OMB Number: 4040-0004
Expiration Date: 8/31/2016

Application for Federal Assistance SF-424

* 1. Type of Submission:
- [ ] Preapplication
- [x] Application
- [ ] Changed/Corrected Application

* 2. Type of Application:
- [x] New
- [ ] Continuation
- [ ] Revision

* If Revision, select appropriate letter(s):

* Other (Specify):

* 3. Date Received: 06/25/2015

4. Applicant Identifier:

5a. Federal Entity Identifier:

5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name: Brownsville Public Utilities Board

* b. Employer/Taxpayer Identification Number (EIN/TIN): 74-2137823

* c. Organizational DUNS: 6063470370000

d. Address:

* Street1: 1255 North FM 511
Street2:
* City: Brownsville
County/Parish: Cameron
* State: TX: Texas
Province:
* Country: USA: UNITED STATES
* Zip / Postal Code: 78526-7574

e. Organizational Unit:

Department Name:

Division Name:

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:
* First Name: Alicia
Middle Name:
* Last Name: Gracia
Suffix:

Title: Senior Grants Coordinator

Organizational Affiliation: Brownsville Public Utilities Board

* Telephone Number: (956) 983-6483
Fax Number: (956) 983-6220

* Email: agracia@brownsville-pub.com

Application for Federal Assistance SF-424

*** 9. Type of Applicant 1: Select Applicant Type:**

D: Special District Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

Bureau of Reclamation

11. Catalog of Federal Domestic Assistance Number:

15.514

CFDA Title:

Reclamation States Emergency Drought Relief

*** 12. Funding Opportunity Number:**

R15AS00046

* Title:

WaterSMART: Drought Resiliency Project Grants for Fiscal Year 2015

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

Add Attachment | Delete Attachment | View Attachment

*** 15. Descriptive Title of Applicant's Project:**

Project will build drought resiliency by increasing the reliability of water production during stress periods, monitoring of aquifer health, and increasing production capacity.

Attach supporting documents as specified in agency instructions.

Add Attachments | Delete Attachments | View Attachments

Application for Federal Assistance SF-424

16. Congressional Districts Of:

* a. Applicant: 34 * b. Program/Project: 34

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment | Delete Attachment | View Attachment

17. Proposed Project:

* a. Start Date: 10/01/2015 * b. End Date: 09/30/2017

18. Estimated Funding ($):

* a. Federal	300,000.00
* b. Applicant	300,000.00
* c. State	0.00
* d. Local	0.00
* e. Other	0.00
* f. Program Income	0.00
* g. TOTAL	600,000.00

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

☐ a. This application was made available to the State under the Executive Order 12372 Process for review on .

☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.

☒ c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**

☐ Yes ☒ No

If "Yes", provide explanation and attach

Add Attachment | Delete Attachment | View Attachment

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: * First Name: John

Middle Name: S.

* Last Name: Bruciak

Suffix:

* Title: General Manager and CEO

* Telephone Number: (956) 983-6278 Fax Number:

* Email: jbruciak@brownsville-pub.com

* Signature of Authorized Representative: Alicia Gracia * Date Signed: 06/25/2015

BUDGET INFORMATION - Non-Construction Programs

OMB Number: 4040-0006
Expiration Date: 06/30/2014

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. WaterSMART: Drought Resiliency Project Grants for FY 2015	15.514	$ 0.00	$ 0.00	$ 300,000.00	$ 0.00	$ 300,000.00
2. N/A		0.00	0.00	0.00	0.00	0.00
3. N/A		0.00	0.00	0.00	0.00	0.00
4. N/A		0.00	0.00	0.00	0.00	0.00
5. Totals		$	$	$ 300,000.00	$	$ 300,000.00

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Prescribed by OMB (Circular A -102) Page 1

SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY				Total
	(1)	(2)	(3)	(4)	(5)
	WaterSMART: Drought Resiliency Project Grants for FY 2015	N/A	N/A	N/A	
a. Personnel	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$
b. Fringe Benefits	0.00	0.00	0.00	0.00	
c. Travel	0.00	0.00	0.00	0.00	
d. Equipment	255,500.00	0.00	0.00	0.00	255,500.00
e. Supplies	0.00	0.00	0.00	0.00	
f. Contractual	344,500.00	0.00	0.00	0.00	344,500.00
g. Construction	0.00	0.00	0.00	0.00	
h. Other	0.00	0.00	0.00	0.00	
i. Total Direct Charges (sum of 6a-6h)	600,000.00	0.00	0.00	0.00	$ 600,000.00
j. Indirect Charges	0.00	0.00	0.00	0.00	$
k. TOTALS (sum of 6i and 6j)	$ 600,000.00	$ 0.00	$ 0.00	$ 0.00	$ 600,000.00
7. Program Income	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$

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SECTION C - NON-FEDERAL RESOURCES

(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e)TOTALS
8. WaterSMART: Drought Resiliency Project Grants for FY 2015	$ 300,000.00	$ 0.00	$ 0.00	$ 300,000.00
9. N/A	0.00	0.00	0.00	0.00
10. N/A	0.00	0.00	0.00	0.00
11. N/A	0.00	0.00	0.00	0.00
12. TOTAL (sum of lines 8-11)	$ 300,000.00	$	$	$ 300,000.00

SECTION D - FORECASTED CASH NEEDS

	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	$ 300,000.00	$ 60,000.00	$ 60,000.00	$ 150,000.00	$ 30,000.00
14. Non-Federal	$ 300,000.00	60,000.00	60,000.00	150,000.00	30,000.00
15. TOTAL (sum of lines 13 and 14)	$ 600,000.00	$ 120,000.00	$ 120,000.00	$ 300,000.00	$ 60,000.00

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT

(a) Grant Program	FUTURE FUNDING PERIODS (YEARS) (b)First	(c) Second	(d) Third	(e) Fourth
16. WaterSMART: Drought Resiliency Project Grants for FY 2015	$ 300,000.00	$ 0.00	$ 0.00	$ 0.00
17. N/A	0.00	0.00	0.00	0.00
18. N/A	0.00	0.00	0.00	0.00
19. N/A	0.00	0.00	0.00	0.00
20. TOTAL (sum of lines 16 - 19)	$ 300,000.00	$	$	$

SECTION F - OTHER BUDGET INFORMATION

21. Direct Charges:

22. Indirect Charges:

23. Remarks:

Funding Opportunity Number:R15AS00046 Received Date:Jun 25, 2015 03:57:38 PM EDT

OMB Number: 4040-0007
Expiration Date: 06/30/2014

ASSURANCES - NON-CONSTRUCTION PROGRAMS

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management and completion of the project described in this application.

2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.

3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.

4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.

5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).

6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C.§§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U. S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee- 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.

8. Will comply, as applicable, with provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333), regarding labor standards for federally-assisted construction subagreements.

10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).

12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.

13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).

14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.

15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. §§2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.

16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.

17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."

18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

19. Will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits grant award recipients or a sub-recipient from (1) Engaging in severe forms of trafficking in persons during the period of time that the award is in effect (2) Procuring a commercial sex act during the period of time that the award is in effect or (3) Using forced labor in the performance of the award or subawards under the award.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	TITLE
Alicia Gracia	General Manager and CEO
APPLICANT ORGANIZATION	DATE SUBMITTED
Brownsville Public Utilities Board	06/25/2015

Standard Form 424B (Rev. 7-97) Back

Southmost Regional Water Authority
"Well Field Monitoring Project"

Application to the Bureau of Reclamation
WaterSMART: Drought Resiliency Project Grants FY 2015
(FOA No. R15AS00046)

Submitted By:

Brownsville Public Utilities Board
on behalf of
Southmost Regional Water Authority

Omar Anzaldua, Jr. P.E., Project Manager
1425 Robinhood Drive
Brownsville, Texas 78521
omanzaldua@brownsville-pub.com
Telephone: (956) 983-6570
Facsimile: (956) 983-6220

TABLE OF CONTENTS

Well Field Monitoring Project

I. Technical Proposal and Evaluation Criteria

Executive Summary

Date: June 25, 2015

Applicant Name: Southmost Regional Water Authority, submitted by Brownsville Public Utilities Board

City: Brownsville

County: Cameron

State: Texas

The Southmost Regional Water Authority (SRWA) operates a brackish groundwater well field that will be upgraded from 8.5 million gallons per day (MGD) to 16 MGD. This proposal is a request for funding in the amount of $300,000 to be matched by the Brownsville Public Utilities Board, which serves as the SRWA's operator, in order to: 1) implement a system for monitoring water levels and water quality in the local aquifer, to be accomplished by installing instruments in each well and developing assessment protocols and software; 2) develop a sub-regional groundwater flow model to forecast responses and changes in the aquifer; and 3) increase capacity by upgrading the pump in one well. These activities will build drought resiliency by increasing the reliability of water production during stress periods, monitoring of aquifer health, and increasing production capacity. The project can be completed within two years of receipt of approval. This project is not located on a Federal facility.

Background Data

Prior to 2004, most public water suppliers in South Texas relied solely on the Rio Grande River as the source of water for their communities. However, in response to an extended water shortage during the late 1990's, members of the Southmost Regional Water Authority (SRWA) came together to construct a regional desalination facility to treat brackish groundwater for drinking water for the southern Cameron County area. The brackish groundwater contains approximately 3,000 parts per million (ppm) total dissolved solids (TDS); therefore, advanced treatment is required to remove the salt to drinking water quality (less than 1,000 TDS). The brackish groundwater, once considered unusable by most water users, has now become a reliable source of water supply for local communities.

The SRWA has five partners in the desalination facility that include: Brownsville Public Utilities Board (92.91% ownership) Valley Municipal Utility District #2 (2.51% ownership), City of Los Fresnos (2.28% ownership), Brownsville Navigation District (2.10% ownership), and the Town of Indian Lake (0.20% ownership), all of whom are supportive of this project.

In 2002, prior to construction of the SRWA facility, a groundwater availability assessment and planning study was completed. The study included aquifer testing and computer modeling and determined that the aquifer could reliably produce up to 8.5 million gallons per day (MGD) from the aquifer for thirty (30) years or more. The study recommended that twenty (20) wells be spaced 1,500 to 2,500 feet apart, producing about 330 gallons per minute (gpm) per well. The groundwater study and computer model provided the basis for the project, made various assumptions about the regional nature of the aquifer and projected pumpage.

Construction of the original SRWA Brackish Groundwater Treatment Facility, which includes the reverse osmosis (RO) membrane treatment facility, the groundwater wells, and the delivery system, was completed in 2004 for just over $29 million. The original plant design provided a daily production capacity of 7.5 MGD of high quality water. Approximately 9.5 MGD of groundwater is needed to produce 7.5 MGD of treated water through the desalination process. Twenty (20) production wells, approximately 200 to 300 feet below ground level, tap into the Rio Grande Alluvium within the Gulf Coast Aquifer to provide the raw water supply. The SRWA well field includes twenty (20) groundwater wells that have submersible pumps powered by 50-horsepower motor.

In 2014, SRWA was expanded to provide microfiltration pretreatment and additional reverse osmosis membrane trains. Overall total production capacity was increased from 7.5 MGD to 11 MGD. (At this capacity, SRWA saves an equivalent of approximately 12,320 acre-feet in surface water diversions per year.) To meet the higher production levels, the expansion project retrofitted three existing groundwater wells to increase well pump capacity from 400 gpm to 800 gpm. The higher pumping rate was achieved by increasing the pipe column diameter size from a four (4) inch to a six (6) inch and increasing the motor power from 50-horsepower to a 100-horsepower.

The SRWA desalination facility has been in operation for over ten (10) years using innovative technology to provide a reliable supply of water from an alternate water source. With the recent expansion, communities' dependence on groundwater availability is growing. SRWA has increased its groundwater pumping and proper groundwater monitoring and management is critical. This project will provide a monitoring and management program for the groundwater wells. The project will upsize one groundwater well to increase flow rate capacity to a higher flow rate, which will increase the reliability of the well field.

Technical Project Description

The Southmost Regional Water Authority (SRWA) built a water production facility consisting of twenty (20) wells and a reverse osmosis treatment system to supplement water supplies through use of brackish groundwater. The treatment system currently produces five (5) to six (6) MGD of treated water and has been expanded to provide up to eleven (11) MGD. An evaluation of the well field and historical well pumping data conducted in 2010 suggested the well field could be upgraded to sixteen (16) MGD and still retain 30% of the available drawdown after thirty (30) years. SRWA has been upgrading pumps in the wells to achieve that capacity.

Upgrading equipment and facilities to increase production is a necessary element of drought preparedness and resiliency, and SRWA is proactively pursuing this strategy. However, SRWA recognizes that long-term resiliency to drought is also achieved by improving the reliability of water systems so that they do not fail during periods of drought stress, but continue to deliver water to dependent users.

