,887	2.000%	1,998.83	28,885.83	30,884.66
11/01/2034			1,729.96	1,729.96	
05/01/2035	27,424	2.000%	1,729.96	29,153.96	30,883.92
11/01/2035			1,455.72	1,455.72	
05/01/2036	27,973	2.000%	1,455.72	29,428.72	30,884.44
11/01/2036			1,175.99	1,175.99	
05/01/2037	28,532	2.000%	1,175.99	29,707.99	30,883.98
11/01/2037			890.67	890.67	
05/01/2038	29,103	2.000%	890.67	29,993.67	30,884.34
11/01/2038			599.64	599.64	
05/01/2039	29,685	2.000%	599.64	30,284.64	30,884.28
11/01/2039			302.79	302.79	
05/01/2040	30,279	2.000%	302.79	30,581.79	30,884.58
	505,000		133,584.53	638,584.53	638,584.53

DETAILED BOND DEBT SERVICE

Albuquerque Bernalillo County Water Utility Authority
4200-DW, Albuquerque Advanced Meter Infrastructure Upgrade

Loan Component (LOAN)

Period Ending	Principal	Coupon	Interest	Debt Service
05/01/2019			10,801.39	10,801.39
05/01/2020			10,100.00	10,100.00
05/01/2021	20,784	2.000%	10,100.00	30,884.00
05/01/2022	21,200	2.000%	9,684.32	30,884.32
05/01/2023	21,624	2.000%	9,260.32	30,884.32
05/01/2024	22,056	2.000%	8,827.84	30,883.84
05/01/2025	22,497	2.000%	8,386.72	30,883.72
05/01/2026	22,947	2.000%	7,936.78	30,883.78
05/01/2027	23,406	2.000%	7,477.84	30,883.84
05/01/2028	23,874	2.000%	7,009.72	30,883.72
05/01/2029	24,352	2.000%	6,532.24	30,884.24
05/01/2030	24,839	2.000%	6,045.20	30,884.20
05/01/2031	25,336	2.000%	5,548.42	30,884.42
05/01/2032	25,843	2.000%	5,041.70	30,884.70
05/01/2033	26,359	2.000%	4,524.84	30,883.84
05/01/2034	26,887	2.000%	3,997.66	30,884.66
05/01/2035	27,424	2.000%	3,459.92	30,883.92
05/01/2036	27,973	2.000%	2,911.44	30,884.44
05/01/2037	28,532	2.000%	2,351.98	30,883.98
05/01/2038	29,103	2.000%	1,781.34	30,884.34
05/01/2039	29,685	2.000%	1,199.28	30,884.28
05/01/2040	30,279	2.000%	605.58	30,884.58
	505,000		133,584.53	638,584.53

BOND SOLUTION

Albuquerque Bernalillo County Water Utility Authority
4200-DW, Albuquerque Advanced Meter Infrastructure Upgrade

Period Ending	Proposed Principal	Proposed Debt Service	Existing Debt Service	Total Adj Debt Service	Revenue Constraints	Unused Revenues	Debt Serv Coverage
05/01/2018							
05/01/2019		10,801	85,371,699	85,382,500	118,399,994	33,017,494	138.67009%
05/01/2020		10,100	75,192,733	75,202,833	118,399,994	43,197,161	157.44087%
05/01/2021	20,784	30,884	75,199,808	75,230,692	118,399,994	43,169,302	157.38257%
05/01/2022	21,200	30,884	68,663,333	68,694,217	118,399,994	49,705,777	172.35802%
05/01/2023	21,624	30,884	68,657,944	68,688,829	118,399,994	49,711,165	172.37154%
05/01/2024	22,056	30,884	63,234,469	63,265,353	118,399,994	55,134,641	187.14824%
05/01/2025	22,497	30,884	57,629,746	57,660,630	118,399,994	60,739,364	205.33941%
05/01/2026	22,947	30,884	43,374,773	43,405,657	118,399,994	74,994,337	272.77549%
05/01/2027	23,406	30,884	32,704,852	32,735,735	118,399,994	85,664,259	361.68423%
05/01/2028	23,874	30,884	24,554,324	24,585,208	118,399,994	93,814,786	481.59038%
05/01/2029	24,352	30,884	24,561,469	24,592,353	118,399,994	93,807,641	481.45045%
05/01/2030	24,839	30,884	17,664,911	17,695,795	118,399,994	100,704,199	669.08547%
05/01/2031	25,336	30,884	17,005,859	17,036,744	118,399,994	101,363,250	694.96846%
05/01/2032	25,843	30,885	16,889,219	16,920,103	118,399,994	101,479,891	699.75928%
05/01/2033	26,359	30,884	16,883,968	16,914,852	118,399,994	101,485,142	699.97655%
05/01/2034	26,887	30,885	8,519,143	8,550,027	118,399,994	109,849,967	1384.79081%
05/01/2035	27,424	30,884	2,462,105	2,492,989	118,399,994	115,907,005	4749.31890%
05/01/2036	27,973	30,884	2,459,293	2,490,177	118,399,994	115,909,817	4754.68197%
05/01/2037	28,532	30,884	1,384,980	1,415,864	118,399,994	116,984,130	8362.38478%
05/01/2038	29,103	30,884	1,383,730	1,414,614	118,399,994	116,985,380	8369.77193%
05/01/2039	29,685	30,884		30,884	118,399,994	118,369,110	383366.535%
05/01/2040	30,279	30,885		30,885	118,399,994	118,369,109	383362.811%
	505,000	638,585	703,798,356	704,436,940	2,604,799,868	1,900,362,928	

Meeting Date: March 21, 2018
Staff Contact: Stan Allred, Chief Financial Officer

TITLE: R-18-7 – Confirming Approval of the Execution and Delivery of a Loan and Subsidy Agreement by and Between the Albuquerque Bernalillo County Water Utility Authority and the New Mexico Finance Authority

ACTION: Recommend Approval

BACKGROUND:

The Water Authority submitted an application for financial assistance for the Advanced Metering Infrastructure Project. Approximately 19,681 meters, in selected cycle routes throughout the metro Albuquerque area, will be retrofitted with Advanced Metering Infrastructure (AMI) Flexnet devices. The customer benefits of the AMI devices consist of streamlined high bill investigations, detection of tampering of meters to protect the customer, accurate information, faster customer service, and flag and alert continuous usage.

Phase 4c will continue the progress made by the Water Authority to convert old mechanical meters to AMI meters. Approximately 76,000 meters have been converted to AMI. About 48% of total monthly water revenue is processed through the AMI system. It is estimated that Phase 4c will increase total monthly water revenue by 5% with the completion of Phase 4c. AMI implementation has also helped the utility decrease apparent water loss from 2.2% in 2012 to 0.5% in 2016 by decreasing meter inaccuracies and data handling errors. In addition, AMI was reduced outstanding bill meter work orders from 5,400 to less than 100 per month. Moreover, AMI has reduced the amount of inoperable meters from 3,000 to approximately 20 per month which saves \$500,000 in annual operation costs associated with reading the meters.

About 48% of total monthly water revenue is processed through the AMI system. It is estimated that Phase 4c will increase total monthly water revenue by 5% with the completion of Phase 4c. AMI implementation has also helped the utility decrease apparent water loss from 2.2% in 2012 to 0.5% in 2016 by decreasing meter inaccuracies and data handling errors. In addition, AMI was reduced outstanding bill meter work orders from 5,400 to less than 100 per month. Moreover, AMI has reduced the amount of inoperable meters from 3,000 to approximately 20 per month which saves \$500,000 in annual operation costs associated with reading the meters.

SUMMARY:

This legislation is the ratification, approval and confirmation of the actions taken by the Board and the officers of the Water Authority toward the financing of a loan/grant with

the New Mexico Finance Authority in the amount of \$1,010,000. The ratification, approval and confirmation include the execution of a Loan Agreement, the pledge of the Pledged Revenues and the adoption of Ordinance O-18-2. All capitalized terms shall have the same meaning as such terms have in Ordinance O-18-2.

FISCAL IMPACT:

There is no fiscal impact associated with this legislation.

COMMENTS:

This Resolution is subject to the adoption by the Water Authority Board of Ordinance O-18-2, authorizing the execution of a \$1,010,000 loan/grant agreement by and between the Water Authority, and the New Mexico Finance Authority. The Loan authorized by Ordinance O-18-2, will provide financing assistance for the Advanced Metering Infrastructure Project. Approximately 19,681 meters, in selected cycle routes throughout the metro Albuquerque area, will be retrofitted with Advanced Metering Infrastructure (AMI) Flexnet devices. The customer benefits of the AMI devices consist of streamlined high bill investigations, detection of tampering of meters to protect the customer, accurate information, faster customer service, and flag and alert continuous usage.

1 unenforceability of such section, paragraph, clause or provision shall not affect any of
2 the remaining provisions of this Confirming Resolution.

3 SECTION 3. This Confirming Resolution shall be in full force and effect
4 immediately upon adoption.

5 SECTION 4. Pursuant to the general laws of the State, the title and general
6 summary of the subject matter contained in this Confirming Resolution shall be
7 published in substantially the following form:

8 **ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY**
9 **LEGAL NOTICE**

10 Notice is hereby given that the Board of Directors of Albuquerque Bernalillo
11 County Water Utility Authority did on the 21st day of March, 2018, adopt a resolution
12 entitled:

13 **CONFIRMING APPROVAL OF THE EXECUTION AND DELIVERY OF A**
14 **LOAN AND SUBSIDY AGREEMENT (THE "LOAN AGREEMENT") BY**
15 **AND BETWEEN THE ALBUQUERQUE BERNALILLO COUNTY WATER**
16 **UTILITY AUTHORITY (THE "WATER AUTHORITY") AND THE NEW**
17 **MEXICO FINANCE AUTHORITY EVIDENCING A SPECIAL LIMITED**
18 **OBLIGATION OF THE WATER AUTHORITY TO PAY A PRINCIPAL**
19 **AMOUNT OF NO MORE THAN FIVE HUNDRED FIVE THOUSAND**
20 **DOLLARS (\$505,000), TOGETHER WITH INTEREST, COSTS OF**
21 **ISSUANCE AND ADMINISTRATIVE FEES THEREON, AND TO**
22 **ACCEPT A LOAN SUBSIDY OF NO MORE THAN FIVE HUNDRED**
23 **FIVE THOUSAND DOLLARS (\$505,000); AND RATIFYING ACTION**
24 **PREVIOUSLY TAKEN IN CONNECTION THEREWITH.**

25 The Confirming Resolution authorizes the execution and delivery of the Loan
26 Agreement. Complete copies of the Confirming Resolution are available for public
27 inspection during normal and regular business hours at the offices of the Water
28 Authority, One Civic Plaza, NW, Albuquerque, New Mexico.

29 Dated this 21st day of March, 2018.

30

1 PASSED AND ADOPTED THIS 21st DAY OF MARCH, 2018. BY A VOTE OF
2 _____ FOR AND _____ AGAINST.

3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33

CHAIR

ATTEST:

SECRETARY

Meeting Date: March 21, 2018
Staff Contact: Carlos A. Bustos, Water Conservation Program Manager

TITLE: Approving the Update to the Water Conservation Plan

ACTION: Recommend Approval

BACKGROUND:

This update to the Water Conservation Plan was developed to align the plan with the goals of the new Water Resources Management Strategy adopted in September 2016, "Water 2120: Securing Our Water Future." A key element of WATER 2120 is the new water conservation goal of 110 gallons per capita per day (GPCD) by 2037. This update to the Water Conservation Plan addresses "Policy D of WATER 2120: Update and Maintain the Water Conservation Strategy – Implementation of the Water Conservation Plan. Continued progress in conservation to achieve water usage of 110 gallons per capita per day (GPCD) will further extend water supplies even in the face of climate fluctuations. The Water Authority shall utilize the conservation program to reduce GPCD to 110 by 2037."

To achieve this new conservation goal, the Water Authority proposes to emphasize outdoor (consumptive use) savings over indoor (non-consumptive use) savings. As climate fluctuations occur, the demand for outdoor water use will likely increase and because outdoor water use is consumptive, the opportunity for reuse or return flow credit does not exist.

