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: Irvine Ranch Water District

* b. Employer/Taxpayer Identification Number (EIN/TIN): 95-2232918

* c. Organizational DUNS: 0592708840000

d. Address:

* Street1: 15600 Sand Canyon Avenue

Street2:

* City: Irvine

County/Parish: Orange

* State: CA: California

Province:

* Country: USA: UNITED STATES

* Zip / Postal Code: 92618-3100

e. Organizational Unit:

Department Name:

Division Name:

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

Prefix: Mrs.

* First Name: Kellie

Middle Name:

* Last Name: Welch

Suffix:

Title: Water Resources Manager

Organizational Affiliation: Irvine Ranch Water District

* Telephone Number: 949-453-5604

Fax Number:

* Email: welch@irwd.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:**

Irvine Lake Pipeline Conversion Project

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: 48 * b. Program/Project: 45

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

Add Attachment | Delete Attachment | View Attachment

17. Proposed Project:

* a. Start Date: 07/01/2015 * b. End Date: 06/05/2017

18. Estimated Funding ($):

* a. Federal	300,000.00
* b. Applicant	14,106,686.00
* c. State	0.00
* d. Local	0.00
* e. Other	0.00
* f. Program Income	0.00
* g. TOTAL	14,406,686.00

*** 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 06/25/2015.

☐ 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: Mrs. * First Name: Kellie

Middle Name:

* Last Name: Welch

Suffix:

* Title: Water Resources Manager

* Telephone Number: 949-453-5604 Fax Number:

* Email: welch@irwd.com

* Signature of Authorized Representative: Kellie Welch * Date Signed: 06/25/2015

OMB Number: 4040-0008
Expiration Date: 06/30/2014

BUDGET INFORMATION - Construction Programs

NOTE: Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case, you will be notified.

COST CLASSIFICATION	a. Total Cost	b. Costs Not Allowable for Participation	c. Total Allowable Costs (Columns a-b)
1. Administrative and legal expenses	$ 82,700.00	$	$ 82,700.00
2. Land, structures, rights-of-way, appraisals, etc.	$	$	$
3. Relocation expenses and payments	$	$	$
4. Architectural and engineering fees	$ 100,084.00	$	$ 100,084.00
5. Other architectural and engineering fees	$	$	$
6. Project inspection fees	$	$	$
7. Site work	$ 3,759,400.00	$	$ 3,759,400.00
8. Demolition and removal	$ 425,000.00	$	$ 425,000.00
9. Construction	$ 9,950,837.00	$	$ 9,950,837.00
10. Equipment	$	$	$
11. Miscellaneous	$ 86,015.00	$	$ 86,015.00
12. SUBTOTAL *(sum of lines 1-11)*	$ 14,404,036.00	$	$ 14,404,036.00
13. Contingencies	$	$	$
14. SUBTOTAL	$ 14,404,036.00	$	$ 14,404,036.00
15. Project (program) income	$	$	$
16. TOTAL PROJECT COSTS *(subtract #15 from #14)*	$ 14,404,036.00	$	$ 14,404,036.00

FEDERAL FUNDING

17. Federal assistance requested, calculate as follows: (Consult Federal agency for Federal percentage share.) Enter the resulting Federal share.	Enter eligible costs from line 16c Multiply X 2 %	$ 288,080.72

ASSURANCES - CONSTRUCTION PROGRAMS

OMB Number: 4040-0009
Expiration Date: 06/30/2014

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 assistance 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 costs) to ensure proper planning, management and completion of project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, the right to examine all records, books, papers, or documents related to the assistance; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will not dispose of, modify the use of, or change the terms of the real property title or other interest in the site and facilities without permission and instructions from the awarding agency. Will record the Federal awarding agency directives and will include a covenant in the title of real property acquired in whole or in part with Federal assistance funds to assure non-discrimination during the useful life of the project.
4. Will comply with the requirements of the assistance awarding agency with regard to the drafting, review and approval of construction plans and specifications.
5. Will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms with the approved plans and specifications and will furnish progressive reports and such other information as may be required by the assistance awarding agency or State.
6. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
7. 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.
8. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards of 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).
9. 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.
10. Will comply with all Federal statutes relating to non-discrimination. 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 statue(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statue(s) which may apply to the application.