Specifically, SRWA recognizes the need to do the following:

- Monitor the performance of wells individually to detect problems in advance of failure;
- Monitor changes in groundwater quality to protect the RO system and to evaluate the impacts of local pumping on the aquifer; and
- Forecast the effects of pumping on the aquifer's ability to sustain supply and the potential for local/regional subsidence.

SRWA proposes to implement these objectives through six (6) tasks that are described below.

Task 1 - Purchase and Install Transducers

SRWA will install combination pressure transducers and conductivity probes to measure water levels during pumping events and to monitor changes in total dissolved solids content of the water.

Increasing production in a well also increases the entrance velocity of water through the well intake. Development of mineral scale and biofouling often attend high entrance velocities, and their effect is to clog the intake, reduce the flow of water to the pump, lower the pumping water level in the well, and potentially to cause pump overheating and failure.

The wells are equipped with 1.5 inch stainless steel access tubes that will accommodate the instrument. The access tubes may need to be modified to ensure free entrance of water to obtain accurate conductivities.

Pumps will be removed and the wells will be visually recorded to document their current condition after several years of use. This provides a baseline for comparing future visual recordings to assess increases in corrosion, scale development, and biofouling.

Task 2 – Conduct Single and Multi-Well Pumping Tests

Pumping tests provide a wealth of information about well performance, well interference, and aquifer characteristics. The installation of pressure transducers (Task 1) fosters testing by providing a means of accurately recording time and water levels during structured tests.

A variety of pumping tests will be performed. Single well tests will be used to obtain specific capacity, quantify the stable pumping levels in wells, and calculate the well efficiency, providing baselines to monitor deterioration in well performance through time. The well visual recordings from Task 1 will suggest wells for this type of testing. Multi-well pumping tests will acquire site specific aquifer characteristics, which in turn, will be used to refine/calibrate a revised numerical groundwater flow model for the area (Task 5).

Task 3 – Design and Implement a Monitoring Program

A written protocol will be developed to standardize water level and water quality data collection and assessment. The document will provide instructions for operating the transducer/conductivity probes, schedules for data acquisition and probe maintenance, instructions for assessing the data, and to identify wells that need inspection and maintenance.

Task 4 – Develop Custom Software for Managing and Monitoring the Well Field

A number of indices can be used to identify wells that have declining performance, e.g. decreases in specific capacity, increases in recovery time, lowering pumping water levels, etc. Because the acquired monitoring data are numerical and voluminous, they can be processed more efficiently and accurately with software.

Software will be developed to tabulate, portray, and analyze monitoring data. Commercially available software is unknown at this time; therefore, this software system will be customized for SRWA.

Task 5 – Develop a Groundwater Flow Model for the Well Field

The groundwater flow model will be developed as a long-term management tool to:

- Determine the current, and forecast the future, effects of operating the SRWA well field on water levels and water quality in the aquifer system;
- Determine and monitor the sustainability of the current well field under increased pumping regimens by SRWA;
- Determine the need to expand the well field to meet anticipated future demand or to reduce production to maintain long term viability of the field and aquifer;
- Incorporate increased withdrawals by other users of the aquifer system to forecast effects on the SRWA well field; and
- Estimate possible subsidence from groundwater withdrawal in the area.

Several regional and local groundwater flow models have been developed for a variety of purposes. The Texas Water Development Board (TWDB) published an updated regional model as TWDB Report 368 in 2007 that covers all or portions of seven (7) counties in the southern tip of Texas, including all of Cameron County. Groundwater Management Area 16 issued a draft model covering a larger region in South Texas in 2011. These numerical models, while based on well-documented conceptual models, are too general and encompass a geographical area too large for the above purposes and cannot provide predictions with the needed specificity and at the spatial scales required for managing a well field in a shallow alluvial aquifer.

The proposed numerical groundwater modeling for the SRWA well field will follow the general approach outlined below:

1. Develop a conceptual understanding of the groundwater system based on the available hydrogeological and hydrologic data, incorporating data in the public domain (TWDB, US Geological Survey, Texas Commission on Environmental Quality (TCEQ), and the Texas Bureau of Economic Geology), such as geophysical well logs, drillers reports, water level data, water chemistry, and data from the well field.
2. Develop and calibrate a baseline numerical groundwater model to simulate existing and past hydrogeological conditions including groundwater flow directions and distribution of hydraulic head.
3. Use the calibrated model to predict effects of current and proposed well field pumping; to predict the possibility of upconing of saltier water from lower aquifers into the SRWA well field; to estimate the rate of surface water/groundwater interaction with the Rio Grande River; to characterize potential groundwater flow pathways, zone of influence, zone of capture and groundwater travel time; and to evaluate subsidence potential.

Once developed, the groundwater flow model is a dynamic tool that can be refined, updated or expanded as needed in the future, and can be recalibrated as future data are acquired.
Modeling will be accomplished with existing commercial and public domain software such as Groundwater Vistas (a commercial software package with comprehensive pre- and post-processing tools), MODFLOW 2005/USG, SEAWAT (for modeling sea water intrusion), and others.

Task 6 – Increase the Size of the Pump in One Well

Pumps have been upgraded in three (3) wells to increase production capacity. When the well field is fully upgraded, the production capacity is expected to be nearly 16 MGD. This proposal includes the cost for the purchase and installation of one of these upsized pumps and motors.

Evaluation Criteria
Project Benefits

Building Long-Term Resilience to Drought
"Run to Failure" is a common operating model for many water supply systems that use groundwater. A well is drilled and completed, a pump is installed and plumbed, the switch is turned on, and the system is allowed to run until something breaks, leaving the operator to scramble to secure alternate supplies, or to take the system offline while repairs are made – creating a crisis condition that would prompt emergency response actions. Monitoring and maintenance in these types of operational models are minimal or non-existent. Given the projected shortfalls in supply that will be exacerbated by climate change, SRWA can no longer afford to adopt this operating model. Drought resiliency is strongly correlated with system reliability, which depends on monitoring, maintenance, and being able to predict future aquifer conditions.

Making Additional Water Supplies Available
As described above, recent estimates suggest that the well field can produce up to 16 MGD which is nearly double the original design capacity. This will require an estimated expenditure of $3.7 million to replace all existing pumps with higher capacity pumps. SRWA has upgraded three (3) wells so far. This grant facilitates increasing available supply by funding one additional, higher capacity pump ahead of scheduled replacement.

Improving the Management of Water Supplies
Improving the management of water supplies begins with improving the management of the well field and extends to management of the aquifer itself.

Wells have finite life spans which can be extended through monitoring and maintenance. A frequent cause of well decline and failure, and also a common cause of pump failure, is the development of mineral and biofouling which clogs the well screen and restricts inflow to the well. Reduced inflow to the well is manifested by declining pumping levels and specific capacities, both of which can be identified through monitoring of water levels and comparing with values that were measured when the well was newly constructed. Once identified and confirmed, the well can be rehabilitated through standard procedures; the sooner this is recognized, the more effective the rehabilitation. For example, suppose rehabilitation is capable of improving well capacity by 80%. Intervention, when well capacity is reduced to 70% of its original capacity, restores the well to 88% of its original capacity. In contrast, suppose the well capacity declines to 25% of its capacity. Restoration can only be expected to achieve 31% of the original capacity. Early intervention is the key to extending well life and productivity. However, this is not the only benefit: energy costs are reduced, pump life is increased, and most importantly, reliability of service to users is maintained, even in drought.

A groundwater model extends management of water supplies to the aquifer itself. For more than two decades, the TWDB has been funding the development of numerical groundwater flow models, called Groundwater Availability Models (GAMs), for regional aquifer systems. These GAMS are intended to facilitate the management of groundwater resources on a regional scale by local governing boards cooperating regionally through Groundwater Management Areas. The planning process establishes Desired Future Conditions (DFCs) for the aquifer system based on projections of future need. The GAM is used to calculate the volume of groundwater that can be withdrawn (called Modeled Available Groundwater, MAG) to achieve the DFC. These are reviewed and revised every five years and are incorporated in the State Water Plan. While useful for regional planning on 50-year time horizons, these models cannot be used to manage groundwater resources at the scale of a well field.

The sub-regional model proposed here will have smaller grid cells to more accurately represent pumping wells and withdrawal quantities in the model's well package. More precise and accurate predictions of drawdown can be obtained through improved calibration, allowing better management of the water source. More precise modeling can also anticipate capture of more saline groundwater through pumping. This becomes more important in view of the Bureau of Reclamation (BR) -funded Lower Rio Grande Basin Study that estimated climate change to produce a shortfall of 86,432 ac-ft/year (AFY) in addition to the 592,084 AFY shortfall predicted by regional planning.

While this model will not have the regulatory force of GAMs in regional planning, it will assist in monitoring the effectiveness of regional DFCs and MAGs. It is also consistent with the SRWA Water Conservation and Drought Contingency Plan and the Region M 2016 Initially Prepared Plan described below. In these plans, scientific understanding of the aquifer, groundwater availability and sustainability are crucial elements of drought resiliency.

Making New Information Available

SRWA anticipates that the monitoring and testing data acquired by the proposed system will be useful in future revisions to the GAM, DFC's and MAG's.

Estimating Quantity of Water Better Managed

The quantity of water that is better managed through planning is taken to be the estimated production over the next 30 years, or 540,000 acre-feet.

Drought Planning and Preparedness

The SRWA has implemented a Water Conservation and Drought Contingency Plan (Drought Plan), which was submitted to the TWDB and the TCEQ in April 2014. This project is identified as the highest priority in the Drought Plan, Goal One: Reduce Overall Regional Surface Water Demands.

Specifically, the Drought Plan states:

"There is a limited understanding of how groundwater availability and groundwater quality varies with depth and location in the SRWA member entities' service areas. There is a need to improve the scientific understanding of groundwater availability and sustainability, improve the understanding of groundwater flow paths, and increase the knowledge of how water quality varies by depth and spatially in shallow alluvial groundwater aquifers, the Rio Grande, deeper groundwater aquifers, and the Gulf of Mexico within the service area.

In 2002, SRWA performed a groundwater availability assessment and planning study of the SRWA well field. The study and computer simulations indicated that the SRWA well field was capable of producing at least 8.5 MGD for 30 years or more with or without recharge. In 2010, a subsequent study was performed to determine if the well field could increase the raw water supply. The 2010 study updated the 2002 groundwater model and projected that the well field could produce 16 MGD while reserving at least 30% of available drawdown after 30 years.

SRWA may perform an assessment of hydrologic conditions and ground water resources to obtain more detailed data pertaining to site-specific conditions and

the long-term hydraulic characteristics of the aquifer. The five-year goal is to obtain more detailed data pertaining to conditions of the groundwater aquifer, such as water level monitoring and water quality monitoring. The ten-year goal is to update the availability model to better understand long-term availability and begin preliminary design for a brackish water treatment plant expansion. This goal may require further test drilling and/or long-term monitoring of the 16 MGD well field. Additional production could possibly be acquired by increasing pump capacities in existing wells, developing the Primary Zone, developing brackish groundwater supplies in the underlying Beaumont/Lissie Formations, or through the lateral expansion of the Secondary Zone well field."

The SRWA Drought Plan recognizes the criticality of assessing the hydrologic conditions and obtaining data and site-specific conditions of the aquifer. Hydrological data is to be collected by 2019 to meet the five-year goal of the Drought Plan. This data is not only critical to the near future of the water supply, but will likely be used for many years down the road.

The Region M Regional Water Plan and the 2012 Texas State Water Plan identify brackish desalination as a water management strategy. The Region M 2016 Initially Prepared Plan, compiled for development of the region's water plan, includes the SRWA expansion project and the need to evaluate the aquifer to optimize and expand the well field's yield. The Regional Planning Group identified this project as a recommended water management strategy. Development of the Regional Water Plan, which provides various water management strategies and recommendations, is developed by water user stakeholders. Community involvement throughout the development process is sought and encouraged, and all meetings are open to the public.

The reliability of brackish groundwater pumping and desalination is vital to the area. The Lower Rio Grande Basin Study identifies brackish groundwater desalination facilities in the lower Rio Grande Valley as the best option for meeting the region's long-term water needs of a soaring population and addressing a mounting water deficit project to reach 678,522 AFY by 2060.

The study was released in December 2013 and includes the following major findings:

- Climate change is likely to result in increased temperatures, decreased precipitation, and increased evapotranspiration in the study area, resulting in a considerable water supply deficit of 592,084 AFY by 2060. The basin study projects that the impacts of climate change will create an additional shortfall of 86,438 AFY.