SUMMARY:

Customer input from the previous Water Conservation Plan update in 2013 as well as from the WATER 2120 public process was considered during the development of this update. Additionally, the plan was presented at two Technical Customer Advisory Committee meetings and four public meetings. The Water Authority Water Conservation staff also met with industry, property managers and public agency personnel to gather input on new initiatives.

In order to fund an expansion of outdoor rebates, some indoor rebates will need to be curtailed. An evaluation of participation and the need for indoor rebates was conducted to determine which rebates could be phased out. Additionally, the evaluation of all

rebates is subject to R-06-12, which requires no rebate program shall be approved where the cost-benefit is projected to be more than \$20.00 per unit (748 gallons) of water saved.

Achievement of this modest increase in conservation efforts will reduce water demand at the end of the planning period of Water 2120 by 50,000 acre-feet.

Proposed Changes to the Water Conservation Program Include:

Washing machine rebate (change)

To incentivize purchase of the most water efficient washing machines available, the Water Authority will limit rebates to machines with an International Water Factor (IWF) of 3.0 or less. The washing machine rebates will remain at \$100, available every five years or when the property is sold.

WaterSmart Workshops (change)

Gardening workshops will continue, emphasizing a broad range of topics to provide customers with the most up-to-date information on growing food and irrigating landscapes efficiently. Rebates will no longer be offered for these classes.

Toilet, urinals, showerheads, hot water recirculation systems, swamp cooler thermostats (phase out)

Phase out rebates that focus on indoor savings to allow more funding for outdoor efficiency rebates.

Garden website and newsletter (new)

The website and monthly newsletter will cover topics on efficient horticultural practices, landscape maintenance, irrigation principles and seasonal tips.

Professional landscape dripline (new)

Customers with inefficient tree irrigation systems will be able to take advantage of this rebate via the Treebate program.

Efficient irrigation and pre-xeriscape conversion consultations (new)

Educational home visit to assist customers with topics related to irrigation efficiency and turf-to- xeriscape conversions.

Pressure regulation valves, backflow prevention valves, and pressure vacuum break (phase out)

Phase out of these rebates for low participation and these items are now generally standard with irrigation system installation.

Flow sensors (new)

Irrigation flow sensors measures irrigation water flow and can work with an irrigation controller to stop or adjust a zone of the irrigation system and alert the customer of a broken pipe or other system leaks. A 25% rebate per controller (up to \$100 for residential customers and up to \$500 for commercial customers).

Bulk Organic Mulch (new)

This rebate will promote increased moisture content, soil buildup, and healthy root establishment in landscapes. The mulch incentive will be available for Xeriscape Rebate and Treebate participants. A 25% rebate up to \$100 for residential customers and up to \$500 for commercial customers.

Water Efficient Incentive Program (new)

This will promote water conservation initiatives such as installing water efficient devices and technologies that result in at least 100,000 gallons saved annually. Approved projects will be evaluated for an incentive of up to a \$10 per unit of water saved annually. Commercial customers could qualify for up to 50% of the cost of the project totaling up to \$50,000 per year. Savings will be calculated after the first year of installation and if savings meet threshold requirements, a one-time credit will be adjusted to the customer account.

Multi-setting sprinkler timer (change)

Rebates only for “Smart Irrigation” controllers. Rebate will be limited to 25% per controller, up to \$100 for residential customers and up to \$500 for commercial customers, per account.

“Gardens to Go” rebate (new)

Rebate to raise interest in xeric gardening for newly constructed homes or customers looking to redesign their landscapes. Customers will be able to choose from a variety of easy, professionally planned, xeric garden kits and apply for a rebate.

In-ground soil moisture sensors and wind sensing technology rebate (new)

In-ground soil moisture sensors measure soil moisture content in the active root zone. Wind sensing technology interrupts irrigation cycles in the presence of significant wind. A 25% rebate per controller up to \$100 for residential customers and up to \$500 for commercial customers.

Soil Moisture Enhancers (new)

A soil moisture enhancer rebate will benefit water efficiency in parks, golf courses and other big landscape areas. Soil moisture enhancers used by landscape managers include but are not limited to organic soil, humus, vermiculite, polymers, naturally derived soil

surfactants, humectants and hygroscopic compounds. A 25% rebate per site up to \$500 for commercial customers.

Low Income Pilot Program (new)

Develop a pilot program to assist low-income customers in becoming more water efficient. Possible services include low-flow fixtures, efficient irrigation systems, water reduction visits and leak repair.

FISCAL IMPACT:

None. All program changes will be covered within the current Water Conservation Program budget.

ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY

BILL NO. R-18-8

RESOLUTION

APPROVING THE UPDATE TO THE WATER CONSERVATION PLAN

WHEREAS, Policy D of the Water 2120 recommends review of the water conservation goal every ten years; and

WHEREAS, the Water Authority's previous conservation goal of 135 GPCD was achieved in 2014 and new goal has been set at 110 GPCD for 2037; and

WHEREAS, the Water Authority recognizes the benefits of further reducing water usage in the service area to extend area water supplies; and

WHEREAS, all new initiatives will comply with R-10-12, "Enhancing the Water Conservation Program and Establishing a Process for Evaluating and Amending the Program" to ensure that new initiatives provide the same cost benefit as the current initiatives; and

WHEREAS, the Water Authority wishes to continue to focus its conservation program on positive, participatory, choice-based ways to conserve water rather than prescriptive or punitive programs; and

WHEREAS, outdoor water savings are favored over indoor water savings because outdoor water use is consumptive while indoor is not; and

WHEREAS, residential customers have dramatically reduced their water use and while initiatives will continue to be offered to all customer classes, new initiatives will target reductions from non-residential customers; and

WHEREAS, new water conservation initiatives will be designed to enhance, support and work conjunctively with all other Water 2120 Plan strategies and proposed policies; and

WHEREAS, while decreasing the water conservation goal to 110 GPCD will provide many benefits through saving both water and money it cannot, and is not intended to, address all of the Water Authority's future water resource planning needs; and

WHEREAS, Water2120 addresses comprehensive drought planning, and

1 WHEREAS, the former Drought Management Plan has been updated to be
2 consistent with Water2120 and renamed “Plan for Customer Demand Reduction During
3 Drought”; and

4 WHEREAS, the update to the plan includes input provided by industrial,
5 commercial and institutional customers, and

6 WHEREAS, four public meetings were held February 6, 8, 13 and 15 of 2018 to
7 present the updates to the public; and

8 WHEREAS, the Technical Customer Advisory Committee met on January 10,
9 2018 and unanimously approve the update to the Water Conservation Plan; therefore

10 BE IT RESOLVED BY THE WATER AUTHORITY:

11 Section 1. Replacement of Previous Water Conservation Plans and Policies. This
12 update to the water conservation plan replaces and supersedes all previous plans,
13 policies, procedures and strategies.

14 Section 2. GPCD Goal of 110 by 2037. The Water Authority’s new water
15 conservation goal shall be 110 GPCD by 2037. Progress toward this goal shall be
16 measured annually and presented to the Board.

17 Section 3. All changes to rebate programs will be made in accordance with R-
18 06-12, “Enhancing the Water Conservation Program and Establishing a Process for
19 Evaluating and Amending the Program. Customers will be notified six months in advance
20 of the phase out of any rebate program.

21 Section 4. All approval of new rebates and changes to the rebates will be
22 recommended by the Water Conservation Program Manager or the Water Resource
23 Division Manager.

24 Section 5. No new rebate program shall pay for more than half the cost of the
25 product, no rebate shall pay more than \$20 per anticipated unit (748 gallons) of water
26 saved.

27 Section 6. Prior to the elimination or reduction of any rebate program, the Water
28 Authority shall make the public aware of the change for at least six months prior to the
29 change.

30 Section 7. The former “Drought Management Plan” shall be renamed “Plan for
31 Customer Demand Reduction During Drought” and incorporated into the Water
32 Conservation Plan.

1 Section 8. Customers are given ninety (90) days to submit a rebate request from
2 purchase date. Exceptions may be approved when the customer has met all the program
3 requirements, the customer makes a reasonable request, if funding in budget is available
4 and if the request is made within the same fiscal year of product purchase. Rebate
5 exceptions are approved by the Water Conservation Manager or Designee if they meet
6 all exception requirements.

7 Section 9. Implementation of new programs shall begin April 1, 2018. Any
8 reduction or elimination of rebates will be advertised as described in Section 6.

9 A. Washing machine rebate - to incentivize purchase of the most water efficient
10 washing machines available, the Water Authority will limit rebates to machines
11 with an International Water Factor (IWF) of 3.0 or less. The washing machine
12 rebates will remain at \$100, available every five years or when the property is
13 sold.

14 B. WaterSmart Workshops - gardening workshops will continue, emphasizing a
15 broad range of topics to provide customers with the most up-to-date information
16 on growing food and irrigating landscapes efficiently. Rebates will no longer
17 be offered for these classes.

18 C. Toilet, urinals, showerheads, hot water recirculation systems, swamp cooler
19 thermostats - phase out rebates that focus on indoor savings to allow more
20 funding for outdoor efficiency rebates.

21 D. New garden website and newsletter - the website and monthly newsletter will
22 cover topics on efficient horticultural practices, landscape maintenance,
23 irrigation principles and seasonal tips.

24 E. Professional landscape dripline - customers with inefficient tree irrigation
25 systems will be able to take advantage of this rebate via the Treebate program.

26 F. Efficient irrigation and pre-xeriscape conversion consultations – free
27 educational visits to assist customers with topics related to irrigation efficiency
28 and turf-to- xeriscape conversions.

29 G. Pressure regulation valves, backflow prevention valves, and pressure vacuum
30 break - phase out of these rebates for low participation and because these
31 items are now generally standard with irrigation system installation.

32 H. Flow sensors - irrigation flow sensors measure irrigation water flow and can
33 work with an irrigation controller to stop or adjust a zone of the irrigation system

1 and alert the customer of a broken pipe or other system leaks. A 25% rebate
2 per controller will be offered (up to \$100 for residential customers and up to
3 \$500 for commercial customers).

4 I. Bulk Organic Mulch - this rebate will promote increased moisture content, soil
5 buildup, and healthy root establishment in landscapes. The mulch incentive will
6 be available for Xeriscape Rebate and Treebate participants. A 25% rebate up
7 to \$100 for residential customers and up to \$500 for commercial customers.

8 J. Water Efficient Incentive Program - this will promote water conservation
9 initiatives such as installing water efficient devices and technologies that result
10 in at least 100,000 gallons saved annually. Approved projects will be evaluated
11 for an incentive of up to a \$10 per unit of water saved annually. Commercial
12 customers could qualify for up to 50% of the cost of the project totaling up to
13 \$50,000 per year. Savings will be calculated after the first year of installation
14 and if savings meet threshold requirements, a one-time credit will be adjusted
15 to the customer account.

16 K. Gardens to Go rebate - rebate to raise interest in xeric gardening for newly
17 constructed homes or customers looking to redesign their landscapes.
18 Customers will be able to choose from a variety of easy, professionally planned,
19 xeric garden kits and apply for a rebate.

20 L. In-ground soil moisture sensors and wind sensing technology rebate - in ground
21 soil moisture sensors measure soil moisture content in the active root zone.
22 Wind sensing technology interrupts irrigation cycles in the presence of
23 significant wind. A 25% rebate will be offered per controller up to \$100 for
24 residential customers and up to \$500 for commercial customers.

25 M. Soil Moisture Enhancers - a soil moisture enhancer rebate will benefit water
26 efficiency in parks, golf courses and other big landscape areas. A 25% rebate
27 will be offered per site up to \$500 for commercial customers.

28 Section 10. Programs for Evaluation. The following new programs require the
29 development of studies that will be undertaken by Water Authority staff.

30 A. Low Income Pilot Program – develop a pilot program to assist low-income
31 customers in becoming more water efficient. Possible services include low-
32 flow fixtures, efficient irrigation systems, water reduction visits and leak repair.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33

B. Multi-setting sprinkler timer - rebates only for “Smart Irrigation” controllers. The Water Authority will be evaluating which Smart Irrigation Controllers work best for our region and type of landscapes by tracking current participation, type of landscape and controller type during the irrigation seasons of 2018 and 2019. Additionally, a pilot program in partnership with Smart Irrigation Controller manufacturers to install units in residential and commercial sites to identify the most effective units will be developed. The pilot study requires an investment of \$20,000 per year to purchase and install controllers. If revised the rebate will be limited to 25% per controller, up to \$100 for residential customers and up to \$500 for commercial customers, per account.