11. 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 and federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.

12. Will comply with the 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.

13. 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.

14. Will comply 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.

15. 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).

16. 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.

17. 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).

18. 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."

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

20. 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
Kellie Welch	Water Resources Manager
APPLICANT ORGANIZATION	DATE SUBMITTED
Irvine Ranch Water District	06/25/2015

SF-424D (Rev. 7-97) Back

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C.1352

Approved by OMB
0348-0046

1. * Type of Federal Action:
- [ ] a. contract
- [x] b. grant
- [ ] c. cooperative agreement
- [ ] d. loan
- [ ] e. loan guarantee
- [ ] f. loan insurance

2. * Status of Federal Action:
- [ ] a. bid/offer/application
- [x] b. initial award
- [ ] c. post-award

3. * Report Type:
- [x] a. initial filing
- [ ] b. material change

4. Name and Address of Reporting Entity:

[x] Prime [ ] SubAwardee

** Name:* Irvine Ranch Water District

** Street 1:* 15600 Sand Canyon Avenue *Street 2:*

** City:* Irvine *State:* CA: California *Zip:* 92618

Congressional District, if known: 48

5. If Reporting Entity in No.4 is Subawardee, Enter Name and Address of Prime:

6. * Federal Department/Agency:
US Dept. Interior/Bureau of Reclamation

7. * Federal Program Name/Description:
Reclamation States Emergency Drought Relief

CFDA Number, *if applicable:* 15.514

8. Federal Action Number, *if known:*

9. Award Amount, *if known:*
$

10. a. Name and Address of Lobbying Registrant:

Prefix: Mr. ** First Name:* Hal *Middle Name:*

** Last Name:* Furman *Suffix:*

** Street 1:* 1750 H Street, N.W. *Street 2:* Suite 600

** City:* Washington *State:* DC: District of Columbia *Zip:* 20006-4696

b. Individual Performing Services (including address if different from No. 10a)

Prefix: Mr. ** First Name:* Hal *Middle Name:*

** Last Name:* Furman *Suffix:*

** Street 1:* *Street 2:*

** City:* *State:* *Zip:*

11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when the transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

*** Signature:** Kellie Welch

***Name:** *Prefix:* Mrs. ** First Name:* Kellie *Middle Name:*

** Last Name:* Welch *Suffix:*

Title: **Telephone No.:** **Date:** 06/25/2015

Federal Use Only:

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Standard Form - LLL (Rev. 7-97)

Grant Application Package

Opportunity Title:	WaterSMART: Drought Resiliency Project Grants for Fiscal
Offering Agency:	Bureau of Reclamation
CFDA Number:	15.514
CFDA Description:	Reclamation States Emergency Drought Relief
Opportunity Number:	R15AS00046
Competition ID:	
Opportunity Open Date:	05/11/2015
Opportunity Close Date:	06/25/2015
Agency Contact:	Irene Hoiby Grants Officer E-mail: ihoiby@usbr.gov Phone: 303-445-2025

This opportunity is only open to organizations, applicants who are submitting grant applications on behalf of a company, state, local or tribal government, academia, or other type of organization.

Application Filing Name: Irvine Ranch Water District

Select Forms to Complete

Mandatory

Application for Federal Assistance (SF-424)	**Complete**

Optional

☒ Disclosure of Lobbying Activities (SF-LLL)	**Complete**
☒ Attachments	**Complete**
☒ Budget Information for Construction Programs (SF-424C)	**Complete**
☒ Assurances for Construction Programs (SF-424D)	**Complete**
☐ Budget Information for Non-Construction Programs (SF-424A)	
☐ Assurances for Non-Construction Programs (SF-424B)	

Instructions

Show Instructions >>

This electronic grants application is intended to be used to apply for the specific Federal funding opportunity referenced here.

If the Federal funding opportunity listed is not the opportunity for which you want to apply, close this application package by clicking on the "Cancel" button at the top of this screen. You will then need to locate the correct Federal funding opportunity, download its application and then apply.