- The supply imbalances exacerbated by climate change will greatly reduce the reliability of deliveries to all users dependent on the Rio Grande.
- Competing use by Mexico severely compromises the reliability of the Rio Grande to meet future needs in the region. Approximately 78% of the watershed that feeds the Falcon and Amistad reservoir system is located in Mexico.
- Demand from municipal users is expected to grow rapidly while demand from agricultural users is expected to decline due to projected urbanization.
- Regional brackish groundwater desalination systems designed to satisfy a portion of the municipal demand of area cities by 2060 best met the study objectives.

This project supports the strategy identified in the regional water plan and the basin study. Strengthening the resiliency of the SRWA well field supports the continued use of brackish groundwater as an alternate source of water to the Rio Grande.

Severity of Actual or Potential Drought Impacts

As recently as December 2014, portions of the Lower Rio Grande Valley were abnormally dry. Extreme to exceptional drought conditions existed in this region from about April 2011 to November 2013, with the onset of dry conditions having begun during the winter of 2010-2011. In total, the most recent drought lasted approximately four years and became the drought of record for the state. Texas experienced droughts in 1908-1912, 1934-1935, 1950-1957, 1995-1996, and 1999-2002. Flow in the Rio Grande River to the Gulf of Mexico ceased for a time in 2001. In 2005-2006, the Texas agricultural community experienced losses totaling $4.1 billion, and 2010-2011 with agricultural losses of $5.2 billion.

The Lower Rio Grande Basin Study funded by the BR described the following impacts to the region from droughts:

- Dry conditions in 2009 resulted in interrupted water diversions to irrigation districts, resulting in 49% loss of cultivated acreage and $19 million in losses to farmers;
- The 2011 drought resulted in curtailment of irrigation water delivery;
- Agricultural shortages cost the local economy $135 million and 4130 jobs in an area where 37.7% of the population lives below the poverty level; and
- The projected annual water shortage in 2060 will be 592,084 AFY, to which climate change will likely add an additional shortage of 86,438 AFY.

The Rio Grande River is an international border with portions of its drainage basin in Mexico. In the Treaty of 1944, Mexico agreed to deliver approximately 350,000

AFY through six tributaries, but historically has delayed delivery or failed to deliver the water. In the 1990's, Mexico's water debt was 1.5 million acre-feet, an amount which harmed Valley agriculture that was concurrently experiencing drought. According the Rio Grande Regional Water Authority, this cost Texas 3,000 jobs and $105 million in personal income. As of August 7, 2014, Mexico owed water deliveries amounting to 361,000 acre-feet, or more than its annual delivery quota. http://www.rgrwa.org/issues-policies/mexico-water-debt/.

From the foregoing it is clear that Texas has historically frequent droughts that can be expected to recur in the future, that it has recently experienced an extreme statewide drought, that Mexico frequently withholds water delivery to the river as required by treaty, and that climate change will exacerbate projected water supplies in the future.

The chart below projects population and water demand.

	POPULATION	PROJECTED WATER DEMAND
2020	29.7 million	19 million acre-fee per year
2030	33.7 million	19.8 million acre-feet per year
2040	37.7 million	20.5 million acre-feet per year
2050	41.9 million	21.2 million acre-feet per year
2060	46.3 million	22 million acre-feet per year

http://twri.tamu.edu/publications/txh2o/fall-2011/timeline-of-droughts-in-texas/

Nexus to Reclamation

In recent years the BR has funded numerous projects in the Lower Rio Grande Valley that were related to conservation, expansion of developed water supplies, and improved efficiency and management of water supplies, including data acquisition. Moreover, the BR has recognized the projected future deficits in water supplies in this region and encouraged the evaluation and development of non-traditional water sources such as brackish groundwater.

In 2003, the BR allocated $1,125,000 to three water conservation projects under the Lower Rio Grande Valley Water Resources Conservation and Improvement Act of 2000 (P.L. 106-576). One of these projects included a telemetering system

to relay flow data for improved management. These projects resulted in saving an estimated 18,500 AFY.
http://www.usbr.gov/newsroom/newsrelease/detail.cfm?RecordID=719.

The Lower Rio Grande Valley Water Resources Conservation and Improvement Act of 2002 (P.L. 107-351) authorized 15 additional projects.
http://www.usbr.gov/newsroom/newsrelease/detail.cfm?RecordID=719.

In 2004, the BR awarded a $300,000 Water 2025 Challenge Grant to the Harlingen Irrigation District, which included installation of water meters at irrigation sites to improve water delivery and enhance irrigation practice.
http://www.usbr.gov/newsroom/newsrelease/detail.cfm?RecordID=2221.

Under the SECURE Water Act (P.L. 111-11), BR funded the Lower Rio Grande Basin Study (2013), which found among other things, that climate change will exacerbate projected future water supply shortfalls, and that development of brackish groundwater was the most suitable means for supplementing supplies and that regional brackish groundwater systems would best meet plan objectives. The study recommended development of brackish water and delivery systems in three areas in the Lower Rio Grande Valley.
http://www.usbr.gov/newsroom/newsrelease/detail.cfm?RecordID=45486.

FY 2015 funding included $150,000 in matching funds under Title XVI of P.L. 102-575 for the City of McAllen, Hidalgo County, Texas to conduct a feasibility study of non-traditional sources of supply, where development of brackish groundwater had been previously identified as a viable water supply alternative.
http://www.usbr.gov/WaterSMART/docs/2015/fy2015TitleXVIfeasibilitystudies.pdf.

Project Implementation

The Project Implementation schedule, attached as Exhibit B, notes that all completion dates are considered milestones.

Performance Measures

Presently three (3) wells have been equipped with higher capacity pumps that have increased produced water by 400 gallons per minute per well. Replacement of one (1) pump as proposed is anticipated to increase produced water by this amount, or in other words, by 645 AFY in this well.

The monitoring and modeling phases of this proposal will improve system reliability and verify aquifer capacity, thereby decreasing reliance on surface water from the Rio Grande River, which has proven to be unreliable during periods of

drought. Upon successful completion of this project, the maximum sustainable capacity of the well field will be verified. The well field presently produces 8.5 MGD or 9,521 AFY. The full build out capacity of the SRWA treatment plant will require 17 MGD or 19,042 AFY of groundwater. The goal is to verify if a 100% increase in the well production capacity for plant build-out can be sustained over the long term.

II. Environmental and Cultural Resources Compliance

- Will the project impact the surrounding environment (e.g. soil, air, water, animal habitat? Describe all earth-disturbing work. Explain the impact of such wok on the surrounding environment and any steps that could be taken to minimize the impact. **No.**

- Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with this project. **No.**

- Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as "Waters of the United States?" If so, please describe and estimate any impacts the project may have. **No.**

- When was the water delivery system constructed? **2002.**

- Will the project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously. **No.**

- Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? **No.**

- Are there any known archaeological sites in the proposed project area? **No.**

- Will the project have a disproportionately high and adverse effect on low income or minority populations? **No.**

Southmost Regional Water Authority (SRWA) Well Sites

N
W E
S

1 inch = 2,000 feet

Legend

Water Mainline

BROWNSVILLE PUBLIC UTILITIES BOARD

Drawn by: LGM

DISCLAIMER - PUBLIC UTILITIES OF BROWNSVILLE

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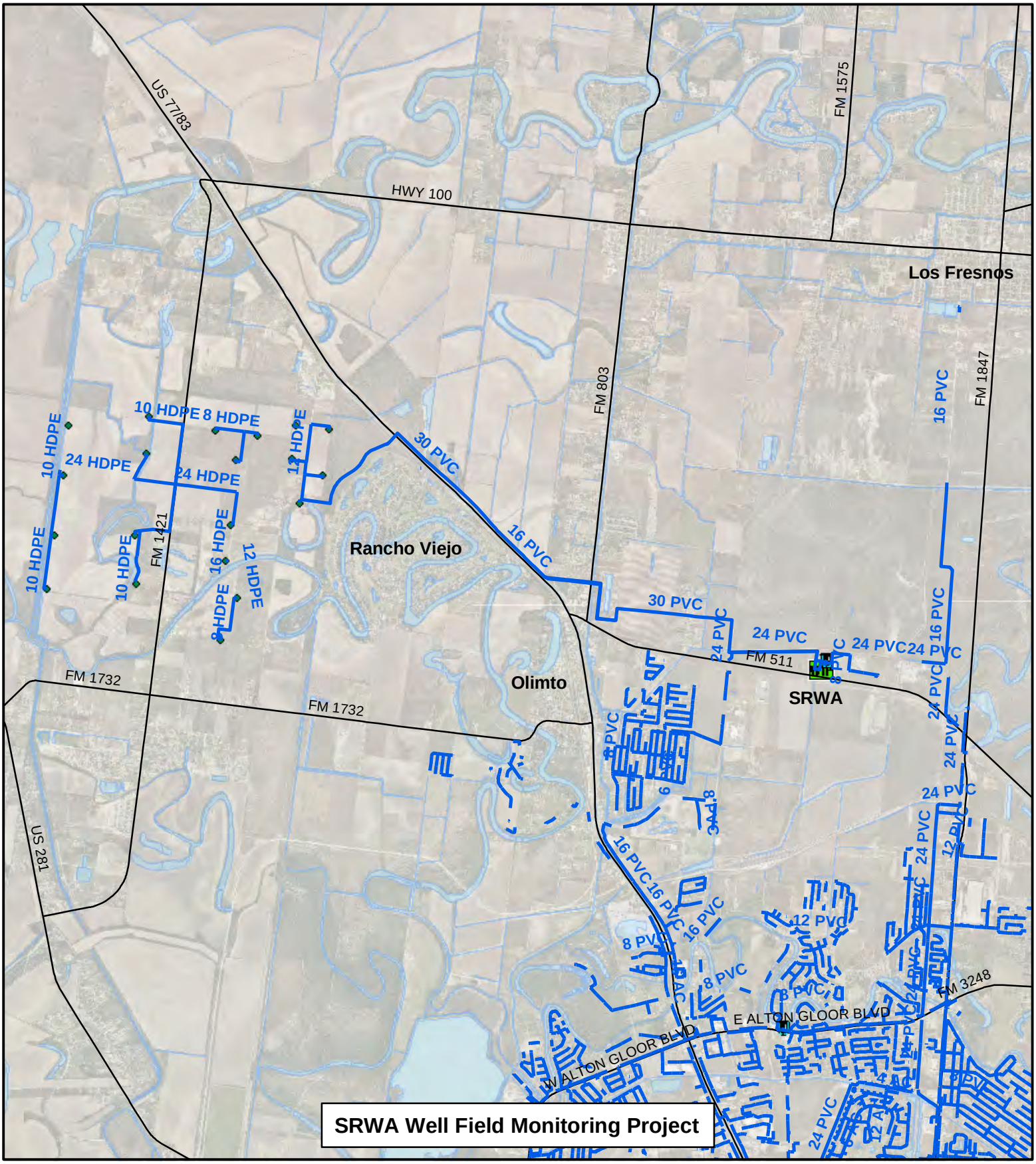
THIS MAP IS FOR REFERENCE ONLY

Southmost Regional Water Authority (SRWA) - Service Area



N
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1 inch = 5,500 feet

Legend

Water Mainline

BROWNSVILLE
PUBLIC UTILITIES BOARD

Drawn by: LGM

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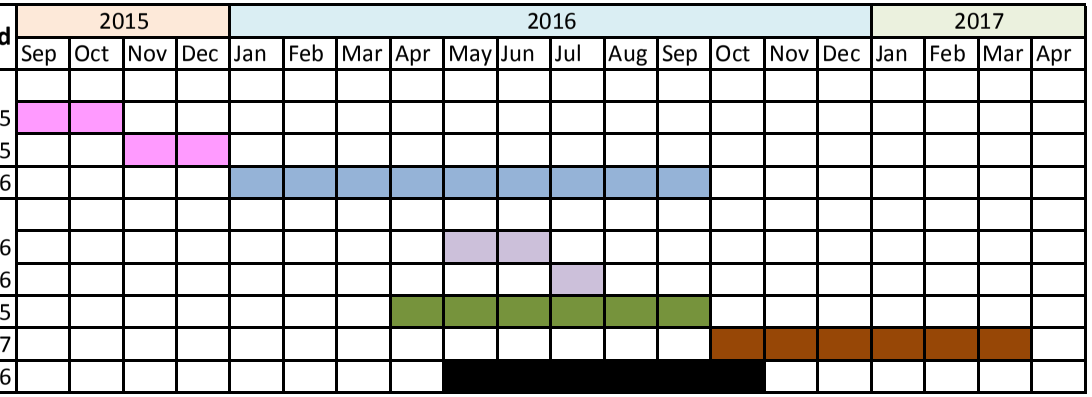
THIS MAP IS FOR REFERENCE ONLY

Proposed Implementation Schedule for Brownsville Public Utilities Board Well Field Monitoring Project

Task	Description	Start	Duration (days)	End
1	Purchase Install Transducers			
1.1	Purchase	9/1/2015	60	10/31/2015
1.2	Install	10/31/2015	60	12/30/2015
2	Single/Multi-Well Tests	1/2/2016	272	9/30/2016
3	Develop Monitoring Program			
3.1	Preparation	5/1/2016	60	6/30/2016
3.2	Training	7/1/2016	30	7/31/2016
4	Custom Software	4/1/2015	182	9/30/2015
5	Groundwater Flow Model	10/1/2016	181	3/31/2017
6	Upsize Pump	1/1/2016	181	6/30/2016



WATER CONSERVATION AND DROUGHT CONTINGENCY PLAN

Prepared By:

Southmost Regional Water Authority
Brownsville, Texas

May 2014

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 12, 2014

Mr. Enrique G. Najera
Southmost Regional Water Authority
PO BOX 3270
Brownsville, TX 78523-3270

Re: Administrative Review
Southmost Regional Water Authority's 2014 Drought Contingency Plan

Dear Mr. Najera,

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the above referenced Drought Contingency Plan. The plan required by TCEQ rules in Title 30 Texas Administrative Code (TAC) Chapter 288, was received on April 30, 2014.