Albuquerque Bernalillo County Water Utility Authority

Water Conservation: Changes to Rebate Programs

2018

Washing machine rebate (change)

To incentivize purchase of the most water efficient washing machines available, the Water Authority will limit rebates to machines with an International Water Factor (IWF) of 3.0 or less. The washing machine rebates will remain at \$100, available every five year or when the property is sold.

WaterSmart Workshops (change)

Gardening workshops will continue, emphasizing a broad range of topics to provide customers with the most up-to-date information on growing food and irrigating landscapes efficiently. Rebates will no longer be offered for these classes.

Toilet, urinals, showerheads, hot water recirculation systems, swamp cooler thermostats (phase out)

Phase out rebates that focus on indoor savings to allow more funding for outdoor efficiency rebates.

Garden website and newsletter (new)

The website and monthly newsletter will cover topics on efficient horticultural practices, landscape maintenance, irrigation principles and seasonal tips.

Professional landscape dripline (new)

Customers with inefficient tree irrigation systems will be able to take advantage of this rebate via the Treebate program.

Efficient irrigation and pre-xeriscape conversion consultations (new)

Educational home visit to assist customers with topics related to irrigation efficiency and turf-to-xeriscape conversions.

2019

Pressure regulation valves, backflow prevention valves, and pressure vacuum break (phase out)

Phase out of these rebates for low participation and these items are now generally standard with irrigation system installation.

Flow sensors (new)

Irrigation flow sensors measures irrigation water flow and can work with an irrigation controller to stop or adjust a zone of the irrigation system and alert the customer of a broken pipe or other system leaks. A 25% rebate per controller (up to \$100 for residential customers and up to \$500 for commercial customers).

CONTINUED ON REVERSE

Bulk Organic Mulch (new)

This rebate will promote increased moisture content, soil buildup, and healthy root establishment in landscapes. The mulch incentive will be available for Xeriscape Rebate and Treebate participants. A 25% rebate up to \$100 for residential customers and up to \$500 for commercial customers.

Water Efficient Incentive Program (new)

This will promote water conservation initiatives such as installing water efficient devices and technologies that result in at least 100,000 gallons saved annually. Approved projects will be evaluated for an incentive of up to a \$10 per unit of water saved annually. Commercial customers could qualify for up to 50% of the cost of the project totaling up to \$50,000 per year. Savings will be calculated after the first year of installation and if savings meet threshold requirements, a one-time credit will be adjusted to the customer account.

2020**Multi-setting sprinkler timer (change)**

Rebates only for "Smart Irrigation" controllers. Rebate will be limited to 25% per controller, up to \$100 for residential customers and up to \$500 for commercial customers, per account.

"Gardens to Go" rebate (new)

Rebate to raise interest in xeric gardening for newly constructed homes or customers looking to redesign their landscapes. Customers will be able to choose from a variety of easy, professionally planned, xeric garden kits and apply for a rebate.

In-ground soil moisture sensors and wind sensing technology rebate (new)

In-ground soil moisture sensors measure soil moisture content in the active root zone. Wind sensing technology interrupts irrigation cycles in the presence of significant wind. A 25% rebate per controller up to \$100 for residential customers and up to \$500 for commercial customers.

2021**Soil Moisture Enhancers (new)**

A soil moisture enhancer rebate will benefit water efficiency in parks, golf courses and other big landscape areas. Soil moisture enhancers used by landscape managers include but are not limited to organic soil, humus, vermiculite, polymers, naturally derived soil surfactants, humectants and hygroscopic compounds. A 25% rebate per site up to \$500 for commercial customers.

Water 2120: Updated Conservation Plan



Water 2120 Policy D Continued progress in conservation to achieve a gallons per capita per day (GPCD) water usage of 110 will further extend our water supplies even in the face of climate change. The Authority shall utilize the conservation program to reduce GPCD to 110 by 2037.

Carlos Bustos, Water Conservation Program Manager

Water Conservation Program: Rebates and Education at Completion of 5-Year Plan

Residential

- Irrigation and pre-xeriscape conversion **consultations**
- Irrigation efficiency **consultations**
- WaterSmart **Workshops**
- **Washing Machine** rebate for IWF of 3.0 or less - \$100 once every 5 years (to be evaluated 2020)
- **Xeriscape** rebate (\$1-\$1.50/sq. ft.) plus compost, organic mulch and rental of sod removal equip. (25% rebate up to \$100, up to \$50 for equip. rental)
- **Smart-controller** rebate - 25% up to \$100
- Rain, soil moisture, wind and flow **sensors** rebate - 25% rebate up to \$100 per controller
- Efficient **nozzles** rebate - \$2 per head
- **Treebate** – 25% up to \$100
- **Rainwater harvesting cisterns** - \$25 - \$150 rebate depending on size
- **Gardens to Go**

Public Agencies, Commercial, Multifamily and Industrial

- The **water efficient incentive program** for water conservation initiatives such as installing water-efficient devices and technologies – rebate \$10 per unit of water saved annually
- Irrigation efficiency **consultations**
- WaterSmart **Academy & WaterSmart Lunch & Learn**
- **Xeriscape** rebate (\$1.50-\$2/sq. ft.), plus compost, organic mulch & rental of sod removal equip (25% rebate up to \$500, up to \$50 for equip. rental)
- **Smart-controller** rebate – 25% rebate up to \$500 per controller
- Rain, soil moisture, wind and flow **sensors** rebate - 25% rebate up to \$500 per controller
- Efficient **nozzles** rebate - \$2 per head
- **Treebate** – 25% up to \$500
- **Rainwater harvesting cisterns** - \$25 - \$150 rebate depending on size
- **Soil moisture enhancers** - 25% rebate up to \$500 per year



Meeting Date: March 21, 2018
Staff Contact: Kristopher Cadena, Principal Engineer, Utility Development

TITLE: R-18-9 – Authorizing Amendment to 2007 Agreement with Western Albuquerque Land Holdings for the Antelope Site

ACTION: Recommend Approval

SUMMARY:

The subject property is currently undeveloped land located in the unincorporated area of Bernalillo County. The site, located on Tract A-1-A-2, otherwise known as the Antelope Site, west of Atrisco Vista Blvd., north of I-40 and is located outside of the Water Authority's adopted service area. The property is adjacent to the Water Authority Board adopted 2007 development agreement with Western Albuquerque Land Holdings, LLC (WALH), but is not currently within the approved development agreement boundary.

The request for amendment to the existing WALH development agreement consists of approximately 464 acres and is currently zoned M-1 for industrial uses. There are no development plans at this time. At this time, it is estimated that the water demand could be around 1 million gallons per day and sewer flows of around 0.6 MGD, but won't know the real demands until development occurs.

In September 2016, the Westland Master Plan Amendment received approvals from the Bernalillo County Commission. The Master Plan approvals included the planning and zoning of the 464 acre parcel that is the subject of this request.

The developer is requesting an amendment to the current 2007 development agreement, which was assigned to Western Albuquerque Land Holdings, LLC (WALH) in April 2011, to include the subject tract.

The property lies within Pressure Zone 7W in the College Trunk. There is existing water and sewer infrastructure near the site which was constructed mostly by WALH under the existing 2007 development agreement. A looped water line will need to be constructed to provide redundant service and to meet anticipate fire flows. An existing sewer interceptor is located on Atrisco Vista Road and would need to be extended north approximately 1,600-feet north and a new collector line west to the site. Development of this infrastructure is contingent upon construction and dedication of the infrastructure.

All services provided within the development will be at no net expense and subject to current Utility Expansion and Water Supply Charges.

FISCAL IMPACT:

None

1 design details during the design process, and the approval of specifications and
2 contract documents.

3 Section 4. The Executive Director is authorized to enter into an amendment to
4 the 2007 agreement with WALH for the provision of water and sewer service to the
5 Antelope Site.

6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

**FIRST AMENDMENT TO DEVELOPMENT AGREEMENT
(WESTERN ALBUQUERQUE LAND HOLDINGS, LLC)**

This First Amendment to the Development Agreement (Western Albuquerque Land Holdings, LLC) is made and entered into on the date of the last signature entered below by and between the Albuquerque Bernalillo County Water Utility Authority, a political subdivision of the State of New Mexico, ("Water Authority") and Western Albuquerque Land Holdings, LLC, ("WALH") a Delaware limited liability company and successor in interest to Westland DevCo, LP, a Delaware limited partnership ("DevCo").

RECITALS

WHEREAS, the Water Authority and DevCo entered into that certain Development Agreement, which was approved by the Water Authority's governing board on August 22, 2007 in Resolution R-07-18; and said Development Agreement was assigned to WALH on June 20, 2011; and

WHEREAS, said Development Agreement recognizes the existing agreements that were assigned to the Water Authority and to WALH and memorializes the agreement of the parties regarding the provision of water and wastewater services to WALH's property which is depicted in Exhibit C to the Development Agreement; and

WHEREAS, since the adoption of said Development Agreement, WALH has identified the need for water and wastewater services to an additional parcel of its property consisting of approximately 464 acres adjacent and appurtenant to the far western edge of the original property area, the legal description of which is Tract A-1-A-2 Northwest Tract and which is commonly referred to as the "Antelope Site," as is depicted in Exhibit A attached hereto; and

WHEREAS, the Water Authority is agreeable to amending the Development Agreement to include the Antelope Site acreage under the terms and conditions contained in the original Agreement, and subject to the requirements contained in a duly executed Serviceability Letter, attached as Exhibit B.

NOW, THEREFORE, in consideration of the mutual covenants and premises contained herein, the parties agree to amend the Development Agreement as follows:

1. In addition to providing water and wastewater services to the areas that are the subject of that certain Development Agreement as described above, the parties agree to amend said Development Agreement to include the ~464 acre parcel commonly referred to as the "Antelope Site," which is depicted in Exhibit A attached hereto.
2. For purposes of Notice to WALH, Paragraph 18 of the Development Agreement is hereby amended to read:

Western Albuquerque Land Holdings, LLC
c/o Garrett Development Corporation

Jeff Garrett
6900 E. Camelback Road, Suite 607
Scottsdale, Arizona 85251

All references to DevCo in Paragraph 18 are hereby deleted.

3. All remaining terms of the Development Agreement that was approved by this Board in Resolution R-07-18 shall remain in full force and effect, and there are no defaults to date by either the Water Authority or WALH.

ALBUQUERQUE BERNALILLO COUNTY
WATER UTILITY AUTHORITY, a New
Mexico political subdivision

WESTERN ALBUQUERQUE
LAND HOLDINGS, LLC, a Delaware
limited liability company

By: _____
Mark S. Sanchez
Executive Director

By: C-III Asset Management LLC, as
Special Servicer

By: _____
Deborah A. Bacon
Servicing Officer

NOTARY ACKNOWLEDGMENTS

Subscribed before me on this ____ day of February, 2018 by Mark S. Sanchez, who acknowledged to me that he executed the same in his authorized capacity.