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):

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* First Name: Kellie

Middle Name:

* Last Name: Welch

Suffix:

Title: Water Resources Manager

Organizational Affiliation: Irvine Ranch Water District

* Telephone Number: 949-453-5604

Fax Number:

* Email: welch@irwd.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:

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* Title:

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Title:

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Add Attachment | Delete Attachment | View Attachment

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

Irvine Lake Pipeline Conversion Project

Attach supporting documents as specified in agency instructions.

Add Attachments | Delete Attachments | View Attachments

Application for Federal Assistance SF-424

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☐ Yes ☒ No

If "Yes", provide explanation and attach

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☒ ** I AGREE

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Authorized Representative:

Prefix: Mrs. * First Name: Kellie

Middle Name:

* Last Name: Welch

Suffix:

* Title: Water Resources Manager

* Telephone Number: 949-453-5604 Fax Number:

* Email: welch@irwd.com

* Signature of Authorized Representative: Completed by Grants.gov upon submission. * Date Signed: Completed by Grants.gov upon submission.

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Approved by OMB
0348-0046

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- [ ] c. cooperative agreement
- [ ] d. loan
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** City* Irvine *State* CA: California *Zip* 92618

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** Last Name* Furman *Suffix*

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*** Signature:** Completed on submission to Grants.gov

***Name:** *Prefix* Mrs. ** First Name* Kellie *Middle Name*

** Last Name* Welch *Suffix*

Title: **Telephone No.:** **Date:** Completed on submission to Grants.gov

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ATTACHMENTS FORM

Instructions: On this form, you will attach the various files that make up your grant application. Please consult with the appropriate Agency Guidelines for more information about each needed file. Please remember that any files you attach must be in the document format and named as specified in the Guidelines.

Important: Please attach your files in the proper sequence. See the appropriate Agency Guidelines for details.

1) Please attach Attachment 1		Add Attachment	Delete Attachment	View Attachment
2) Please attach Attachment 2		Add Attachment	Delete Attachment	View Attachment
3) Please attach Attachment 3		Add Attachment	Delete Attachment	View Attachment
4) Please attach Attachment 4		Add Attachment	Delete Attachment	View Attachment
5) Please attach Attachment 5		Add Attachment	Delete Attachment	View Attachment
6) Please attach Attachment 6		Add Attachment	Delete Attachment	View Attachment
7) Please attach Attachment 7		Add Attachment	Delete Attachment	View Attachment
8) Please attach Attachment 8		Add Attachment	Delete Attachment	View Attachment
9) Please attach Attachment 9		Add Attachment	Delete Attachment	View Attachment
10) Please attach Attachment 10		Add Attachment	Delete Attachment	View Attachment
11) Please attach Attachment 11		Add Attachment	Delete Attachment	View Attachment
12) Please attach Attachment 12		Add Attachment	Delete Attachment	View Attachment
13) Please attach Attachment 13		Add Attachment	Delete Attachment	View Attachment
14) Please attach Attachment 14		Add Attachment	Delete Attachment	View Attachment
15) Please attach Attachment 15		Add Attachment	Delete Attachment	View Attachment

ASSURANCES - CONSTRUCTION PROGRAMS

OMB Number: 4040-0009
Expiration Date: 06/30/2014

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8. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards of 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).
9. 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.
10. Will comply with all Federal statutes relating to non-discrimination. 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 statue(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statue(s) which may apply to the application.

11. 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 and federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.

12. Will comply with the 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.

13. 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.

14. Will comply 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.

15. 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).

16. 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.

17. 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).

18. 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."

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

20. 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
	Water Resources Manager
APPLICANT ORGANIZATION	DATE SUBMITTED
Irvine Ranch Water District	Completed on submission to Grants.gov

D.2. Title Page

Project Title: Irvine Lake Pipeline Conversion Project

Applicant:
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92618-3102

Project Manager:
Dane Johnson
15600 Sand Canyon Avenue
Irvine, CA 92618-3102
johnsond@irwd.com
Office: 494-453-5529

Project Description:

The Irvine Lake Pipeline (ILP) Conversion Project will increase the reliability of Irvine Ranch Water District (IRWD) water supplies by extending IRWD's recycled water system to about 60 irrigation customers, offsetting imported water demands and reducing evaporation losses at Irvine Lake. The existing ILP delivers imported water that IRWD purchases from Metropolitan Water District of Southern California (MWD) stored in Irvine Lake and then conveys it to irrigation sites. Because of evaporation losses while the water is in storage in the lake, approximately 10 percent more imported water must be purchased in order to yield enough for irrigation demands. Converting these existing irrigation demands from imported water to local recycled water will reduce imported water needs, eliminate evaporation losses, and enhance water supply reliability. IRWD will construct a new booster pump station, storage tank reservoir, and convert a portion of the ILP to serve recycled water to irrigation customers. The project will increase the utilization of local recycled water and reduce imported water demands by roughly 3,100 acre-feet per year (AFY). The project will have ongoing benefits to build long-term resiliency to drought by permanently offsetting reliance on imported water.

D.3. Table of Contents

D.4. Technical Proposal and Evaluation Criteria

This technical proposal consists of five parts in accordance with the requirements specified in the USBR Funding Opportunity Announcement (No. R15AS00046) WaterSMART: Drought Resiliency Project Grants for FY 2015:

D.4.1. Executive Summary;
D.4.2. Background Data;
D.4.3. Technical Project Description;
D.4.4. Evaluation Criteria; and
D.4.5. Performance Measures.

D.4.1. Technical Proposal and Evaluation Criteria: Executive Summary

Date:	June 25, 2015
Applicant Name:	Irvine Ranch Water District
City:	Irvine
County:	Orange County
State:	California
Project Summary:	The Irvine Lake Pipeline (ILP) Conversion Project will increase water supply and increase long term resiliency to drought by extending Irvine Ranch Water District's (IRWD's) recycled water system to serve irrigation customers and reduce evaporation losses at Irvine Lake. Agricultural and irrigation customers near the lake presently use imported water. Irvine Lake stores untreated imported water purchased from Metropolitan Water District of Southern California (MWD) and is subsequently delivered to customers via the ILP. Evaporation losses at Irvine Lake are estimated at 49.7 inches per year. Effectively, this means that approximately 10 percent more imported water must be purchased and stored in the lake in order to yield enough untreated water for irrigation demands, allowing for evaporation losses. In order for IRWD to supply 3,100 acre-feet per year (AFY) to its irrigation customers in this area, approximately 3,410 AFY of imported water must be purchased, with the difference, 310 AFY, being lost to evaporation at Irvine Lake. Converting these irrigation demands from imported water to local recycled water will eliminate this evaporation loss and enhance water supply management. By constructing a new booster pump station and storage tank, IRWD will be able to expand its recycled

	water system and convert a portion of the existing ILP that serves these irrigation customers to recycled water service. The grant will be used to accomplish Project activities and construct the new recycled water distribution facilities. The ILP Conversion Project will support local water supply sustainability and reliability, and help to conserve and optimize imported water supplies for potable purposes.
Length of Time for Project:	24 months
Estimated Completion Date:	June 2017
Project Location:	Cities of Irvine and Tustin, Orange County, California. The Project is not located on a Federal facility.

D.4.2. Technical Proposal and Evaluation Criteria: Background Data

The Irvine Lake Pipeline (ILP) Conversion Project is an important element of the Irvine Ranch Water District (IRWD) water system that will reduce reliance on imported water purchases by expanding the recycled water system to serve irrigation needs. Background information about the project is presented below.

IRWD Background and Service Area Map

IRWD was established in 1961 as a California Water District pursuant to the California Water District Law (California Water Code, Division 13). **Figure 1** shows the location of the IRWD and the ILP Conversion Project within the state of California. IRWD provides potable and non-potable/recycled water, sewage collection and treatment, and urban runoff treatment to municipal and industrial (M&I) and agricultural customers within its 115,531-acre service area in Orange County, California. IRWD serves the City of Irvine and portions of the Cities of Costa Mesa, Lake Forest, Newport Beach, Tustin, Santa Ana, Orange and unincorporated Orange County, **Figure 2** shows the service area within Orange County and **Figure 3** depicts the IRWD service area. As an independent public agency, IRWD is governed by a five-member, publicly elected