Title 30 TAC Chapter 288.30(6) states:

> **Wholesale public water suppliers shall submit a drought contingency plan meeting the requirements of Subchapter B of this Chapter to the executive director.**

The TCEQ records indicate that the Southmost Regional Water Authority is a wholesale provider.

The submitted plan meets the minimum requirements for wholesale water use as defined in the TCEQ Rules, Title 30 TAC Chapter 288, and the plan is declared administratively complete.

Please be advised that in accordance with Title 30 TAC Chapter 288, the next revision of Drought Contingency Plans shall be updated, adopted, and submitted to TCEQ no later than May 1, 2019. Additionally, any future revised Drought Contingency Plan shall be submitted to TCEQ within 90 days of adoption.

Should you have any questions, please contact Jade Rutledge at (512) 239-4559.

Sincerely,

Chris Loft, Team Leader
Resource Protection Team
Water Rights Permitting and Availability

Southmost Regional Water Authority

Brackish Groundwater Treatment Facility

WATER CONSERVATION

AND DROUGHT CONTINGENCY PLAN

May 2014

Prepared by
Water/Wastewater Engineering, Planning, & Treatment Division

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SOUTHMOST REGIONAL WATER AUTHORITY
WATER CONSERVATION AND DROUGHT CONTINGENCY PLAN

SECTION 1 INTRODUCTION

The Water Conservation and Drought Contingency Plan (WCDC Plan or Plan) presented herein was prepared and adopted by the Southmost Regional Water Authority (SRWA) pursuant to the provisions of Texas Administrative Code Chapter 288, Water Conservation Plans, Guidelines, and Requirements. This Plan contains conservation goals, and the specific strategies for attaining these goals, that will improve water use efficiency and reduce long-term water demands. Water Conservation Elements are presented in Section 3 of this plan. The Drought Contingency Plan, which implements strategies to reduce water demands during water emergency conditions, is presented in Section 4. Supporting SRWA's utility profile data and documents are contained in the appendices.

The updated and SRWA Board approved Water Conservation and Drought Contingency Plan will be submitted to the Texas Water Development Board (TWDB) and the Rio Grande Regional Water Planning Group (Region M).

SECTION 2 SRWA UTILITY PROFILE, SYSTEM EVALUATION AND GOALS

2.1 SRWA WATER SUPPLY SYSTEM AND USE CHARACTERISTICS

The Southmost Regional Water Authority (SRWA) was created under provisions of Section 1, Chapter 511, Acts of the 67th State of Texas Legislature, Regular Session, 1981 for the purpose of developing alternative water supply strategies for the member entities. The Authority is a conservation and reclamation district organized pursuant to Article XVI, Section 59 of the Texas Constitution. SRWA currently provides treated water supply, from a subsurface brackish groundwater source, using Reverse Osmosis (RO) membrane technology.

The SRWA remained dormant until the year 2000 when it was activated to study the possibility of using brackish groundwater as an alternative water source due to fluctuating supply available from the Rio Grande River. Underground testing on the

test well sites, completed in May 2002, projected a yield of 8.5 million gallons a day (MGD) of brackish water supply source to a new treatment facility. A subsequent study in 2010 indicates that the well field could produce 16 MGD while reserving at least 30 percent of available drawdown after 30 years. Construction of the well field, raw water transmission line, water treatment plant, and water distribution lines was completed in June 2004.

The current design capacity of the SRWA Brackish Groundwater Treatment Facility is 7.5 million gallons per day (MGD), which consists of 6.0 MGD through reverse osmosis (RO) membrane treatment and an additional 1.5 MGD bypass (blend) flow. The SRWA facility is under construction to add microfiltration membrane pretreatment to reduce arsenic and iron concentrations in the groundwater prior to RO membrane treatment. The microfiltration project will also expand production capacity to the facility. Upon completion, SRWA will have a production capacity of up to 11.0 MGD. Construction is scheduled to be completed during 2015.

SRWA is a regional facility that provides drinking water to its member entities based on the following percentage of ownership:

- Brownsville Navigation District: 2.10 %
- Brownsville Public Utilities Board: 92.91 %
- City of Los Fresnos: 2.28 %
- Town of Indian Lake: 0.20 %
- Valley Municipal Utility District #2: 2.51 %

The water service area, shown in Figure 1, covers approximately 184 square miles. As shown in Appendix A: Water Utility Profile, in 2013 the SRWA water system consisted of 3 wholesale customers. The current population served by SRWA is estimated to be 50,052 (Appendix A: Utility Profile, Section 1 A).

SRWA's water record management system consists of monthly reports of water pumped from the Rio Grande Alluvium to a single water treatment plant and water system distributions. SRWA has water supply contracts with all five member entities. SRWA is restricted from obtaining retail service customers and does not currently have a Certificate of Convenience and Necessity (CCN).

Since Brownsville Public Utilities Board is 92.91% owner of SRWA, BPUB included the SRWA system as part of the latest Water Distribution System Audit completed in December 2010. The water audit determined the current volume of water loss to identify the various causes of loss, quantities, and actions and programs to reduce system losses. The audit resulted in several recommendations implemented by BPUB. By 2013, the metered ratio improved to about 86%; a net non-revenue water of approximately 13.5%. SRWA regularly performs visual inspections along the raw water lines and distribution lines for leak detection and repair to minimize water losses.

2.1.1 SRWA RAW WATER SYSTEM AND USE

SRWA uses brackish groundwater from the Rio Grande Alluvium for its water supply. No surface water rights are associated with SRWA, and the SRWA provides an alternative water supply to reduce dependence on the Rio Grande River. The SRWA brackish groundwater treatment facility, with its current design capacity of 7.5 MGD, provides an equivalent volume of approximately 7,800 acre-feet of treated water per year. After construction of the microfiltration pretreatment and expansion project is completed in 2015, the SRWA will have a capacity of approximately 11,400 acre-feet of treated water.

The well field is located west of the Valley Municipal Utility District #2, or Town of Rancho Viejo, as shown in Figure 2. It is bounded by Expressway 77/83 to the north, FM 1732 to the south, and Cameron County District No. 20 Main Canal to the west. The well field consists of 20 wells having submersible pumps spaced approximately 1,500 feet to 2,500 feet apart. The pump and down hole accessories are stainless steel to deal with the corrosiveness of the brackish groundwater. The groundwater is collected via 8,465 lineal feet (lf) of 8" HDPE, 11,506 lf of 10" HDPE, 9,326 lf of 12" HDPE, 7,970 lf of 16" HDPE, 1,060 lf of 18" HDPE, 5,882 lf of 24" HDPE, 2,812 lf of 30" HDPE, and 31,020 lf of 30" PVC DR-18 raw water pipe and discharges directly into the SRWA Water Treatment Plant.

2.1.2 SRWA TREATED WATER SYSTEM AND USE

SRWA completed original construction of the well field, raw water transmission lines, water treatment plant, and water distribution lines in June 2004. The brackish water

treatment plant was built on 17 acres located on FM 511, approximately 1.3 miles west of Paredes Line Road (FM 1847). Current pretreatment is limited to scale inhibitor addition for salts scale control and cartridge filtration for removal of particulate matter. Construction is underway to provide microfiltration membrane pretreatment to reduce arsenic and iron levels in the raw water prior to reverse osmosis (RO) membrane treatment.

The RO membrane treatment process has a permeate water capacity of 6.0 MGD. SRWA is designed to blend 1.5 MGD of groundwater from the well field with permeate from the RO membrane system for a total combined capacity of 7.5 MGD. After completion of the microfiltration and expansion project in 2015, production capacity will be up to 11.0 MGD. Concentrate disposal is handled by a 16" pipeline discharging to an existing drainage ditch running parallel to the north boundary of the property. Existing post-treatment process consists of pH adjustment using caustic soda, addition of calcium chloride for water stabilization, and chloramines (chlorine with ammonium sulfate) for disinfection. The water plant also has a clearwell followed by a 7.5 million gallon ground storage tank. SRWA has a high service pump station to distribute water to Valley Municipal Utility District #2 (VMUD2), City of Los Fresnos, and Brownsville Public Utilities Board. SRWA provides supplemental water to the member entities' existing water treatment plants. SRWA peak day demand requirements are accommodated by the high service pump station and the 7.5 million gallon ground storage tank.

The water distribution system consists of approximately 23,482 lf of 16" PVC DR-25 pipe, 5,482 lf of 24" PVC DR-25 pipe, and 16,398 lf of PVC DR-18 pipe for a total length of approximately 8.6 miles, and the system operates at a pressure between 73 psi and 85 psi. The entire distribution system is in the same pressure zone because of the flat topography, and a minimum pressure of 73 psi is required to feed the VMUD2 distribution system.

SRWA has proven to be a successful alternative water supply source to reduce additional diversions from the Rio Grande. SRWA is a regional facility and its treated water customer classes are entirely wholesale. SRWA supplies treated water to three wholesale customers: Brownsville Public Utilities Board, Valley Municipal Utility District #2, and City of Los Fresnos. All three water suppliers have a direct connection with the SRWA water distribution system. A master meter for VMUD2 is

located on Carmen Rd at Expressway 77/83, and a master meter for Los Fresnos is located at their surface water treatment plant. All remaining flows are unmetered and enter the BPUB water distribution system. SRWA's average annual water flows distributed to each owner are included in Section I E of the Utility Profile located in Appendix A.

The Brownsville Public Utilities Board is the largest user. Between 2009 and 2013, BPUB accounted for 93.2% of all SRWA water. The City of Los Fresnos and Valley Municipal Utility District #2 received 3.8% and 3.0%, respectively. The Brownsville Navigation District receives their portion of SRWA water through the BPUB water distribution system. SRWA can deliver water to the Town of Indian Lake through the City of Los Fresnos water distribution system. However, the Town of Indian Lake is currently receiving water from East Rio Hondo Water Supply Corporation. The Town of Indian Lake and the City of Los Fresnos have an inter-local agreement for Los Fresnos to receive Indian Lake's share of the SRWA water.

Water losses within the SRWA raw water and distribution systems have been accounted for as part of the Brownville Public Utilities Board Water Distribution System Audits completed in December 2007 and 2010. BPUB is in the process of implementing projects to reduce water losses, which include meter testing and replacement, leak detection and repair, and fire hydrant repair and/or replacement program. Because BPUB is the larger user of SRWA water, the water losses in the Utility Profile (Section II D) were estimated based on BPUB water system losses. In 2013, the water losses on retail water were 11%.

Per capita water usage based on treated water production provides a better measure of water use per person. The TWDB Water Conservation Task Force recommended that public water suppliers set a long-range gallon per capita per day (gpcd) goal of 140. Since SRWA is strictly a wholesale water supplier, per capita water usage goals are discussed in the retail water suppliers' Water Conservation Plans. VMUD2, Los Fresnos, and Brownsville Public Utilities Board have existing Water Conservation Plans and/or Drought Contingency Plans in place, and are included in Appendices B, C, and D for reference.

2.1.3 SRWA WASTEWATER TREATMENT

The Southmost Regional Water Authority does not provide wastewater service. All wastewater collection and treatment is operated and maintained by the various member entities on an individual basis.