Notary Public

Seal:

My Commission Expires:

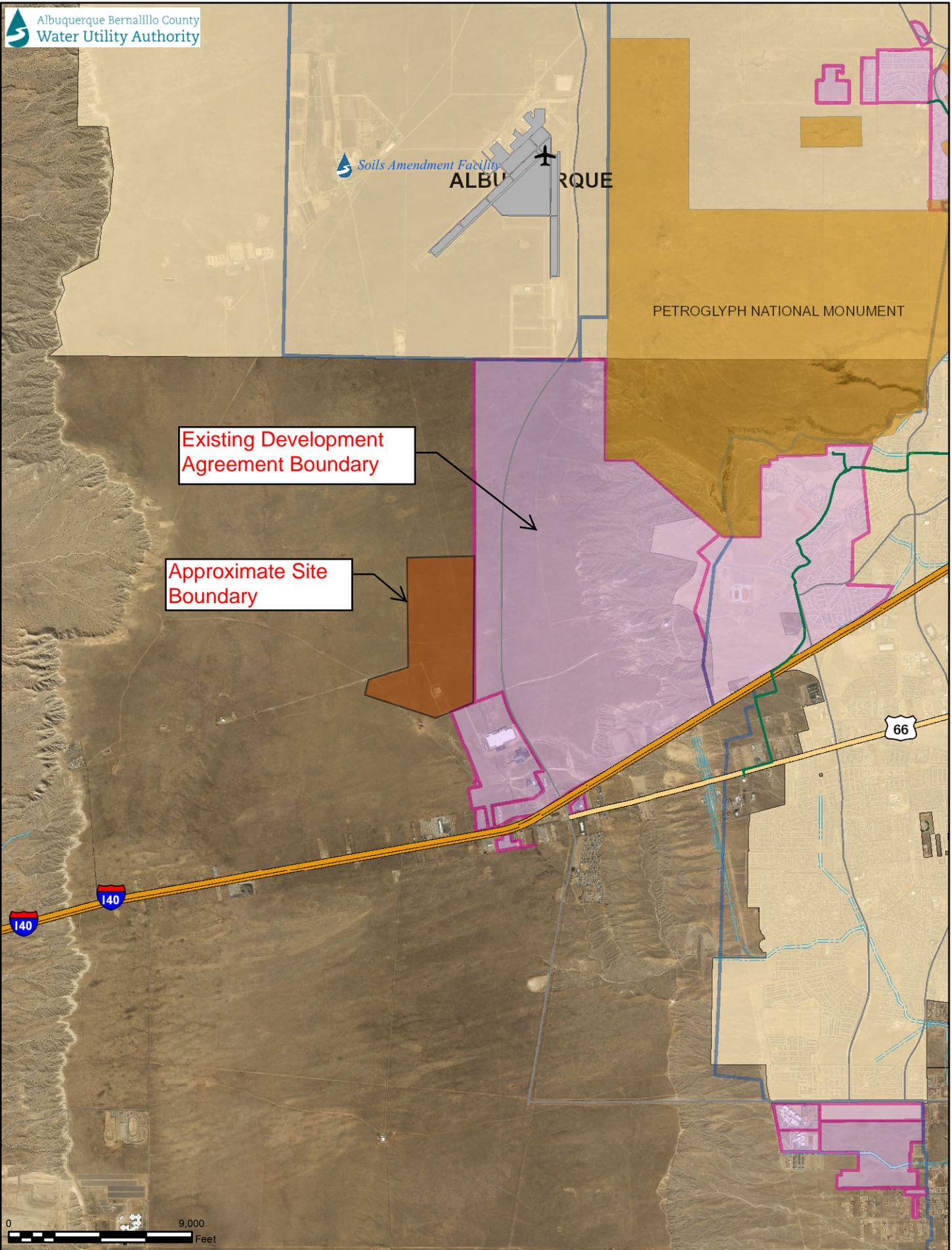
Subscribed to before me on this ____ day of February, 2018 by Deborah A. Bacon, who acknowledged to me that she executed the same in her authorized capacity.

Notary Public

Seal:

My Commission Expires:

Exhibit A.1



February 14, 2018

Chair

Trudy E. Jones
City of Albuquerque
Councilor, District 8

Vice Chair

Debbie O'Malley
County of Bernalillo
Commissioner, District 1

Pat Davis
City of Albuquerque
Councilor, District 6

Timothy M. Keller
City of Albuquerque
Mayor

Klarissa J. Peña
City of Albuquerque
Councilor, District 3

Steven Michael Quezada
County of Bernalillo
Commissioner, District 2

Lonnie Talbert
County of Bernalillo
Commissioner, District 4

Ex-Officio Member
Pablo R. Rael
Village of Los Ranchos
Board Trustee

Executive Director
Mark S. Sanchez

Website
www.abcwua.org

James Topmiller, P.E.
Bohannan Huston
7500 Jefferson St. NE
Albuquerque, NM 87109

**RE: Water and Sanitary Sewer Serviceability Letter #171204
Antelope Site
West of Atrisco Vista Blvd., North of Tempurpedic Pkwy.
Tract A-1-A-2 Northwest Tract**

Dear Mr. Topmiller:

Project Description: The subject site is currently undeveloped land located in the unincorporated area of Bernalillo County. The site is located west of Atrisco Vista Blvd., North of Tempurpedic Parkway. The property consists of approximately 464 acres and is currently zoned M-1 for industrial uses. The property lies within the Pressure Zone 7W in the College trunk. The request indicates no development plans at this time, however the intent of the developer is to establish the subject tract as being "development ready", with all required infrastructure identified and/or in place.

In September 2016, the Westland Master Plan Amendment received approvals from the Bernalillo County Commission. The Master Plan approvals included the planning and zoning of the 464 acre parcel that is the subject of this request.

Development Agreement: Pursuant to the System Expansion Ordinance, this property is outside of the Water Authority service area and the Water Authority Board must approve a Development Agreement to serve this property and establish requirements as a condition of service.

There is an existing development agreement (Resolution R-07-18, dated 8/22/07) entered between the Water Authority and Westland Devco LP for the construction of facilities sufficient to meet the water supply and wastewater service needs for the approximately 4,000 acres of land that is governed by the Westland Master Plan, as well for the portions of the Cordero Mesa Business Park that are not located within the Master Plan Area.

The developer is requesting an amendment to the development agreement to include the subject tract. The development agreement was assigned to Western Albuquerque Land Holdings, LLC (WALH) in April 2011.

Water Supply Charge: All developments located outside of the Water Authority's Adopted Service Area will be assessed a Water Supply Charge (WSC) as provided in the Water Authority's Water and Sewer Rate Ordinance for the development of new water resources, rights and supplies necessary to serve the development. The WSC shall not be used for reimbursement of master planned facilities.

Existing Conditions: Water infrastructure in the area consists of the following:

- 7W infrastructure
 - 7W Reservoir site (3MG); (project #26-7606.65-14)
 - 36 inch ductile iron transmission line (project #26-7606.64-14) running east/west along Reservoir Rd. and north/south along BCIP Access Dr., between the BCIP Reservoir (6W) site and 7W Reservoir. This transmission line transitions to a 24 inch transmission line south, near the BCIP Reservoir site.
 - 24 inch ductile iron transmission line (project #760683) running north/south along BCIP Access Dr., and east/west (along future Ladera to Tempurpedic Pkwy.
 - 12 inch PVC distribution line (project # 26-7606.83-06) along Tempurpedic Pkwy
- 6W infrastructure
 - BCIP Reservoir site (2 – 1.25 MG); (project #26-7606.82-06)
 - 36 inch ductile iron transmission line (project # 26-7606.62-13) between the BCIP reservoir site and the Otto Reservoir site.

There is no non-potable infrastructure currently available in the area.

Sanitary sewer infrastructure in the area consists of the following:

- 18 inch PVC interceptor (project #26-7274.02-06) along Atrisco Vista Blvd.
- Eight inch PVC collector (project # 26-7606.83-06) along BCIP Access Dr. which terminates at the BCIP Reservoir Site.

Water Service: New metered water service to the property can be provided contingent upon a developer funded project to extend a 12 inch looped waterline. This 12 inch waterline shall connect to the existing 36 inch (7W) transmission line near the subject property's western property line, as well as the existing 24 inch (7W) transmission line along the future Ladera Dr. alignment, just west of Tempurpedic Pkwy. Once the site layout has been determined, the waterline alignment within the site shall be approved by the Water Authority. It is preferred that the waterline is located within public rights-of-way, if applicable, or within dedicated public waterline easements along drive aisles. Service is also contingent upon compliance with the Fire Marshal's instantaneous fire flow requirements. Water service will not be sold without adequate fire protection. Water service will only be sold in conjunction with sanitary sewer service.

Sanitary Sewer Service: Sanitary sewer service can be provided contingent upon a developer funded project to extend the existing 18 inch interceptor north in Atrisco Vista right-of-way up to the southeastern property corner to provide service to the subject property. In addition, the developer is responsible for extension of a collector line sized appropriately to accommodate flows from the subject property. All food service establishments must install a grease trap upstream of the domestic private sewer connection prior to discharge into the public sanitary sewer lines.

Fire Protection: From the request for availability the estimated instantaneous fire flow requirements for the project are 3,000 to 4,000 gallons-per-minute. As modeled using InfoWater™ computer software, the fire flow (4,000 gpm) can be met with the required 12 inch waterline loop discussed above. Any changes to the fire flow requirements

shall be coordinated through Utility Development, as the infrastructure requirements may change. All new required hydrants as well as their exact locations must be determined through the Bernalillo County Fire Marshal's Office and verified through the Utility Development Office prior to sale of service.

Cross Connection Prevention: Per the Cross Connection Ordinance, all new non-residential premises must have a reduced pressure principle backflow prevention assembly approved by the Water Authority and installed at each domestic service connection at a location accessible to the Water Authority. All new fire line services to fire protection systems shall be equipped with a reduced pressure principle backflow prevention assembly approved by the Water Authority and Fire Marshal having jurisdiction at each service connection. A double check valve assembly approved by the Water Authority and Fire Marshal having jurisdiction may be installed instead of a reduced pressure backflow prevention assembly provided the fire protection system contains ANSI/NSF Standard 60 or 61 water piping throughout the entire fire protection system, the fire sprinkler drain discharges into atmosphere, and there are no reservoirs, fire department connections, connections from auxiliary water supplies, antifreeze nor other additives. The Water Authority requests that all backflow (containment) devices be located above ground just outside the easement or roadway right-of-way. Contact Cross Connection at 289-3439 for more information.

Pretreatment: If the development is for industrial use, and if either of the following apply, then contact the Industrial Pretreatment Engineer at (505) 289-3439 or pretreatment@abcwua.org:

- 1) The industry falls under one or more EPA categories found in Title 40 Code of Federal Regulations Parts 400-699, or
- 2) The industry plans to discharge more than 25,000 gallons of wastewater per day.

Easements: Exclusive public water and sanitary sewer easements are required for all public lines that are to be constructed outside of any dedicated rights-of-way. A minimum width easement of 20 feet is required for a single utility and 25 feet for water and sewer both within the same easement. Easements for standard sized water meters need to be five feet by five feet and include the length of the water service if located on private property. For larger meters that require a meter vault, a 35 feet by 35 feet easement is required. Actual easement widths may vary depending on the depth of the lines to be installed. Acceptable easements must be documented prior to approval of service.

Pro Rata: As described in this statement, the extension of public water and sanitary sewer lines may be eligible for partial reimbursement through the Pro Rata process as detailed in the Water Authority Water and Wastewater System Expansion Ordinance.

Design and Construction of all required improvements will be at the developer / property owner's expense. Improvements must be coordinated through the Bernalillo County Department of Public Works and Water Authority Work Order process. Designs must be by a licensed, New Mexico registered professional engineer. Construction must be by a licensed, bonded, public utility contractor.

Costs and Fees: In addition to installation and construction costs, any new metered water services will be subject to both water and sanitary sewer Utility Expansion

Charges (UEC) payable at the time of service application. All charges and rates collected will be based on the ordinances and policies in effect at the time service is actually requested and authorized.

Water Use: When metered water service becomes available to this site, the Water Authority is ready, willing, and able to provide the maximum annual requirement for the subject subdivision/project for a period of at least 70 years as required by the Bernalillo County Subdivision Ordinance. However, the Water Authority is also committed to meeting water conservation goals and requirements. Accordingly, all new development utilizing Water Authority services are subject to the requirements for water usage and water conservation requirements as defined by the Water Authority. Where available, outdoor water usage shall utilize reclaimed water. All new commercial developments shall be subject to the requirements for water usage and water conservation requirements as defined by the Water Authority, particularly the Water Waste Ordinance.

Closure: This serviceability letter does not provide a commitment from the Water Authority to provide services to the development. It only provides details of infrastructure that is available and potential precursors for the proposed development. For service to be provided, a Board approved development agreement, or amendment to the aforementioned development agreement, must be supplemented by this serviceability letter. The serviceability letter will remain in effect for a period of one year from the date of issue and applies only to the development identified herein. Its validity is, in part, contingent upon the continuing accuracy of the information supplied by the developer. Changes in the proposed development may require reevaluation of availability and should be brought to the attention of the Utility Development Section of the Water Authority as soon as possible.