Figure 1. Map of California with IRWD and Project Location

Figure 2: Map of Orange County with IRWD Location

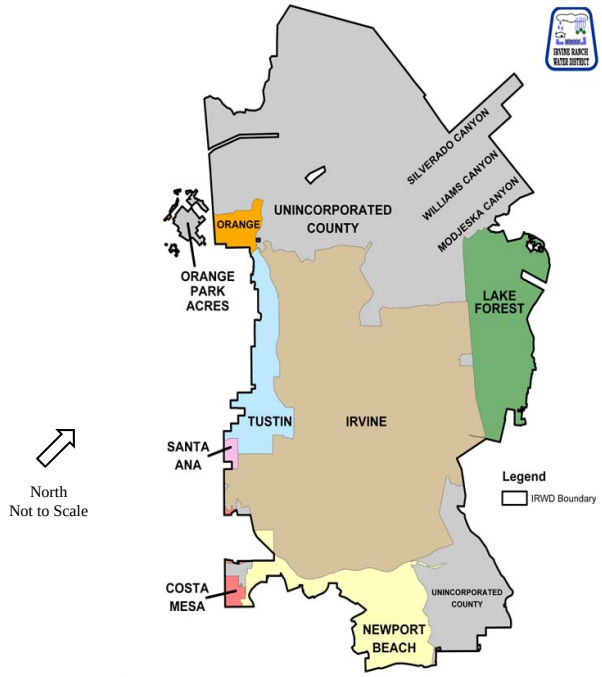


Figure 3: IRWD Service Area Map

board of directors. These officials are responsible for the IRWD's policies and decision making while day-to-day operations are supervised by the general manager and staff. IRWD provides potable water to over 500,000 persons. Approximately 65% of the drinking water supply comes from local groundwater sources pumped through IRWD's extensive well system. The remaining 35% of IRWD's drinking water comes from the Colorado River and the State Water Project, which is imported by the Metropolitan Water District of Southern California (MWD) and purchased by IRWD through the Municipal Water District of Orange County (MWDOC). From July 2013 through June 2014, IRWD supplied nearly 63,900 AFY of potable water to its customers via a distribution system comprised over more than 1,200 miles of pipelines.

IRWD's sanitary sewer system collects all wastewater coming from homes and businesses within the IRWD service area. Sewage is conveyed to two IRWD treatment plants through more than 800 miles of sewer collection pipelines. The recently expanded Michelson Water Recycling Plant (MWRP) in Irvine treats up to 28 million gallons of wastewater per day (mgd), while the Los Alisos Water Recycling Plant in Lake Forest treats up to 5.5 mgd.

IRWD's two water recycling plants treat incoming wastewater to disinfected, tertiary standards for use as recycled water – enough to provide 80% of the Distrit's landscape irrigation at parks, golf courses, school grounds, city street medians, homeowner associations, and other public areas. Recycled water is also used for toilet flushing and cooling towers in more than 50 buildings, and for industrial uses such as composting and concrete making. Supplemented by non-potable water, IRWD maintains a separate "purple pipe" system over 450 miles in length and serving almost 5,000 metered connections. About 20% of IRWD's nonpotable demands are served with recycled water.

IRWD purchases untreated imported water from MWD. Untreated water is delivered into Irvine Lake and stored until it is distributed to the untreated system via the ILP. Untreated imported water is served to existing agricultural and landscape irrigation customers near the lake via the ILP because recycled water has not been made available to this geographic area. By extending the recycled water system to this area, the ILP Conversion Project will offset approximately 3,100 AFY untreated imported water by offsetting those demands with recycled water, which is a local drought resilient supply. The ILP Conversion Project is an expansion of IRWD's existing, large recycled water system.

In 2004, IRWD received Title XVI funding from Reclamation for the Irvine Basin Groundwater and Surface Water Improvement Projects, which supported impaired groundwater recovery and treatment projects. This ILP Conversion Project is not authorized for funding under IRWD's prior Title XVI Program funding. The ILP Conversion Project is not part of IRWD's Title XVI projects.

Irvine Lake Pipeline Conversion Project Background

The Irvine Lake Pipeline (ILP) Conversion Project is located in the northern portion of IRWD's service area as shown on **Figure 4**, which presents a map of the non-potable water system.