2.1.4 SRWA POPULATION AND WATER USE PROJECTIONS

SRWA does not have a Certificate of Convenience and Necessity and only provides wholesale water on a contract basis. The member entities are Brownsville Public Utilities Board, City of Los Fresnos, Valley Municipal Utility District #2, Brownsville Navigation District, and Town of Indian Lake. The regional service area, which comprises all of the member entities, covers approximately 184 square miles. The estimated population is based on the proportion of the entity's portion of water supply that is provided by SRWA. For example, during 2013, SRWA provided 22.7% of BPUB's water supply. Therefore, 22.7% of the BPUB population was estimated to be served by SRWA. This proportionate calculation was followed for Valley MUD2 and the City of Los Fresnos. The proportionate populations were totaled together to approximate the population served by SRWA (Appendix A: Utility Profile, Section I, A 2). The estimated population served by SRWA in 2013 was 50,052.

The projected future populations served by SRWA were based on estimated incremental expansion phases that may occur in the next 50 years at the SRWA facility. For example, the expansion project currently in progress will increase capacity from 7.5 MGD to up to 11.0 MGD, and be able to serve a population of 64,430. In 2020, SRWA is expected to remain at the 11.0 MGD production capacity. Therefore, the projected population for 2020 is expected to remain at 64,430. In 2060, the projected population served by SRWA is estimated to be 159,480, based on a plant capacity of 25 MGD. Population projections for the SRWA service area are based on the 2011 Region M Regional Water Plan Projections for 2010-2060. The population projections are listed in Appendix A: Utility Profile Section 1, A.

During 2013, the average daily water use was 5,618,000 gallons with a peak day use of 7,166,000 gallons, representing 1.28 peak-to-average ratio. Using the cumulative proportionate populations served by SRWA and the distributive flows to the member entities, an average daily per capita demand was calculated. The per capita water

use rate and the estimated incremental future plant capacity expansions were used to project the population served and the total water demand through Year 2023.

2.2 SRWA SYSTEM EVALUATION

SRWA has evaluated various components of the water supply system which are identified in the following sections.

2.2.1 RAW WATER SUPPLY TO MEET PROJECTED WATER DEMANDS

The SRWA water demands are projected to increase over the next 10 years. Currently, SRWA's raw water supply is obtained from a well field located west of Brownsville capable of producing 16 million gallons per day (MGD) of brackish groundwater. The SRWA well field has approximately 20 wells, spaced 1,500 to 2,500 feet apart. Three of the 20 wells are planned to be replaced with a new pump and variable frequency drive (vfd) motor to produce a higher flow rate for the microfiltration pretreatment and well field expansion project. Securing additional well sites and enhancing existing well production of raw water supplies and implementing measures to reduce water demands are actions that SRWA member entities plans to undertake to ensure supply meets demands.

2.2.2 UNMETERED WATER USED FOR BENEFICIAL PURPOSES

The unmetered unbilled water used for beneficial purposes such as firefighting and training, flushing mains and sanitary sewer, processing water at water treatment plants, and street cleaning in the SRWA service areas can contribute to water losses at the owner entities' water systems. SRWA is a wholesale supplier with system interconnections to deliver water to the owner entities' systems. SRWA relies on the owner entities to maintain records on authorized unmetered uses of all known beneficial water use.

2.2.3 IDENTIFICATION, MEASUREMENT AND REDUCTION OF RAW WATER LOSSES

Raw water is conveyed from the well field to the water treatment plant using a 30-

inch PVC DR-18 pipeline to prevent potential water losses due to evaporation. SRWA staff regularly performs visual inspection of raw water pipelines to check for leaks and quickly repair any identifiable areas of concern. SRWA also makes regular efforts to identify and eliminate, or disconnect, any illegal connections to the raw water system. Furthermore, when a break occurs, water losses are estimated to document unaccounted for water losses, and every effort is made to minimize water losses during these incidents.

2.2.4 IDENTIFICATION, MEASUREMENT AND REDUCTION OF TREATED WATER LOSSES

SRWA participates in owner entities commitment to reduce treated water losses. All water distribution piping in SRWA consists of either DR-25 or DR-18 polyvinylchloride pipe (PVC) pipe. It is placed underground with a minimum four foot cover, and include steel casing, where applicable, to prevent damage from traffic loads. SRWA staff regularly performs a visual inspection of the water distribution system to check for leaks and quickly performs repairs on any identifiable areas of concern. Valves are exercised regularly to ensure proper operation in times of need. SRWA also makes regular efforts to identify and eliminate, or disconnect, any illegal connections to the treated water distribution system. Furthermore, when a break occurs, water losses are estimated to document unaccounted for water losses, and every effort is made to minimize water losses during these incidents.

2.2.5 WATER CONSERVATION LANDSCAPING PROGRAMS

SRWA conforms to the landscaping ordinance adopted by the City of Brownsville in 1999. The landscaping ordinance includes two requirements that promote water conservation. The ordinance states the following: "No more than 50 percent of the area of the visible "landscape improvements" shall include lawn(s) containing grass." SRWA promotes water conservation by using native plants for parking lot trees, buffer trees, shrubs, and ground cover.

2.2.6 REQUIREMENT THAT WHOLESALE CUSTOMERS IMPLEMENT WATER CONSERVATION PLAN

Section 288.5 of the TCEQ rules and regulations requires that wholesale water supply

contracts entered into or renewed by the SRWA after official adoption of this Water Conservation Plan contain provisions that the purchaser adopt the terms and provisions of this Plan. The Southmost Regional Water Authority has existing contracts with all five member entities, consisting of Brownsville Public Utilities Board, Valley Municipal Utility District No.2, Brownsville Navigation District, City of Los Fresnos, and Town of Indian Lake, which require the Participating Customers to take all actions necessary for the adoption of Water Conservation and Drought Contingency Plans required by applicable law, including 30 Texas Administrative Code § 288.1 et. seq., and as required by the Texas Water Development Board. The member entities and the Authority covenant to amend such plans from time to time to comply with applicable laws and to comply with such plans during the term of the Contracts. SRWA will require any future wholesale water customer to adopt the terms and provisions of this Water Conservation Plan.

2.3 SRWA WATER CONSERVATION GOALS

Based on an examination of SRWA's water use profile, supply, and system evaluation, SRWA adopts the following water conservation goals:

2.3.1 GOAL ONE: REDUCE OVERALL REGIONAL SURFACE WATER DEMANDS

Short-term drought-related water shortages are often the result of both decreased water supply due to below normal rainfall and increased water demand, which can speed the depletion of water supplies. Prior to construction of the water treatment plant in 2004, the regional area was entirely dependent on surface waters from the Rio Grande. Prior drought conditions have proven that alternative water supplies should be utilized to reduce the service area's dependence on the river. SRWA will make efforts to assist member entities with reducing projected surface water demands. Surface water demands can be significantly reduced through increased utilization of groundwater resources.

Seawater desalination can also provide an alternative water supply source and further reduce dependence on surface waters from the Rio Grande. SRWA participates in forums that share technical information about membrane technology, water planning, salt management, and power supply management issues, all of which are essential for

a successful seawater desalination project.

There is a limited understanding of how groundwater availability and groundwater quality varies with depth and location in the SRWA member entities' service areas. There is a need to improve the scientific understanding of groundwater availability and sustainability, improve the understanding of groundwater flow paths, and increase the knowledge of how water quality varies by depth and spatially in shallow alluvial groundwater aquifers, the Rio Grande, deeper groundwater aquifers, and the Gulf of Mexico within the service area.

In 2002, SRWA performed a groundwater availability assessment and planning study of the SRWA well field. The study and computer simulations indicated that the SRWA well field was capable of producing at least 8.5 MGD for 30 years or more with or without recharge. In 2010, a subsequent study was performed to determine if the well field could increase the raw water supply. The 2010 study updated the 2002 groundwater model and projected that the well field could produce 16 MGD while reserving at least 30 percent of available drawdown after 30 years.

SRWA may perform an assessment of hydrologic conditions and ground water resources to obtain more detailed data pertaining to site specific conditions and the long-term hydraulic characteristics of the aquifer. The five-year goal is to obtain more detailed data pertaining to conditions of the groundwater aquifer, such as water level monitoring and water quality monitoring. The ten-year goal is to update the availability model to better understand long-term availability and begin preliminary design for a brackish water treatment plant expansion. This goal may require further test drilling and/or long term monitoring of the 16 MGD well field. Additional production could possibly be acquired by increasing pump capacities in existing wells, developing the Primary Zone, developing brackish groundwater supplies in the underlying Beaumont/Lissie Formations, or through the lateral expansion of the Secondary Zone well field.

Additionally, SRWA has 10 years of proven success in brackish desalination using membrane technology. Recent seawater desalination studies have proven that membrane technology can be utilized for a regional seawater desalination facility in the area. SRWA is working towards expanding its treatment capabilities to include seawater desalination.

Future SRWA expansions will reduce the need to divert additional flows from the Rio Grande River.

2.3.2 GOAL TWO: REDUCE OVERALL MUNICIPAL WATER DEMANDS

SRWA will participate and encourage member entities to aggressively continue and/or concentrate additional efforts on the following water conservation strategies:

(a) Public awareness and education on the need for water conservation
(b) Universal metering, meter repair and replacement
(c) Control of unaccounted-for water use
(d) Leak detection and repair
(e) Water conservation landscaping
(f) Customer service pressure control

The five-year goal is to help member entities reduce residential water consumption to less than 65 gallons per capita per day (gpcd) by implementing additional water conservation measures. The ten-year goal is to help member entities reduce residential water demand to less than 60 gpcd.

SRWA participates in BPUB's working group to implement the Conservation Plan. The water conservation working group consists of representatives from various departments, including: water production, water operations, water distribution, customer service, finance, and communications and public relations. The working group is responsible for developing, planning, and implementing the different components of the plan. In addition, the working group gathers relevant data and information to produce reports to track the progress and determine savings of the water conservation programs and projects.

2.3.3 GOAL THREE: ACCOUNTING FOR AND REDUCING TREATED WATER LOSSES

SRWA's goal is to help member entities to account for and reduce treated water losses. SRWA tests the master meters to verify accuracy in measuring water delivered to the member entities. SRWA performs routine visual inspections of the treated transmission waterline to detect and repair leaks in a timely manner such as to minimize water losses.

SRWA infrastructure is included as part of the BPUB Water Distribution System Audit completed in December 2007 and 2010. The principle actions needed to accomplish this goal include: 1) Extensive meter replacement, 2) Main and service line replacement, and 3) Leak detection and repair. SRWA continues to participate in projects and programs targeted to reduce water losses based on the recommendations of the Water Distribution System Audit.

SECTION 3 WATER CONSERVATION PLAN ELEMENTS

The SRWA adopts the water conservation strategies presented below, pursuant to 30 TAC, Chapter 288, to achieve the goals set forth in Section 2.3 of this report. The following planning elements are consistent with 30 TAC Chapter 288 guidelines:

3.1 PURSUE ALTERNATIVE WATER SUPPLY STRATEGIES

SRWA will continue to develop brackish water as an alternative to the depleting Rio Grande supply. SRWA has proven there is an economically feasible source of brackish ground water that can be treated to supplement the current source of the Rio Grande water. Key elements in the determination of its viability included:

(a) Source of groundwater is independent of the Rio Grande flows.
(b) Treatment of brackish ground water is competitive with the treatment of surface water.
(c) Significant water rights savings per acre foot.
(d) Water quality is enhanced through the reverse osmosis treatment.

SRWA shares data and participates in groundwater studies to develop a better understanding of hydrologic conditions and groundwater resources in the regional service area. Such studies contribute to the regional water planning efforts. SRWA will also continue to participate in seawater desalination studies as a potential alternative water supply strategy for the region.

3.2 EDUCATION AND PUBLIC INFORMATION

SRWA has been proactive with regard to water conservation awareness and education. Area residents and businesses have received extensive information from a variety of sources on the critical drought situation that the entire Rio Grande Valley

has faced in recent years and on what can be done to assist in alleviating the situation. Through member entities' advertising, editorials, marketing, media contacts, public relations, speaking engagements, presentations, and tours, SRWA has reached individuals from all age groups and of all social classes with respect to the importance of conserving one of our most precious resources – water.

SRWA will participate in an active Water Conservation Education Program to raise public awareness in an effort to reduce system-wide water use. The theme of the Water Conservation Education Program has been "Be Water Smart." The program includes public workshops, classroom presentations, radio, television and newspaper advertising, social media outreach, and distribution of water conservation material at public functions, at SRWA's administration building and via email. Presentations, conservation material, and advertising are available in English and Spanish.

As part of this Water Conservation Plan, SRWA commits to continue to inform its customers of various recommended methods for implementing a reduction in water consumption. Generally, residential customers consume the majority of water within member entities' service area; therefore, the target audience for education and information has primarily been, and will continue to be, this major user group. Tours are provided for groups that are interested in seeing how water is treated, and presentations are made to school children on the importance of conserving water. Students participate in SRWA plant tours on a yearly basis.