Please feel free to contact Mr. Kristopher Cadena in our Utility Development Section at (505) 289-3301 or email at kcadena@abcwua.org if you have questions regarding the information presented herein or need additional information.

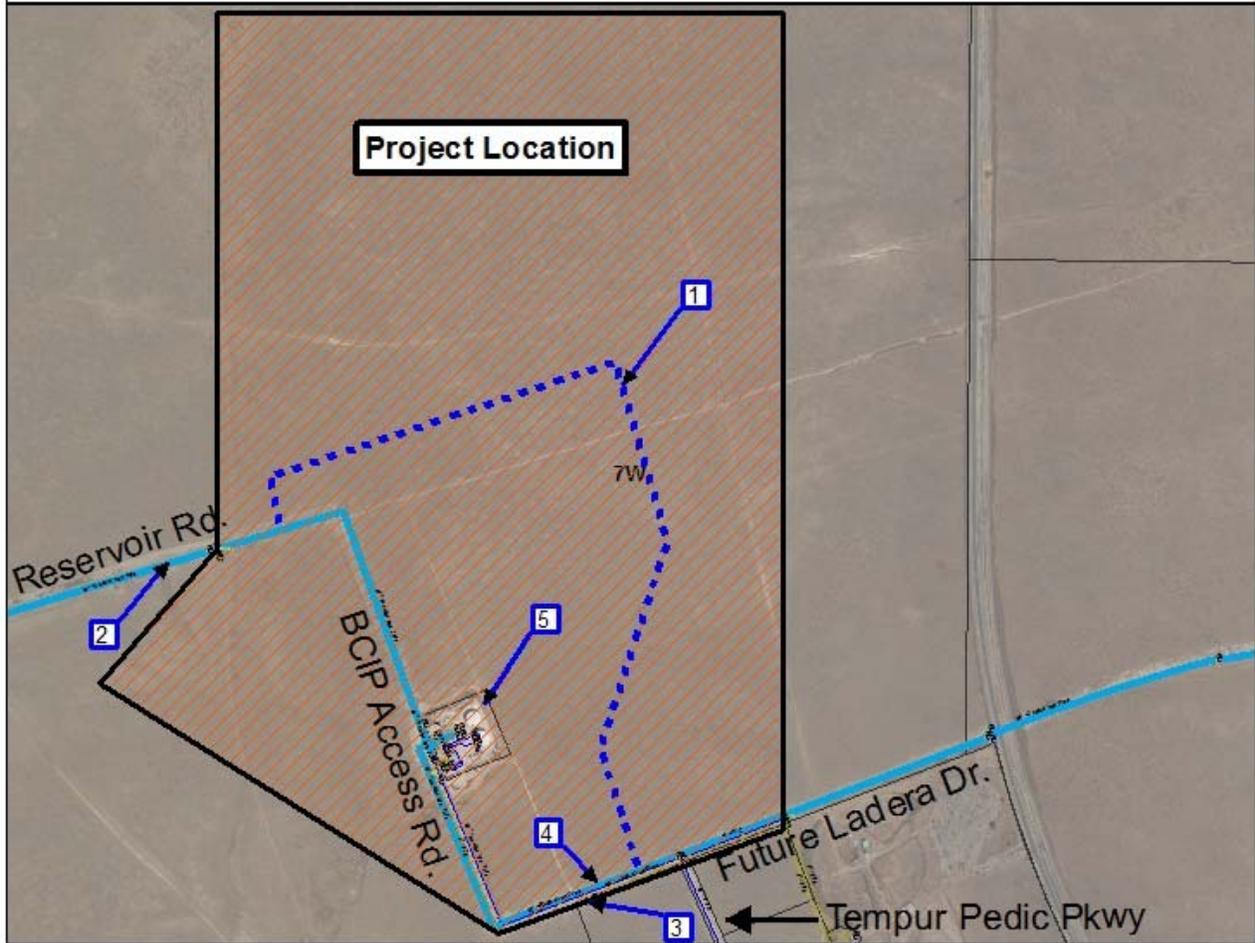
Sincerely,



Mark S. Sanchez
Executive Director

Enclosures: Infrastructure Maps (2)
f/ Serviceability Letter 171204

171204



Legend

Pipe

SUBTYPE

- Distribution Main
- - - - - Drain Line
- Hydrant Leg
- In Zone Transmission
- - - - - Well Collector Line
- Hydrant
- Valve

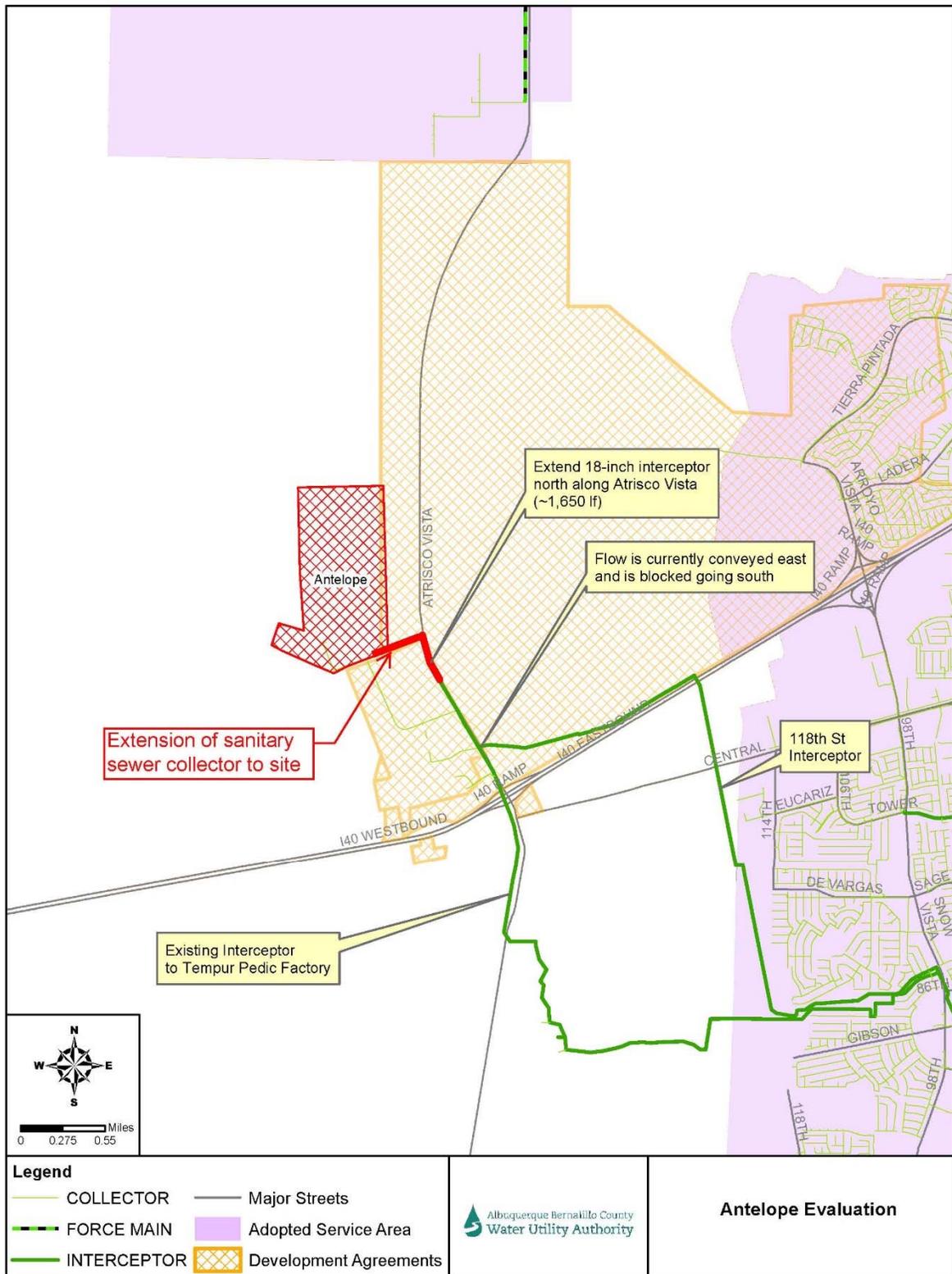
0 1,900 3,800 Feet



□ --- Water Infrastructure Map Keyed Notes

1. --- New 12" Waterline Loop (7W)
2. --- 36" Transmission Main (7W)
3. --- 24" Transmission Main (7W)
4. --- 36" Transmission Main (6W)
5. --- BCIP Reservoir Site







Meeting Date: March 21, 2018

Staff Contact: Rick Shean, Water Rights Program Manager

TITLE: OB-18-4 – Status Update for the Kirtland Air Force Base Bulk Fuels Facility Fuel Leak Cleanup

ACTION: Received

SUMMARY:

The New Mexico Environment Department (NMED) released their “2018 Strategic Plan” for the Kirtland Air Force Base (KAFB) Bulk Fuels Facility (BFF) Leak on March 6, 2018, incorporating four strategies to protect the Water Authority’s drinking water supply in the area of the contamination plume. The strategies include implementing a robust monitoring and wellhead protection program, collapsing the dissolved phase plume, and meet or exceed all public involvement requirements. In a shift from previous years, the NMED has revised Strategy 2 is now specific to monitoring natural attenuation of fuel contamination; this strategy was previously focused on characterization of light non-aqueous phase liquid (LNAPL) at the site.

The Air Force has two work plans approved with conditions by the NMED that will collect data to address LNAPL at the site and take steps to address the reduction in the number and location of groundwater monitoring wells screened at the water table. The Air Force brought online a fourth groundwater extraction well in February 2018 and added pre-treatment infrastructure at the groundwater treatment system. The pre-treatment addresses sediment and bacterial biofilm that may enter the system. The Air Force has treated over 350 million gallons of water contaminated by ethylene dibromide (EDB) since the extraction system began operation in June 2015. All four groundwater extraction wells are currently operation and treated effluent is either used for irrigation at the KAFB golf course or is injected at former water supply well KAFB-7.

NMED, the Air Force, and other stakeholders and their contractors meet periodically as technical working groups. The technical work groups are focused on the discussion of technical details regarding plume capture analysis and groundwater modeling as well as expanded investigation activities to fill data gaps in the source area and groundwater plume. The Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Report submitted by the Air Force in January 2017 is currently in NMED review. A Risk Assessment was also submitted by the Air Force in July 2017 and that document is also currently in NMED review.

NMED and the Air Force have lead three informational meetings and one public meeting since their last presentation to the Water Authority governing board in November 2017.

STAFF COMMENTS:

The NMED 2018 Strategic Plan includes a revised strategy for the site that focuses on monitoring natural attenuation (also known as “monitored natural attenuation” or “MNA”). This is a passive remediation approach that requires an extensive monitoring well network. Additionally, natural attenuation is typically applied at sites with decreasing concentrations, following a robust technical analysis of degradation rates. Currently, 85% of the monitoring well network is submerged and not viable for monitoring natural attenuation and increasing concentrations are observed in the source area. Water Authority staff are not supportive of an MNA approach for any site, particularly the BFF site, in the service area.

The NMED strategic plan also reflects recent correspondence from the NMED to the Air Force that downplays the need for a revised plume capture analysis and no longer includes key stakeholder agreements such as RFI Addendum to address the numerous technical issues in the 2017 RFI Report. The Water Authority’s independent contractor, INTERA, Incorporated, provided their review of the RFI and the Water Authority’s concerns for the document at the Nov. 16, 2017, Water Authority Board Meeting.