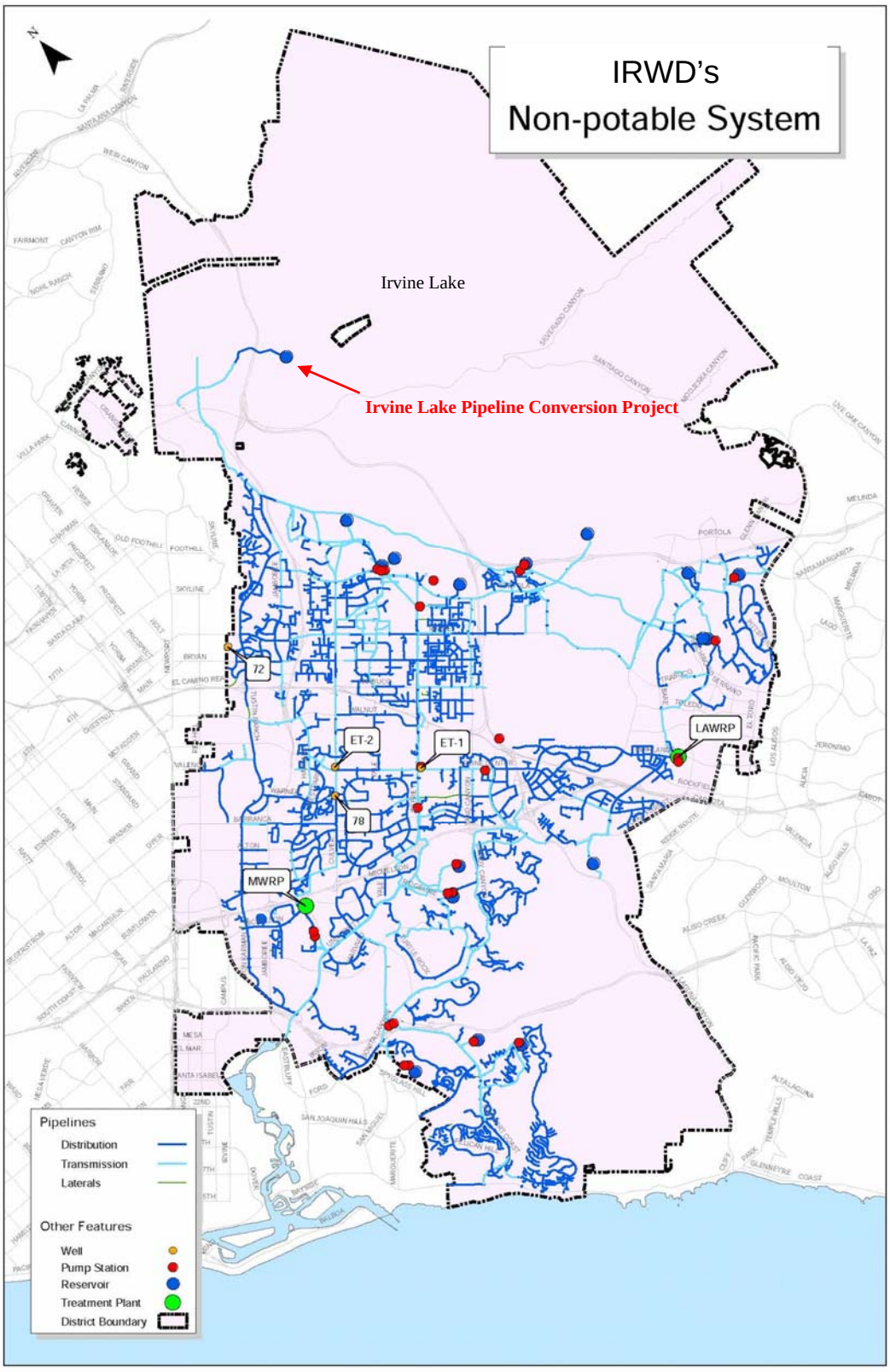


Figure 4: IRWD Existing Non-Potable/Recycled Water System Map

The existing 54-inch diameter ILP conveys untreated imported water from Irvine Lake. **Figure 5** shows a photo of Irvine Lake, which stores approximately 28,000 AF and covers a surface area of about 700 acres in north Irvine. Irvine Lake is jointly owned by IRWD and Serrano Water District. It is a recreational facility used for fishing and boating that also provides potable water to Serrano Water District's customers (after treatment) and non-potable imported water to IRWD's customers. The water stored in the lake is primarily untreated imported water purchased from MWD and native runoff.