The SRWA will participate with owner entities' in continuing to implement a Water Conservation and Drought Awareness Campaign consisting of the following activities:

(a) Annual Water Conservation Public Information Campaign:

The Annual Water Conservation Public Information Campaign includes the following:

(1) Media:

Press releases, editorials and/or advertisements targeting one particular household-water using utility or item, and methods for conserving water (dishwasher, shower, toilet, and laundry) will continue to be submitted to the local media for possible

publication.

(2) School and Community Education:

SRWA will assist owner entities in expanding the current water conservation school education program to include school presentations to promote water conservation. The school education program targets grades 1 through 6.

The goal of the Water Conservation Public Information Program is to provide consumers with water conservation information and materials four times each year as recommended in the TWDB's Water Conservation Best Management Practices Guide.

(b) Drought Awareness Campaign:

In addition to the Water Conservation Public Information Campaign, during drought conditions, SRWA will participate in implementing a drought awareness campaign. The campaign could include radio and/or newspaper advertising, posters for distribution. Press release(s) and/or editorial(s) for local newspapers, which detail the kickoff of the annual drought awareness campaign, will be included at the time of the campaign rollout. The campaign could also include radio and television advertisements.

3.3 UNIVERSAL METERING, METER REPAIR AND REPLACEMENT

SRWA has a policy that all water users and water supply sources be metered. This promotes conservation in two ways. First, metering results in lower water use, since the customer becomes aware of the amount of water used through the effect it has on the water bill. Second, metering is an aid to detecting leaks on both sides of the meter.

Maintenance programs for water meters are essential to ensuring that an accurate measure of system integrity is being obtained. SRWA has production (master) meters at its water treatment plant, and meter accuracy is tested annually as needed. SRWA monitors the difference between the production and distribution meters to determine when meters need to be tested and replaced based on low consumption, leaks, high consumption (wear and tear on the meter), and age. Meters are replaced when accuracy limits are either below 95% or above 101.5%.

SRWA plans to implement the following in reference to water metering:

(a) Continue to test production (master) meters annually;
(b) Establish a Meter Repair and Testing Program and Procedures by the end of the first year of implementation of the Conservation Plan. SRWA documents and reports meter testing, repairs, and replacements on a monthly basis.

3.4 CONTROL OF UNACCOUNTED-FOR WATER USE

SRWA will implement the following to control and measure unaccounted water use:

(a) SRWA will continue reporting water uses on a monthly basis in the operational and financial report.
(b) SRWA will continue gathering and reporting non-revenue water use such as line flushing and training.
(c) SRWA will be included as part of BPUB water audit, which is required to be conducted at least every five years. SRWA will implement recommendations identified during the water audits, including the most recent one completed in December 2010.

3.5 LEAK DETECTION AND REPAIR PROGRAM

The best way to minimize leaks it to use high quality materials to construct water system improvements, assure that they are properly installed, and to maintain all components in good operating condition. Therefore, good water system construction standards and a program of water main replacement in areas where leaks are recurrent will result in a reduced number of leaks and a reduction in water losses.

A target in the 10-year capital improvement plan is to upgrade the existing header system at SRWA. The existing pipe is fiberglass material, and it has resulted in recurring pipe breaks and several shutdowns at the water plant. SRWA is proposing a project, pending funding, to replace the fiberglass piping.

SRWA will continue to undertake the following actions to prevent leaks and to locate those that do occur so they can be repaired quickly:

(a) Continue the Leak Detection Program of the raw water and treated transmission

systems and inspect all systems on a monthly basis.

(b) Continue Valve Maintenance/Location Program to facilitate system shut offs. The program includes annual inspection and operation of valves that are 12-inches or larger.

(c) Continue to use records of leak frequency as a guide to determine the cost effectiveness of line replacement. The records are used to help determine the waterline and improvement and replacement projects.

SRWA's 5-year goal is to decrease distribution system losses to less than 13%. The 10-year goal is to maintain the losses within those ranges. SRWA will continue to implement its leak prevention, detection, and repair program incorporating the above elements. SRWA documents and reports leak detection activity in the SRWA Operational and Financial Report.

3.6 WATER CONSERVATION LANDSCAPING

SRWA will undertake the following actions regarding water conservation landscaping:

(a) SRWA will make available at its offices educational resources related to outdoor water conservation.

(b) SRWA will participate in a Water Conservation Landscaping Education Program to promote reducing outdoor water use by the end of the first year of implementation of the Conservation Plan. The initial program will be limited to education and training.

3.7 CUSTOMER SERVICE PRESSURE CONTROL

By regulating water pressure to its customers, it is possible for the SRWA to reduce water consumption without compromising the quality of service. To ensure quality of service and water conservation, SRWA maintains pressure of 73 psi to 85 psi in the distribution system.

3.8 MEANS OF IMPLEMENTATION AND ENFORCEMENT

The Brownsville Public Utilities Board, being the System operator of the Southmost Regional Water Authority, will be responsible for the implementation

and enforcement of the Water Conservation and Drought Contingency Plan. Implementation and enforcement can be performed under Section 34-3 of the Brownsville Code of Ordinances. Section 34-3 stipulates that all utility service furnished shall be in accordance with and in compliance with the Code of Ordinances, state laws, and city ordinances, rules and regulations.

3.9 METHOD TO MONITOR THE EFFECTIVENESS OF THE PLAN

The effectiveness and efficiency of the water conservation program will be monitored on an ongoing basis by the SRWA staff. The member entities will continue to track per capita water use and water system losses to determine whether water reduction goals are being achieved. The water conservation program, including reporting and evaluation, will be coordinated through the BPUB. The BPUB will explore filling the position of Water Conservation Coordinator to work with SRWA staff in water production, water operations, water distribution, customer service, finance, and communications and public relations to coordinate implementation and evaluation of the plan. The SRWA will undertake any modifications that may be necessary to meet the needs of SRWA's customer base.

SECTION 4 DROUGHT CONTINGENCY PLAN

Since the Brownsville Public Utilities Board is 92.9% owner and System operator, the Southmost Regional Water Authority intends to follow the City of Brownsville Emergency Water Conservation Ordinance. In 1986, the Brownsville City Commission adopted the first Emergency Water Conservation Plan. As part of the commitment in the Water Conservation Plan, the BPUB reviewed the 1986 Emergency Conservation Plan in 2001. The process included solicitation of comments from large water users and the public. As a result, of those comments, changes were incorporated into the Plan, including the addition of a water-rationing program to be used during periods of severe water system emergencies. BPUB was also required to implement an education program on water conservation. The Emergency Water Conservation Plan/Ordinance (EWCO) was adopted by the City Commission in April 2002.

The purpose of the EWCO is to conserve and limit the demand of water during water emergencies. In addition, it provides for a water-rationing program to be used during periods of extended drought, acute water shortage, and/or water system emergencies. All persons, customers and/or property utilizing the Brownsville PUB's water system must fully comply with the terms and provisions of the Ordinance. Preference to water use and restrictions is not given to any customer or customer class.

The Brownsville City Code, Article VI, Section 34-193 establishes the City's policy in the event of shortages or delivery limitations in the Brownsville PUB's water system. Under City Code, the Brownsville PUB's General Manager, or his/her designee, and the Mayor of the City of Brownville, or his/her designee, shall have the authority to implement the Drought Contingency Plan and be responsible for initiation and termination of applicable drought response stages. The General Manager, or his/her designee, shall have the authority to implement the water use restrictions. SRWA shall follow the initiation and termination of applicable drought response stages as implemented by the BPUB General Manager.

The provisions of the Drought Contingency Plan apply to all persons, customers, and property utilizing water provided by the SRWA system, subject to provisions within the member entities' drought contingency plans. The term "person" and "customer" as used in the Drought Contingency Plan includes individuals, corporations, partnerships, associations, and all legal entities.

The water use restrictions imposed under this Drought Contingency Plan do not apply to reuse water sources, gray water, treated wastewater or water supply sources other than that provided by the Southmost Regional Water Authority system.

4.1 STAGE 1 – VOLUNTARY WATER CONSERVATION

Guidelines for Initiation:

Stage 1 will be automatically initiated on May 1 of each year. The SRWA General Manager may also initiate Stage 1 at other times during the year if one or more of the following conditions occur:

Condition 1:	The TCEQ Rio Grande Watermaster advises the Brownsville PUB that a water shortage is possible due to reduction of water levels in the Amistad and Falcon International Reservoirs; and/or
Condition 2:	The level of the United States' water stored in the Amistad and Falcon International Reservoirs reaches fifty-one percent (51%) or 1.66 million acre-feet as reported by the TCEQ Rio Grande Watermaster; and/or
Condition 3:	Line breaks, or pump or system failure due to hurricanes, flooding, freezes and/or some other natural or man-made cause may result in unprecedented loss of capability to provide service; and/or
Condition 4:	Peak demand on the SRWA's water distribution and/or treatment plant is nearing capacity levels and may place a strain on the system(s).

Guidelines for Termination:

Stage 1 of the Drought Contingency Plan will be automatically rescinded on September 30 of each year, unless one or more of the triggering conditions listed above have ceased to exist for a period of three (3) consecutive days.

Goal:

Achieve a voluntary reduction in water use on the SRWA system.

Voluntary Water Use Restrictions:

Under Stage 1, customers will be requested to voluntarily conserve water and voluntarily adhere to any or all of the following water use restrictions as requested by the SRWA General Manager or his/her designee:

(a) Recommend that all landscaped areas be irrigated on a twice per schedule (as discussed under Stage 2) and that such irrigation occur from midnight through 7:00 a.m. and from 7:00 p.m. through midnight or other such hours as determined by the General Manager, or his/her designee. City and Governmental Agencies as well as Public Parks and Public Gardens will adhere to general restrictions throughout this Drought Contingency Plan.
(b) Recommend irrigation of landscaped areas to minimize waste by means of a hand-held in capacity, hose-end sprinkler, irrigation system, computer controlled irrigation system, or drip irrigation held garden hose, soaker hose, hand-held bucket or water can, no larger than five (5) gallons system.
(c) Recommend that water customers practice water conservation and minimize or discontinue water use for non-essential purposes (as define in Stage 2 of this Plan).
(d) Recommend reductions in fire hydrant and sewer line flushing.
(e) No restrictions are recommended for fire-fighting and medical uses of water throughout this Drought Contingency Plan.

Actions to Be Taken by SRWA:

SRWA staff will work with major water users to voluntarily reduce water use where possible.

(a) SRWA staff will work with major water users to voluntarily reduce water use where possible.
(b) SRWA staff will conduct public information programs to educate customers and to enlist their support of voluntary water use restrictions. Alternative to non-essential water use, where available, will be suggested as a part of the public education program.

4.2 STAGE 2 - WATER SHORTAGE ALERT

Guidelines for Initiation:

The General Manager, or his/her designee, may initiate Stage 2 when one or more of the following conditions occur:

Condition 1: The level of the United States' water stored in the Amistad and Falcon International Reservoirs reaches twenty-five percent (25%) or 834,600 acre-feet as reported by the TCEQ Rio Grande Watermaster; and/or

Condition 2: Line breaks, or pump or system failure due to hurricanes, flooding freezes and/or some other natural or man-made cause will result in unprecedented loss of capability to provide service; and/or

Condition 3: Peak demands on the Brownsville PUB's water distribution and/or treatment plants are nearing capacity levels and will place a strain on the system(s).

Condition 4: Contamination of the water supply and/or transmission & distribution system due to hurricanes, freezes and/or some other natural or man-made cause may result in unprecedented loss of capability to provide service.

Guidelines for Termination:

Stage 2 of the Drought Contingency Plan may be rescinded when the conditions listed as triggering events have ceased to exist for a period of three (3) consecutive days. Upon termination of Stage 2, the restrictions imposed under Stage 1 remain operative unless also rescinded.

Goal:

The goal for Stage 2 is a five percent (5%) reduction in average daily water demands and a ten percent (10%) reduction in maximum daily water demands on the SRWA system.

Water Use Restrictions:

All restrictions/requirements enacted under Stage 1 will remain in effect during Stage 2. Any or all of the following water use restrictions, as determined by the General Manager, or his/her designee, will apply during Stage 2:

(a) Landscape irrigation will be limited to two (2) times per week based on the last digit of the service address and that such irrigation will occur from midnight through 7:00a.m. and from 7:00p.m. through midnight or other such hours as determined by the General Manager, or his/her designee.

Last Digit of Service Address	Watering Days
0 or 1	Monday, Saturday
2 or 3	Tuesday, Saturday
4 or 5	Wednesday, Saturday
6 or 7	Thursday, Sunday
8 or 9	Friday, Sunday

Properties having multiple addresses will be identified by the lowest address number. If no address exists, the General Manager, or his/her designee, will assign an address.