FISCAL IMPACT:

None

**Kirtland Air Force Base
Fuel Leak Cleanup
Status Update – 21 March 2018**



Kate Lynnes
Air Force Senior Advisor
Scott Clark
Restoration Program Manager

Updates:

- Notice of Deficiency (NOD) of 16 Nov has been resolved
- Overview of new Data Gap Monitoring Wells
- Upgrades to the GWTS
- New Extraction Well KAFB-106239 up and running

NOD Update

NOD resolved per 06 March letter from NMED. Of note:

- Vadose Zone Coring Workplan submitted 15 December, conditionally approved on 23 February
- Data Gap Monitoring Well Workplan submitted 20 December, conditionally approved on 28 February
- USGS Sampling data to now be included in Quarterly reports
- All 4 extraction wells are now up and running

NOD Update (cont'd)

Modeling Tech Working Group (TWG)

- Charter is to develop a robust plume capture model that is agile enough to address changing site conditions and will support the development of a CME in the future.
- Members include the AF, NMED, ABCWUA & consultant, USGS, EPA, and City of ABQ.
- In collaboration with the TWG, the AF will submit a six-step capture and analysis to NMED that will include the selected model(s)

Data Gap Monitoring Wells

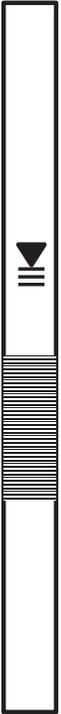
- Unexpected rapid rise in water table has resulted in 53 submerged shallow well screens. (did not affect other screened intervals)
- Not a data driven need to replace all wells – this is a focused effort; well locations were selected to further evaluate plume location and plume capture.
- New well locations selected through collaboration with NMED, also identified other monitoring wells that could be incorporated into sampling network.

Screened Monitoring Well Zones



Shallow Well:

Screened 15 ft
below water
table and 10
feet above
water table



Intermediate Well:

Screened 15 to 30 ft
below water table



Deep Well:

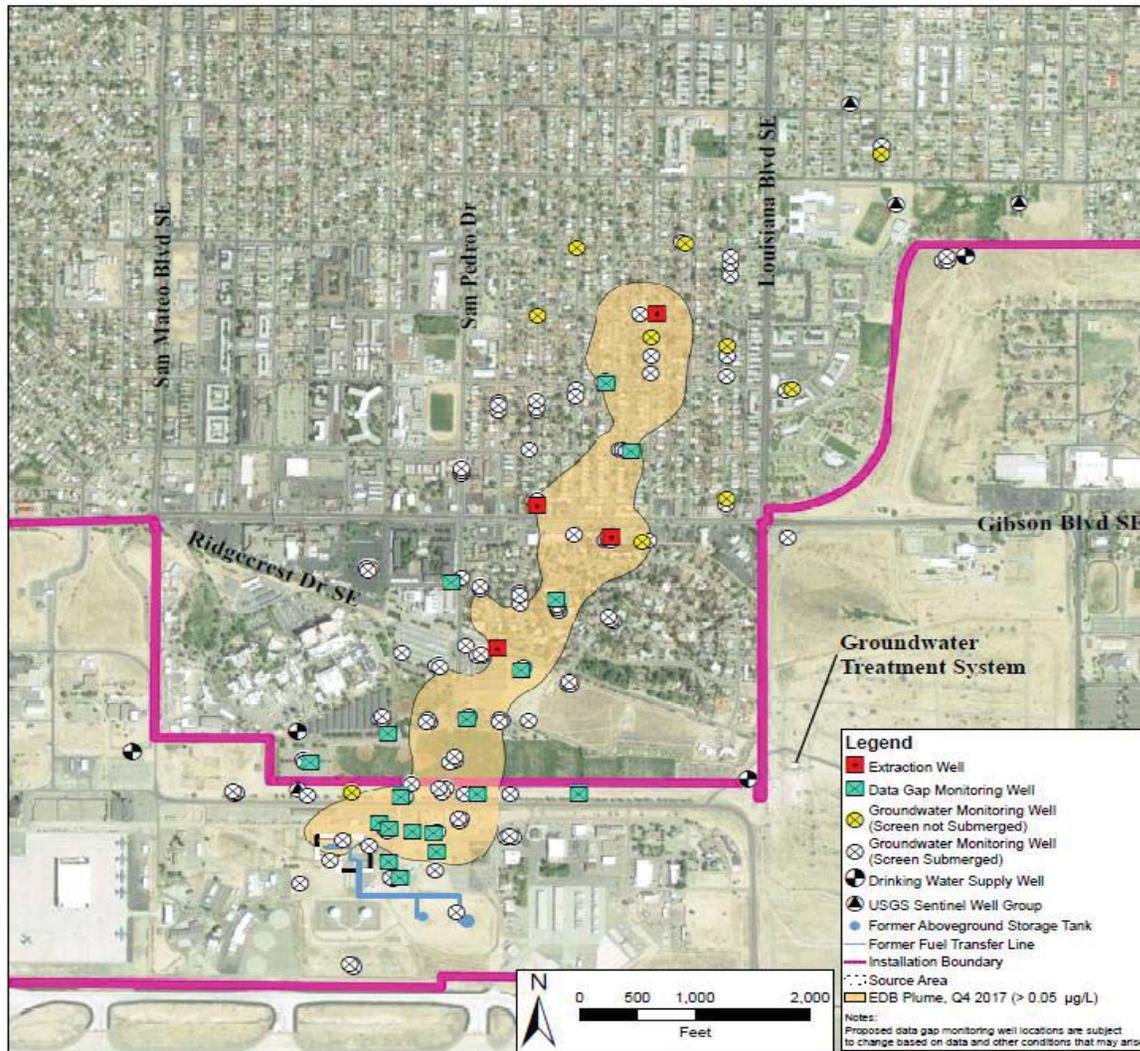
Screened 30 to
130 ft below
water table

Data Gap - Summary of New Wells

- 6 new monitoring wells (1 on-Base; 5 off-Base)
- 5, and possibly up to 8 LNAPL coreholes will be completed as monitoring wells
- At least 7, and up to 12 previously soil-vapor or groundwater monitoring wells will be brought into GWM network as a result of rising groundwater

**Total of 18 GWM locations to be added to
existing 143 well GWM network**

Extraction and New Monitoring Well Locations



Groundwater Treatment System

- Existing Extraction Wells (North of Ridgecrest):
 - KAFB-106228 (144 gpm)
 - KAFB-106233 (160 gpm)
 - KAFB-106234 (164 gpm)
- New Extraction Well (on Ridgecrest):
 - KAFB-016239 (75 gpm)
- 2 Treatment Trains - Total Capacity up to 800 gpm
- Discharge Treated Effluent:
 - KAFB-7 Injection Well
 - Tijeras Arroyo Golf Course Main Pond

Upgrades to Groundwater Treatment System

- Two full treatment trains up and running. To date, have treated ~364 million gallons.
- Installed sand filters that contain a catalyzed media to capture any bacterial biofilm that may enter system
- Effluent is non-detect for all fuel constituents and meets all SDWA requirements

Upgrades to Groundwater Treatment System

- Sand filters installed at GWTS



4th Extraction well up and running

- New extraction well designed to cut off the migration of the plume at the root.
- Pumping at 75 GPM, location was selected collaboratively with stakeholders and approved by NMED
- Pump came online 05 February 2018

Questions?



New Mexico Environment Department 2018 Strategic Plan (Revised Draft) For Kirtland Air Force Base Aviation Fuel Cleanup



March 21, 2018
Dennis McQuillan, NMED Chief Scientist



Sand and gravel deposited by the ancestral Rio Grande is the host material for a major aquifer in the Albuquerque area

2018 Strategic Plan

Goal: *Protect Albuquerque's aquifer and drinking water supply wells in the area of the fuel leak*

Strategies to Achieve the Goal

In 2018, NMED and the Air Force will continue to:

- 1. Implement a robust site monitoring and wellhead protection program**
- 2. Monitor the natural attenuation of fuel contamination in soil and groundwater, and identify potential opportunities for enhancement thru interim corrective measures**
- 3. Deploy multiple engineered technologies, both simultaneously and sequentially, as interim corrective measures to clean up soil and groundwater**
- 4. Meet or exceed all requirements for providing public information and involvement**

Strategy 1 – Implement Robust Site Monitoring and Wellhead Protection

- No detections of EDB in drinking water wells or sentinel wells
- Cone of depression persists in groundwater extraction area
- EDB plume capture analysis is being rigorously updated
- Effects of rising water level on direction of groundwater flow and contaminant migration are being evaluated
- Data gaps caused by water level rise are being filled by:
 - Drilling new monitoring wells
 - Monitoring previously dry soil-vapor wells that now contain groundwater

EDB will not be allowed to adversely impact any drinking water supply wells

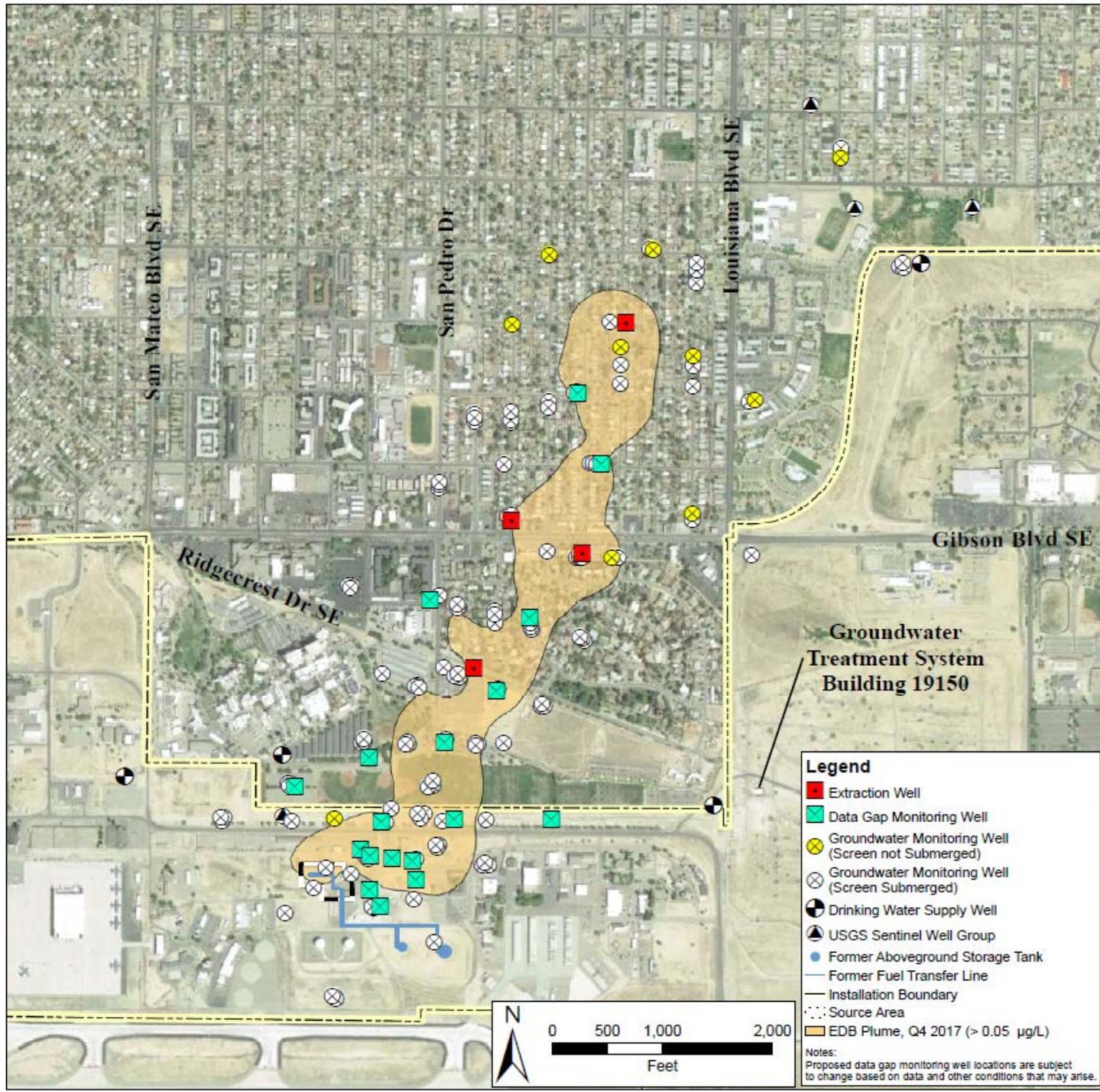
At Least 18 (up to 26) New Wells to Fill Data Gaps

Six monitoring wells will be drilled.

Five, and possibly up to 8, LNAPL coreholes will be completed as monitoring wells.