Landscape irrigation with a hand-held garden hose, soaker hose, hand-held bucket or water can, no larger than five (5) gallons in capacity, or drip irrigation system is allowed at any time.

(b) New landscaping plants (any member of the plant kingdom, including any tree, shrub, vine, herb, flower, succulent, groundcover, grass or turf species) may be irrigated any day during Stage 2 hours. Property owners will apply for a Landscape Irrigation Variance by submitting to the applicable retail water supplier by mail, facsimile, or e-mail their name, address where the new landscape is to be installed, and the date of installation. The retail water supplier will provide a confirmation letter granting the property owner the variance. All landscaping plants shall no longer be deemed new landscaping plants upon the passage of four (4) weeks since the date of planting. Property owners may reapply for an additional four-week variance, if required, for a total of an eight- week variance. Thereafter, landscape irrigation is permitted only on designated landscape watering days and times.

(c) Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle is prohibited, except on the designated landscape watering days. Such residential car washing will be allowed between the hours of midnight

through 10:00 a.m. and 7:00 p.m. through midnight or other such hours as determined by the General Manager or his/her designee. Residential car washing will be performed with a hand-held bucket or water can, not to exceed five (5) gallons in capacity, or a hand-held hose equipped with a positive shutoff nozzle for quick rinses. It is recommended that any vehicle not be washed more than two (2) times per month when this restriction is active during Stage 2 or a greater stage. Vehicle washing may be done at anytime on the immediate premises of a commercial vehicle wash facility. Vehicle washing may be exempted from these regulations if the health, safety, and/or welfare of the public are contingent upon frequent vehicle cleansing, such as garbage trucks and vehicles used to transport food and perishables. Fundraising car washes will fall under these same restrictions and are considered residential car washing within this Drought Contingency Plan.

(d) Water use restrictions for golf courses will be based on the water management plan developed by the golf courses and approved by the General Manager, or his/her designee.

(e) Restaurants will be prohibited from serving water to non-employees except when requested by the non-employee.

(f) The following uses of water are defined as non-essential and are prohibited:

(1) Washing any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas except to alleviate public safety and/or health hazards;
(2) Using water to wash buildings or structures for purposes other than immediate fire protection or in preparation for painting;
(3) Using water for dust control except to alleviate public safety and/or health hazards;
(4) Flushing gutters or permitting water to run or accumulate in any gutter or street;
(5) Failing to repair controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s).

Actions to Be Taken by SRWA:

(a) The SRWA will initiate public information alerts using both print and electronic media.

(b) The SRWA will work with civic groups, neighborhood associates, summer youth programs, and the like to encourage water conservation.

4.3 STAGE 3 - WATER SHORTAGE WARNING

Guidelines for Initiation:

The General Manager, or his/her designee, may initiate stage 3 of the Drought Contingency Plan when one or more of the following conditions occur:

Condition 1: The level of the United States' water stored in the Amistad and Falcon International Reservoirs reaches fifteen percent (15%) or 504,600 acre-feet as reported by the TCEQ Rio Grande Watermaster; and/or

Condition 2: Major line breaks, or pump or system failure due to hurricanes, flooding, freezes, and/or some other natural or man-made cause may result in unprecedented loss of capability to provide service; and/or

Condition 3: Peak demand on the SRWA's water distribution and/or treatment plant has exceeded capacity levels for 3 days and has placed a strain on the system. Without restraint, service to all utility customers cannot be guaranteed; and/or

Condition 4: Contamination of the water supply and/or transmission & distribution system due to hurricanes, freezes and/or some other natural or man-made cause will result in unprecedented loss of capability to provide service; and/or

Condition 5: The inability to maintain or replenish adequate volumes of water in storage to provide for public health and safety.

Guidelines for Termination:

Stage 3 of the Drought Contingency Plan may be rescinded when the conditions listed as triggering events have ceased to exist for a period of three (3) consecutive days. Upon termination of Stage 3, the restrictions imposed under Stage 2 and Stage 1 remain operative unless also rescinded.

Goal:

The goal for Stage 3 is ten percent (10%) reduction in average daily water demands and a twenty percent (20%) reduction in maximum daily water demands on the SRWA system.

Water Use Restrictions:

All restriction/requirements of Stage 1 and 2 will remain in effect during Stage 3. Any or all of the following water use restrictions, as determined by the General Manager, or his/her designee, will apply during Stage 3.

Surcharges may be imposed by the retail water suppliers at this stage of the Drought Contingency Plan to enforce the mandatory limits of water usage required in Stage 3**.**

(a) Landscape irrigation will be limited to **one time per week** based on the last digit of the service address and that such irrigation occur from midnight through 7:00 a.m. and from 7:00p.m. through midnight or other such hours as determined by the General Manager, or his/her designee.

Last Digit of Service Address	**Watering Days**
0 or 1	Monday
2 or 3	Tuesday
4 or 5	Wednesday
6 or 7	Thursday
8 or 9	Friday

Landscape irrigation with a hand-held garden hose, soaker hose, hand-held bucket or water can, no larger than fie (5) gallons in capacity, or drip irrigation system is allowed at any time.

(b) Residential car washing will be allowed once per week on the designated landscape watering day between the hours of midnight through 10:00 a.m. and 7:00p.m. through midnight or other such hours as designated by the General Manager, or his/her designee. Such washing will be performed with a hand-held bucket or water can, not to exceed five (5) gallons in capacity, or a hand-held hose equipped with a positive shutoff nozzle for quick rinses. Vehicle washing may be done at any time on the immediate premises of a commercial vehicle wash facility. Vehicle washing may be exempted from these regulations if the health, safety, and/or welfare of the public are

contingent upon frequent vehicle cleansing, such as garbage trucks and vehicles used to transport food and perishables.

(c) Fundraising car washes are prohibited.

(d) New landscaping plants may be watered twice per week on the designated landscape watering schedule discussed under Stage 2. Property owners will apply for a Landscape Irrigation Variance by submitting to their retail water supplier by mail, facsimile, or e-mail their name, address where the new landscape is to be installed, and the date of installation. The retail water supplier will provide a confirmation letter granting the property owner the variance. All landscaping plants shall no longer be deemed new landscaping plants upon the passage of four (4) weeks since the date of planting. Property owners may reapply for an additional four-week variance, if required, for a total of an eight-week variance. Thereafter, landscape watering is permitted only on the designated landscape watering days and times of Stage 3.

(e) Use of water from hydrants will be limited to fire fighting related activities, or other activities necessary to maintain public health, safety, and/or welfare, except that use of water from designated fire hydrants for construction purposes may be allowed under special permit from the retail water supplier.

(f) Use of water for the draining and refilling of any outdoor swimming pool or outdoor Jacuzzi-type poll is prohibited, except for water used to refill pools to a maintenance level, which have undergone repair or are newly constructed. In addition, refilling of an outdoor swimming pool or outdoor Jacuzzi-type poll to a maintenance level is allowed if the health, safety and/or welfare of the public are affected.

(g) Operation of any outdoor ornamental fountain or pond for aesthetic or scenic purposes is prohibited, except where necessary to support aquatic life or where such fountains or ponds are equipped with a water recirculation system.

(h) Hydrant flushing and sewer line flushing will be permitted only on an emergency basis.

(i) The use of water from scenic and recreational ponds and lakes (resacas) is prohibited. Pumping water into the resacas is prohibited.

Actions to Be Taken by SRWA:

The SRWA will initiate public information alerts using both print and electronic media.

4.4 STAGE 4 - WATER SHORTAGE EMERGENCY

Guidelines for Initiation:

The General Manager, or his/her designee, may initiate Stage 4 of the Drought Contingency Plan when it is determined that a water emergency exists based on one or more of the following conditions:

Condition 1: Major line breaks, or pump or system failures occur which cause unprecedented loss of capability to provide water service; or

Condition 2: Natural or man-made contamination of water supply and/or transmission& distribution system.

Guidelines for Termination:

Stage 4 of the Drought Contingency Plan may be rescinded when the conditions listed as triggering events have ceased for a period of three (3) consecutive days. Upon termination of Stage 4, the restrictions imposed under Stage 3, Stage 2 and Stage 1 remain operative unless also rescinded.

Goal:

The goal for Stage 4 is to restrict water usage to allow the SRWA system to recover from the emergency condition.

Water Use Restrictions:

All restrictions/requirements of Stage 1, 2, and 3 will remain in effect during Stage 4 of the

Drought Contingency Plan. Any or all of the following water use restrictions, as determined by the General Manager, or his/her designee, will apply under Stage 4.

The General Manager, or his/her designee, may combine water rationing with any or all of the Stage 4 water use restrictions as necessary. Water rationing surcharges may be imposed by the retail water supplier at this Stage of this Drought Contingency Plan.

(a) All landscape watering is prohibited.

(b) New plantings of landscaping plants are prohibited.

(c) The use of water for construction purposes under special permit is prohibited.

(d) The use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle not in the immediate interest of public health, safety, and/or welfare is prohibited.

(e) The filling, refilling, or adding of water to swimming pools and jacuzzi-type pools to a maintenance level is prohibited.

(f) The addition of water to a maintenance level in any outdoor or indoor fountain or pond for aesthetic or scenic purposes is prohibited except where necessary to support aquatic life.

Actions to Be Taken by SRWA:

The SRWA will initiate public information alerts using both print and electronic media.

4.5 WHOLESALE CUSTOMERS

SRWA is strictly a wholesale provider. All member entities shall adopt a water-rationing plan within their drought contingency plans, similar to the guidance in this document, to enforce the mandatory limits on water usage required in Stage 4 of the Drought Contingency Plan. SRWA includes a provision in every wholesale water contract entered into or renewed after adoption of the plan, including contract extensions, that in case of a water shortage in a water supply resulting from drought, accident, or other cause, the water to be distributed shall be divided among all customers pro rata, according to the amount of water to which each customer may be entitled to, so that preference is given to no one and everyone suffers alike (§11.039).

Water Rationing

In the event that water shortage conditions threaten the public health, safety, and welfare, the General Manager, or his/her designee, is authorized to ration water. The General Manager, or his/her designee, may initiate water rationing with any or all Stage 4 water use restrictions of this Drought Contingency Plan as necessary.

The purpose of the water-rationing plan is to implement and enforce the mandatory limits on water usage deemed necessary by the General Manager, or his/her designee.

When this water-rationing plan refers to allocation or water usage periods as "month", "monthly", "billing period", and the like, such references shall mean the period in the retail water suppliers' ordinary billing cycle which commences with the reading of a meter one month and ends with the reading of that meter which is usually the next month. The goal for the length of such period is thirty (30) days, but a variance of two (2) days, more or less, may exist as to certain meters. If a meter reader is prevented from timely reading a meter by any obstacle that is attributable to the customer, the original allocation shall apply to the longer period without modification.

The limits of this water-rationing plan shall be in effect for water used on or after the date of these limits; changes and other requirements are to become effective as published by the General Manager or his/her designee.

It shall be a defense to the termination of service that water used over the allocation amount resulted from loss of water through no fault of the customer (for example, a major water line break). The customer shall have the burden to prove such defense by objective evidence (for example, a written certification of the circumstances by a plumber). A sworn statement may be required of the customer. This defense shall not apply if the customer failed to:

(a) Take reasonable steps for upkeep of the plumbing system;

(b) Reasonable inspect the system and discover the leak;

(c) Take immediate steps to correct the leak after discovered; or

(d) Was in any other way negligent in causing or permitting the loss of water.

4.5.1 RESIDENTIAL CUSTOMERS WATER ALLOCATION

In the event that the General Manager, or his/her designee, initiates water rationing, the following guidelines will be used to ration water to residential water customers;

(a) Residential customers will be allocated up to 10,000 gallons of water per month.

(b) Under severe drought situations, the General Manger, or his/her designee, may establish a monthly allocation amount less than 10,000 gallons of water per month to residential customers.

4.5.2 NON-RESIDENTIAL CUSTOMERS WATER ALLOCATION

In the event that the General Manager, or his/her designee, initiates water rationing, a monthly water usage allocation shall be established by the General Manager, or his/her designee, for each non-residential customer as follows:

> Method of establishing allocation:
> The non-residential customer's allocation shall be approximately 60 percent (60%) of the customer's monthly average usage for the twelve-month period ending prior to the date of implementation of Stage 4.

Upon request of the customer or at the initiative of the General Manager, or his/her designee, the allocation may be reduces or increased if:

(a) The designated period does not accurately reflect the customer's normal water usage;

(b) Other objective evidence demonstrates that the designated allocation is inaccurate under pressure conditions.

4.6 FEES ASSESSED TO NON-RESIDENTIAL CUSTOMERS

The SRWA is authorized to adopt a list of charges and fees that may include:

(a) Fees for conducting water audits; these fees will be shared between the Brownsville PUB and its non-residential customers;

(b) Other fees as the SRWA may deem necessary to carry out the requirements contained herein.

These fees relate solely to the matters covered by this Drought Contingency Plan and are separate from other fees charged by the SRWA.

4.7 SURCHARGES

Member entities are encouraged to establish surcharges as follows. The surcharges are intended solely to regulate and deter the wasteful use of water during a period of serious drought to achieve necessary water conservation. The surcharges may become effective when the General Manager, or his/her designee, initiates Stage 3 of the Drought Contingency Plan. The water bills shall reflect the effective date of all such charges. The surcharges will remain in effect until Stage 3 of the Drought Contingency Plan is rescinded or until suspended by the General Manager or his/her designee. The SRWA expressly finds that drought conditions pose a serious and immediate threat to the general and economic health and welfare of its service area, and that the surcharges and other measures adopted herein are essential to protect the public health and welfare. The surcharges and connection fees herein are in no way to be considered rates to generate revenue.

It shall be a defense to the imposition of a surcharge hereunder, that water sued over the allocation amount resulted from loss of water through no fault of the customer (for example, a major water line break). The customer shall have the burden to prove such defense by objective evidence (for example, a written certification of the circumstances by a plumber). A sworn statement may be required of the customer. This defense shall not apply if the customer failed to:

(a) Take reasonable steps for upkeep of the plumbing system;
(b) Reasonable inspect the system and discover the leak;
(c) Take immediate steps to correct the leak after discovered; or
(d) Was in any other way negligent in causing or permitting the loss of water.

4.7.1 RESIDENTIAL WATER CUSTOMERS

(a) Stage 3 Residential Surcharges

The member entities' residential water customers shall pay a surcharge in addition to the normal charges for the consumption of water. The applicable retail water supplier, at the discretion of the General Manager or his/her designee to initiate surcharges, will reduce

the first residential rate block to 10,000 gallons and increase the rate of the last applicable rate block by fifty percent (50%). Consumption beyond a 10,000-gallon allocation level is deemed to be non-essential water use. Residential water customers shall pay the following surcharge:

Over 10,000 gallons .....1.50 times current rate

(b) Stage 4 Residential Water Rationing Surcharges

Effective with Stage 4, the SRWA General Manager, or his/her designee, may initiate water rationing and designate a water allocation level less than 10,000 gallons. A water-rationing surcharge shall be levied against all member entities' residential water Customers during Stage 4 and will represent a one hundred percent (100%) increase of the last applicable rate block. Consumption beyond the designated water allocation level is deemed to be non-essential water use. Residential water customers shall pay the following water-rationing surcharge:

Over water allocation amount.....2.00 times current rate

4.7.2 NON-RESIDENTIAL WATER CUSTOMERS

The term "Non-Residential" shall mean service that does not qualify as Residential, Wholesale, Fire Support, or Temporary Services, and specifically includes service to "Single Family Attached Dwellings" defined as any additional construction of buildings or real property appurtenances at a specific location that would create or tend to create additional demand for water or wastewater service.

(a) Stage 3 Non-Residential Surcharges

Member entities' non-residential water customers, at the discretion of the General Manager or his/her designee to initiate surcharges, shall pay a surcharge in addition to the normal charges for the consumption of water. This surcharge represents a twenty-five percent (25%) increase of the no-residential rate for any water used over an amount equal to eighty (80%) of the customer's monthly average usage for the twelve-month period ending prior to the date of implementation of Stage 3. Non-residential water customers shall pay the following surcharge:

All volumes in excess of monthly allocated amount …… 1.25 times current rate

Stage 4 Non-Residential Water Rationing Surcharges

Effective with Stage 4, the SRWA General Manager, or his/her designee, may initiate water rationing and designate a water allocation level for each non-residential customer. A water-rationing surcharge shall be levied against all member entities' non-residential water customers during Stage 4 and will represent a twenty-five percent (25%) increase of the non-residential rate for any water used over an amount equal to sixty percent (60%) of the customer's monthly average usage for the twelve-month period ending prior to the date of implementation of Stage 4. Non-residential water customers shall pay the following water-rationing surcharge:

All volumes in excess of water allocation amount …… 1.25 times current rate

4.7.3 IRRIGATION ACCOUNTS

At the discretion of the General Manager, or his/ her designee, to initiate surcharges, member entities' residential and non-residential customers having a separate irrigation account shall pay a surcharge in addition to the normal charges for the consumption of water. This surcharge shall be a fifty percent (50%) increase on the last residential rate block. Residential and non-residential water customers shall pay the following surcharge:

Monthly water consumption …… 1.50 times current rate

4.8 RECONNECTION FEES

Service discontinues due to violations of the provisions of this Drought Contingency Plan as outlined in section "Termination of Service" shall be restores only upon payment of a reconnection charge. In addition, suitable assurance must be given to the General Manager, or his/her designee, that the same action shall not be repeated while the Plan is in effect.

For member entities' residential and non-residential customers, water service shall be restored after the first disconnection upon payment of the current reconnection fees increased by 100% (or two times the current fees), plus any other outstanding utility

charges. For such customers after the second disconnection, water service shall be restored upon payment of the current reconnection fees increased by 200% (or three times the current fees), plus any other outstanding utility charges. If water service is disconnected a third time for such customer, water service shall not be restored until the SRWA re-enters a level of water conservation less than Stage 3.

4.9 ENFORCEMENT

No person shall knowingly or intentionally allow the use of water from the SRWA system for residential, commercial, industrial, agricultural, governmental, or any purpose in a manner contrary to any provision of this Drought Contingency Plan, or in an amount in excess of that permitted by the Drought Contingency Plan stage in effect at the time pursuant to action taken by the General Manager, or his/her designee, in accordance with the provisions of this Drought Contingency Plan.

Any SRWA employee, as designated by the General Manager, or his/her designee, may issue a warning to a person he/she reasonably believes to be in violation of this Drought Contingency Plan. During severe emergency situations, the General Manager, or his/her designee, may designate SRWA employees to assist in issuing citations to persons violating the restrictions of this Drought Contingency Plan.

A person, including a person classified as a water customer of the SRWA, in apparent control of the property where a violation occurs or originates shall be presumed to be a violator, and proof that the violation occurred on the person's property shall constitute a rebuttable presumption that the person in apparent control of the property committed the violation. Parents shall be presumed to be responsible for violations of their minor children and proof that a violation, committed by a child, occurred on property within the parent's control shall constitute a rebuttable presumption that the parent committed the violation, but any such parent may be excused if he/she proves that they had previously directed the child not to use the water as it was used in the violation and that the parent could not have reasonable known of the violation.

Any person who violates this Drought Contingency Plan is guilty of a misdemeanor and, upon conviction, shall be imposed the current fine for violation of an ordinance, as applicable to the retail supplier's service area. Each day that any one or more provisions in this Drought Contingency Plan is violated shall constitute a separate offense.

FILEMON VELA
34TH DISTRICT, TEXAS

COMMITTEE ON
HOMELAND SECURITY
RANKING MEMBER
SUBCOMMITTEE ON BORDER AND
MARITIME SECURITY
SUBCOMMITTEE ON COUNTERTERRORISM
AND INTELLIGENCE

COMMITTEE ON AGRICULTURE
SUBCOMMITTEE ON COMMODITY EXCHANGES,
ENERGY, AND CREDIT
SUBCOMMITTEE ON LIVESTOCK
AND FOREIGN AGRICULTURE

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SAN BENITO, TX 78586
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500 SOUTH KANSAS AVENUE
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(956) 520-8273

June 19, 2015

Ms. Irene M. Hoiby
Bureau of Reclamation
Financial Assistance Management Branch
P. O. Box 25007
Denver, CO 80225

Dear Ms. Hoiby:

I write to express my support for the Brownsville Public Utility Board's (BPUB) application for grant funds through the Bureau of Reclamation WaterSMART: Drought Resiliency Project Grants program. BPUB proposes to use grant funding to increase the reliability of the water supply system through infrastructure enhancements to improve water management techniques.

BPUB partners with the Southmost Regional Water Authority (SRWA), a consortium of six water conservation and reclamation entities in Southern Cameron County. The SRWA operates the largest regional desalination facility in Texas, conserving precious surface water resources in the lower Rio Grande Valley.

BPUB has identified a requirement to improve infrastructure. Needed improvements include new transducers, upsized pumps, and new groundwater wells. This project is consistent the Bureau of Reclamation WaterSMART Program's objectives and will bolster BPUB's sustainable water management strategy to meet the water needs of the Rio Grande Valley now and in the future.

I support BPUB's application, and I thank you for your consideration of their proposal.

Sincerely,

Filemon Vela
Member of Congress

THE SENATE OF TEXAS

P.O. Box 12068
Capitol Building, 3S.5
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(512) 463-0127

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Pharr, Texas 78577
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7 North Park Plaza
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700 East Kleberg Avenue
Kingsville, TX 78363
(361) 592-3252

SENATOR
EDDIE LUCIO, JR.

June 11, 2015

Bureau of Reclamation
Financial Assistance Management Branch
Attn: Ms. Irene M. Hoiby
P. O. Box 25007
Denver, CO 80225

Dear Ms. Hoiby:

Please accept this letter of support for the Brownsville Public Utilities Board's (BPUB) grant application submitted to the Bureau of Reclamation WaterSMART: Drought Resiliency Project Grants for Fiscal Year 2015. This grant will aid BPUB increase reliability of water supplies and water management through infrastructure improvements.

BPUB's project supports water and energy efficiency by conserving and using water efficiently, increasing the use of renewable energy, and improve water sustainability: a requirement set of the Bureau of Reclamation WaterSMART Program. Furthermore, BPUB's dependable wastewater management system has significantly culminated the Brownsville area by providing quality electric utilities and water services. As a major partner in the Southmost Regional Water Authority, BPUB has successfully conserved surface water resources in the Lower Rio Grande Valley and participating communities.

In review of the intended scope of work, I am confident this grant will have a beneficial impact to the Brownsville Public Utilities Board in efforts to achieve a sustainable water management system to meet our community's water needs. If I can be of further assistance, please do not hesitate to contact me.

Sincerely,

Eddie Lucio, Jr.
State Senator

ELJ/uag

Texas House of Representatives

Eddie Lucio III

District 38
Cameron County

June 19, 2015

Irene M. Hoiby, Grants Management Specialist
Bureau of Reclamation
Financial Assistance Management Branch
P.O. Box 25007
Denver, CO 80225

Dear Ms. Hoiby:

Please accept this letter of support for the Brownsville Public Utility Board's (BPUB) grant application to the Bureau of Reclamation WaterSMART: Drought Resiliency Project Grants for FY 2015. BPUB is seeking funding to increase the reliability of water supplies through infrastructure improvements and refine water management through measurement, modeling and tools.

BPUB is a major partner in the Southmost Regional Water Authority (SRWA), a conservation and reclamation district consisting of six entities in southern Cameron County. The SWRA, a regional desalination plant, the largest such facility in Texas, conserves precious water resources in the Lower Rio Grande Valley while ensuring participating communities of reliable, high-quality water for municipal and industrial use.

The BPUB project supports the Bureau of Reclamation WaterSMART Program's efforts to achieve a sustainable water management strategy to meet our community's water needs. If funded, I am confident the project will not only improve the reliability of water supplies but serve as a collaborative model of what can be accomplished through your Bureau's generosity.

Sincerely,

Eddie Lucio, III
State Representative

EL/ms

SRWA
Southmost Regional Water Authority

June 25, 2015

Bureau of Reclamation
Financial Assistance Management Branch
Attn: Shaun Wilken
PO Box 25007
Denver, CO 80225

RE: Funding Plan – Well Field Monitoring Project

Dear Mr. Wilken:

As required by the Department of the Interior Bureau of Reclamation, the Southmost Regional Water Authority is providing a funding plan for the completion of the Well Field Monitoring Project. Southmost Regional Water Authority is committed to complete the Well Field Monitoring Project and will use available resources. Funding is managed through the Capital Improvement Plan, and an amended budget for fiscal year 2015 has been approved to include funding for the project.

The $300,000 estimated grant funding from the Bureau of Reclamation Agency will support the purchase of equipment and the design and implementation of monitoring programs. The Brownsville Public Utilities Board, who serves as the Southmost Regional Water Authority's operator, hereby commits to the fifty percent (50%) cash match and any additional costs requirement. Costs incurred before the anticipated project start date will not be included in the reimbursement requests expected for this project.

Sincerely,

Leandro Garcia, CPA
Chief Financial Officer
Brownsville Public Utilities Board

CC: Alicia Gracia, Senior Grants Coordinator
Tricia Ayers, Fiscal Manager

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