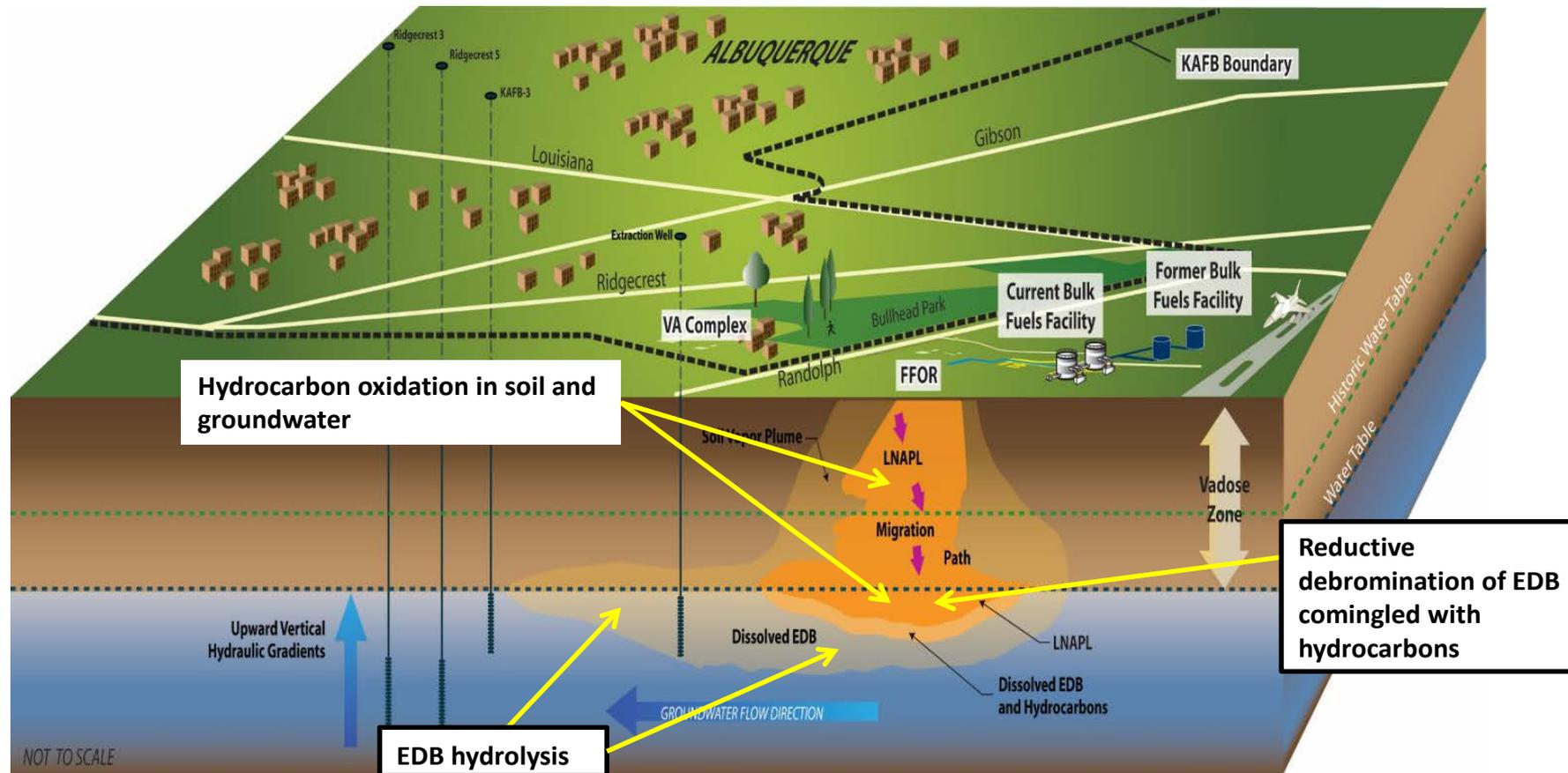
At least seven, and likely up to 12, previously dry soil-vapor or groundwater wells now have water due to rising water table (using these existing wells will save up to \$5.25 million in drilling costs).

Thanks to the Air Force and Army Corps of Engineers for thinking outside the box to fill data gaps and reduce cost to taxpayers!



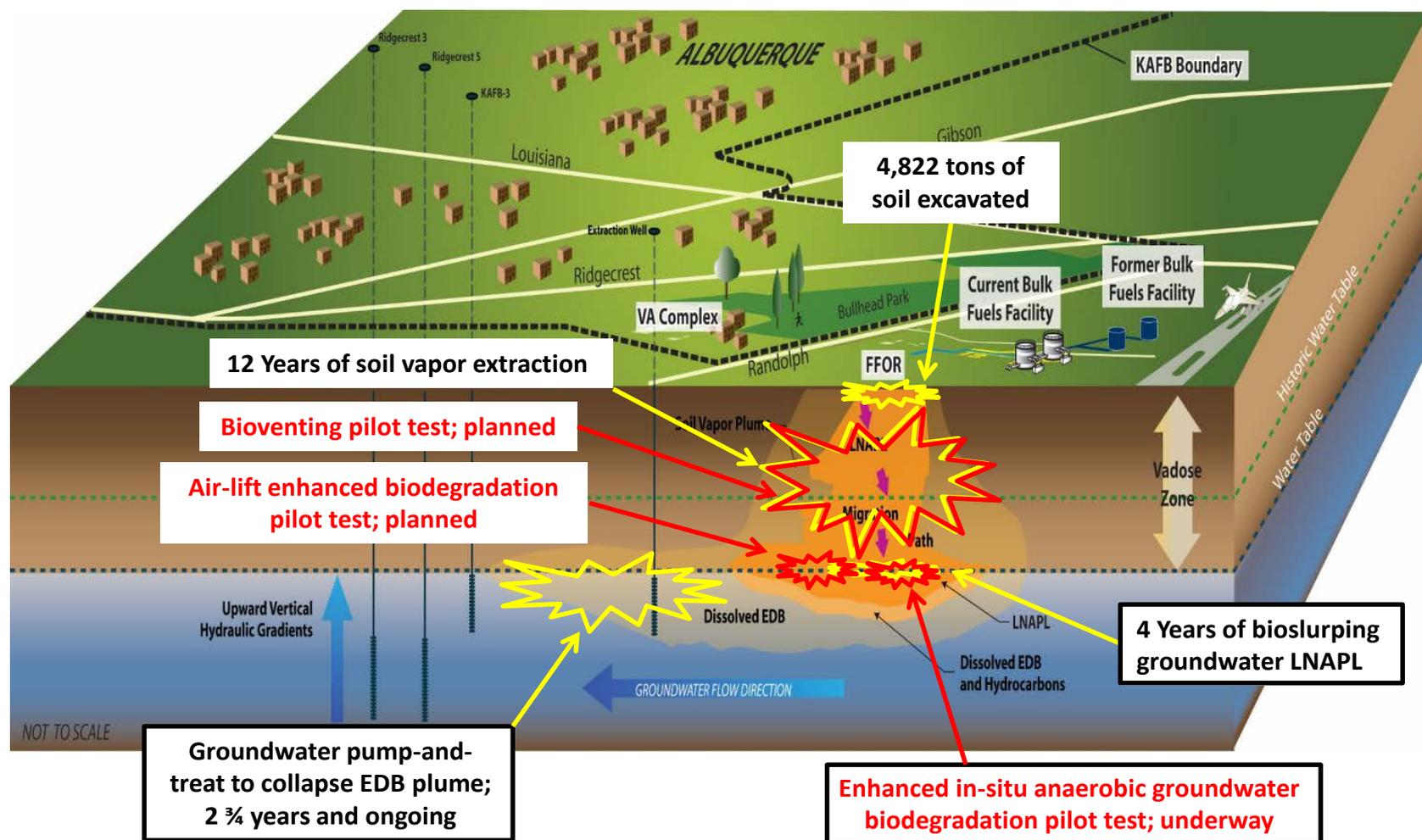
Strategy 2 – Monitor Natural Attenuation & Identify Opportunities for Enhancement

- Site monitoring has identified ongoing natural degradation processes including hydrocarbon oxidation, EDB hydrolysis, and EDB reductive debromination.
- Interim corrective measures include engineered cleanup technologies to enhance natural degradation processes.



Strategy 3 – Deploy Multiple Engineered Cleanup Technologies, Simultaneously and Sequentially

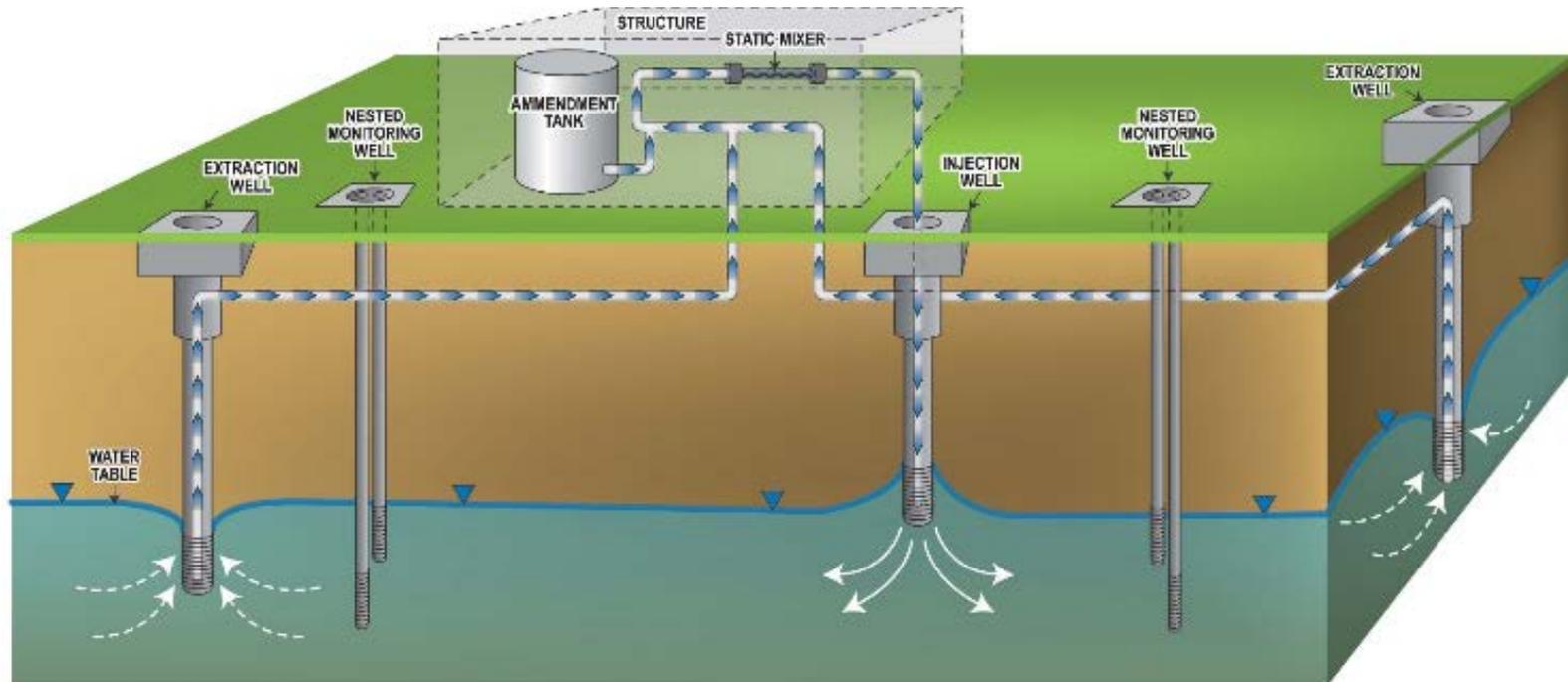
Activities in 2018 will include additional interim corrective measures such as: **enhanced in-situ anaerobic groundwater biodegradation, soil bioventing, and air-lift enhanced biodegradation.**



3. Anaerobic Biodegradation Pilot Test

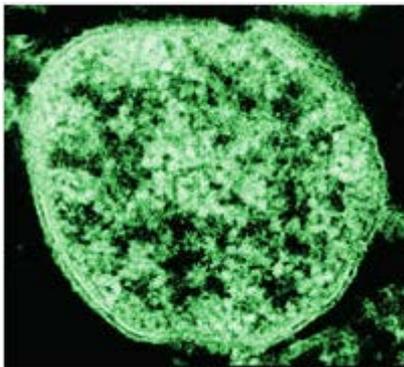
Groundwater Recirculation

- Pump groundwater and add amendments in phases
- Inject amended water to create a recirculation cell
- Supports anaerobic degradation of EDB



3. Anaerobic Biodegradation Pilot Test

- Phase 1 – Baseline definition, tracer test circulation, passive monitoring (completed)
- Phase 2 – Bio-stimulation by adding nutrients and lactate (commenced December 2017)
- Phase 3 – Bio-augmentation by adding bacteria such as dehalococcoides (scheduled for summer 2018)
- Phase 4 – Long-Term Passive Monitoring



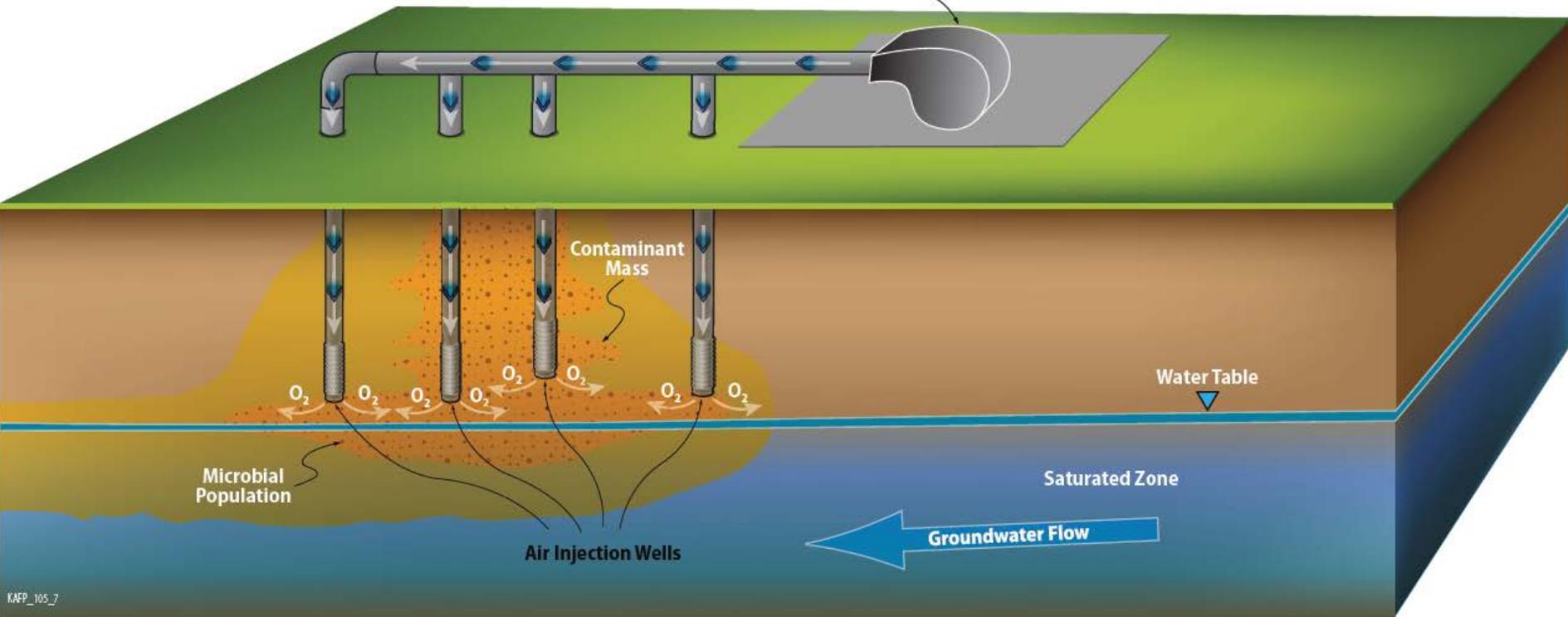
Dehalococcoides – a bacterium known to degrade halogenated pollutants including EDB

(University of Alberta BacMap Genome Atlas, <http://wishart.biology.ualberta.ca/BacMap/index.html>)

3. Bioventing

Air will be blown into the soil to deliver oxygen to naturally occurring bacteria and enhance their ability to biodegrade petroleum hydrocarbons

Low-flow
Air Injection Blower



KAFP_105_7

← = Air Flow

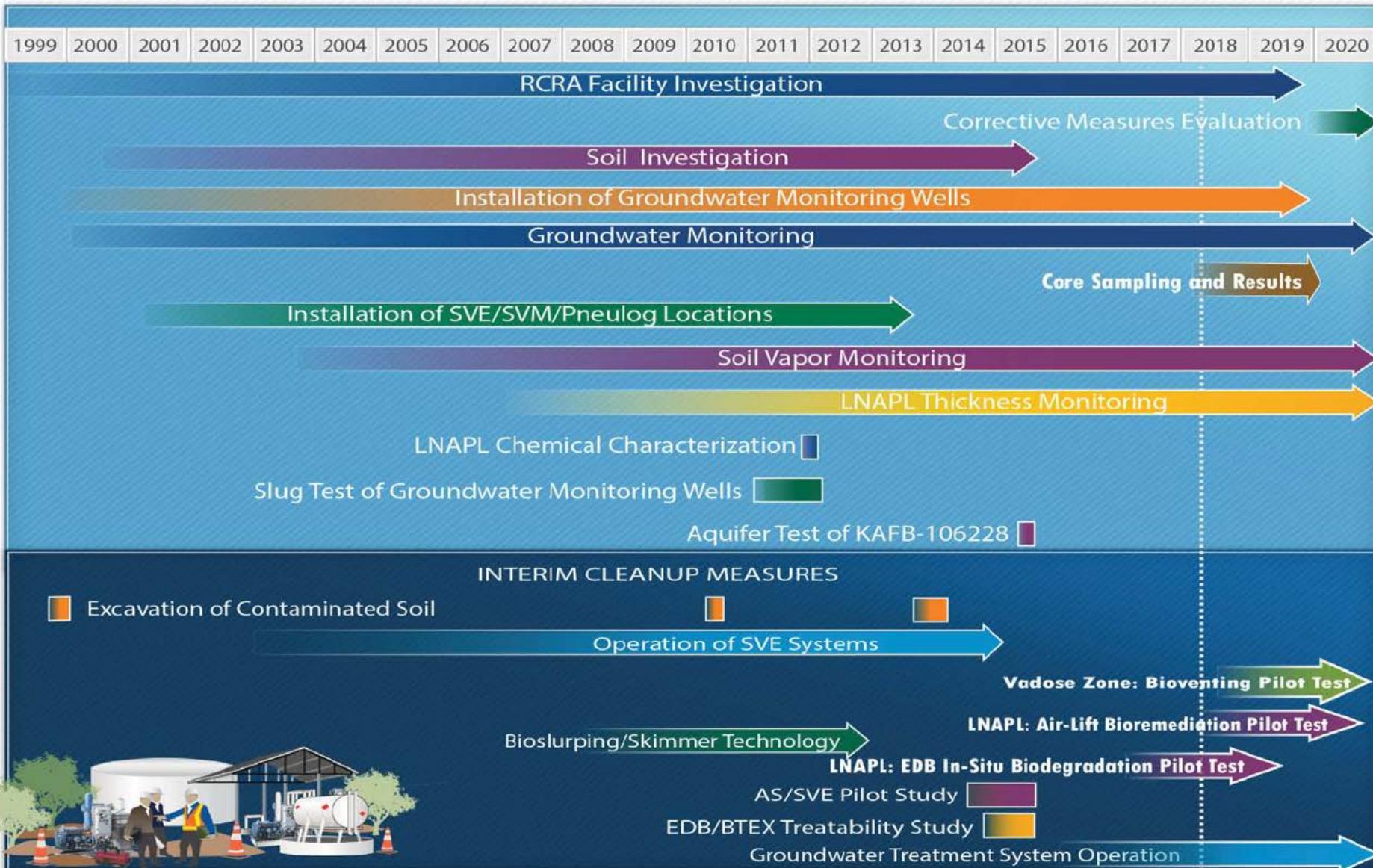
Strategy 4 - Public Outreach Schedule

The Air Force and NMED are conducting public outreach and involvement activities related to investigation and cleanup of the Kirtland Air Force Base aviation fuel contamination in accordance with the public notice and community relations requirements of the N.M. Water Quality Control Commission and federal Resource Conservation and Recovery Act Permits. Additionally, NMED will prepare and implement a Public Involvement Plan pursuant to NMED Policy 07-13, <https://www.env.nm.gov/wp-content/uploads/2018/02/NMED-Policy-and-Procedure-07-13.pdf>.

Date	Description
March 21, 2018	ABCWUA Governing Board Meeting, project update
March 22, 2018	Regular Public Meeting with Technical Poster Session
March 24, 2018	Groundwater Treatment System Open House
April 13, 2018	New Mexico Geological Society, Spring Conference, Socorro, NM
June 29, 2018	NMED Public Involvement Plan to be finalized
July 12, 2018	Regular Public Meeting with Technical Poster Session
November 15, 2018	Regular Public Meeting with Technical Poster Session

NMED and the U.S. Air Force welcome invitations from neighborhood associations, civic organizations, environmental groups, and local government agencies.

Site Activity Timeline



A Partnership for Success

A collaborative technical team is solving the complex hydrogeologic and engineering challenges posed by the fuel leak with support from Albuquerque's neighborhood groups



US Army Corps of Engineers



Sundance
Community

Westside Coalition
Neighborhood Assoc.

Siesta Hills
Neighborhood Assoc.



ABQ City Council
District 6 Coalition of
Neighborhood Assocs.



Elder Homestead
Neighborhood Assoc.

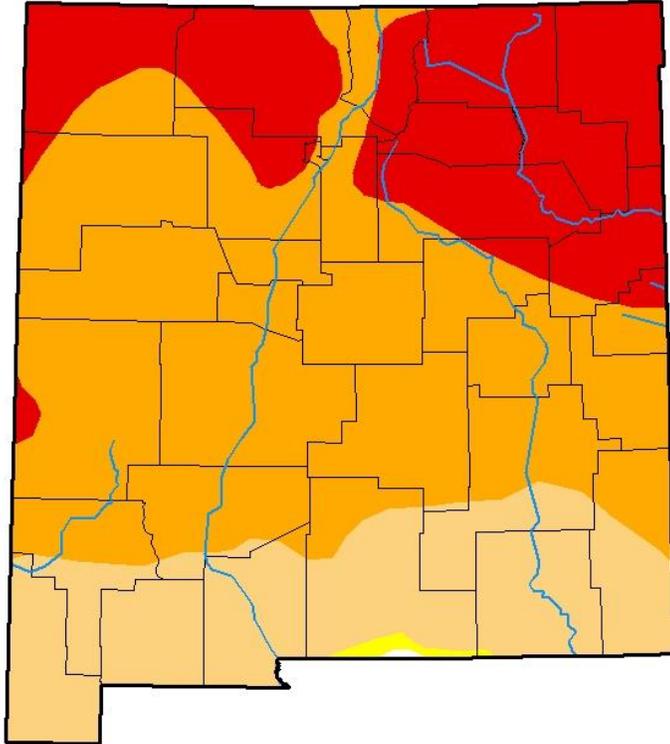
Christ United Methodist Church HAWLEY GEOMATTERS

Thomson and Associates

Citizen Action
New Mexico

NM Drought

U.S. Drought Monitor New Mexico



March 13, 2018
(Released Thursday, Mar. 15, 2018)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.08	99.92	99.51	77.89	25.50	0.00
Last Week 03-06-2018	0.08	99.92	99.51	77.99	17.08	0.00
3 Months Ago 12-12-2017	10.46	89.54	16.23	0.00	0.00	0.00
Start of Calendar Year 01-02-2018	7.01	92.99	45.97	4.76	0.00	0.00
Start of Water Year 09-26-2017	85.16	14.84	0.00	0.00	0.00	0.00
One Year Ago 03-14-2017	76.02	23.98	3.24	0.00	0.00	0.00

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

Richard Tinker
CPC/NOAA/NWS/NCEP



<http://droughtmonitor.unl.edu/>

Water Use January 1 – March 11