Figure 5: Existing Irvine Lake Stores Untreated Imported Water

IRWD supplies untreated imported water from Irvine Lake to agricultural and landscape irrigation customers in the northern part of its service area. IRWD operates an extensive non-potable water system; however, the recycled water distribution system does not currently extend to this largely rural part of IRWD's service area.

In the vicinity of Irvine Lake, evaporation losses are estimated at approximately 49.7 inches per year (4.14 ft/yr) by the Office of Water Use Efficiency, Department of Water Resources, California Irrigation Management Information System. Based on a surface area of 700 acres and an average evaporation rate of 4.14 ft/yr, the calculated annual evaporation loss from Irvine Lake is nearly 2,900 AFY. In comparison to the total volume of the lake, the evaporation losses represent just over 10 percent of the 28,000 AF storage. Effectively, this means that approximately 10 percent more untreated imported water must be purchased and stored in the lake in order to yield enough untreated water for irrigation demands, allowing for evaporation losses.

In 2008, IRWD began working with agricultural customers to convert their water service from untreated imported water to recycled water, where it is available. The initial changeover was completed in 2011 when recycled water was delivered to ten agricultural customers, replacing their untreated imported water service from Irvine Lake and providing a local, drought-resilient water

source for their needs. That first project resulted in approximately 1,800 AFY being converted from imported water to local recycled water supplies and was so successful that IRWD embarked with plans for the ILP Conversion Project targeting about 60 more irrigation customers in the Tustin Ranch and Orchard Hills areas of the IRWD service area.

D.4.3. Technical Proposal and Evaluation Criteria: Technical Project Description

The ILP Conversion Project will offset the demand for approximately 3,410 AFY of imported water by extending IRWD's recycled water system to irrigation customers and reducing evaporation losses at Irvine Lake. The Project will serve approximately 3,100 AFY of local recycled water to about 60 irrigation customers who receive imported water from the lake through the ILP. In addition, the Project will save 310 AFY of imported water lost to evaporation at Irvine Lake.

Existing agricultural and irrigation customers near the lake are supplied untreated imported water via the Irvine Lake Pipeline because recycled water is not currently available to this area. Irvine Lake stores untreated imported water purchased from MWD as well as native runoff water. With a surface area of 700 acres, evaporation losses at Irvine Lake are estimated at 49.7 inches per year by the Office of Water Use Efficiency, Department of Water Resources, California Irrigation Management Information System, which amounts to an average annual evaporation loss of about 2,900 AFY. In comparison to the total volume of the lake, the evaporation losses represent just over 10 percent of its 28,000 AF storage volume. Effectively, this means that approximately 10 percent more untreated imported water must be purchased and stored in the lake to yield enough untreated water for irrigation demands and allow for evaporation losses. Therefore, in order for IRWD to supply 3,100 AFY to its customers in this area, approximately 3,410 AFY of untreated imported water must be purchased, with the difference, 310 AFY, being lost to evaporation at Irvine Lake. Converting these existing irrigation demands from untreated imported water to recycled water will eliminate this 310 AFY of evaporation loss in the lake.

IRWD's existing recycled water system can be expanded to supply these irrigation demands and avoid losses due to evaporation at Irvine Lake. By constructing a new booster pump station and storage tank reservoir, IRWD will be able to expand its recycled water system and convert a portion of the existing ILP that serves these irrigation customers from imported water to local recycled water service.

Figure 6 shows IRWD's recycled water system with Pressure Zone B pipelines and Pressure Zone C untreated imported water pipelines, including the ILP. Irvine Lake is located about a mile east of the area shown on the map, and the existing ILP is shown generally running along the transportation corridor and north Irvine. The ILP Conversion Project will result in the installation of new recycled water facilities connecting to the existing Zone B system and extending it to the Zone C system and converting that portion of the ILP in Zone C to recycled water service.

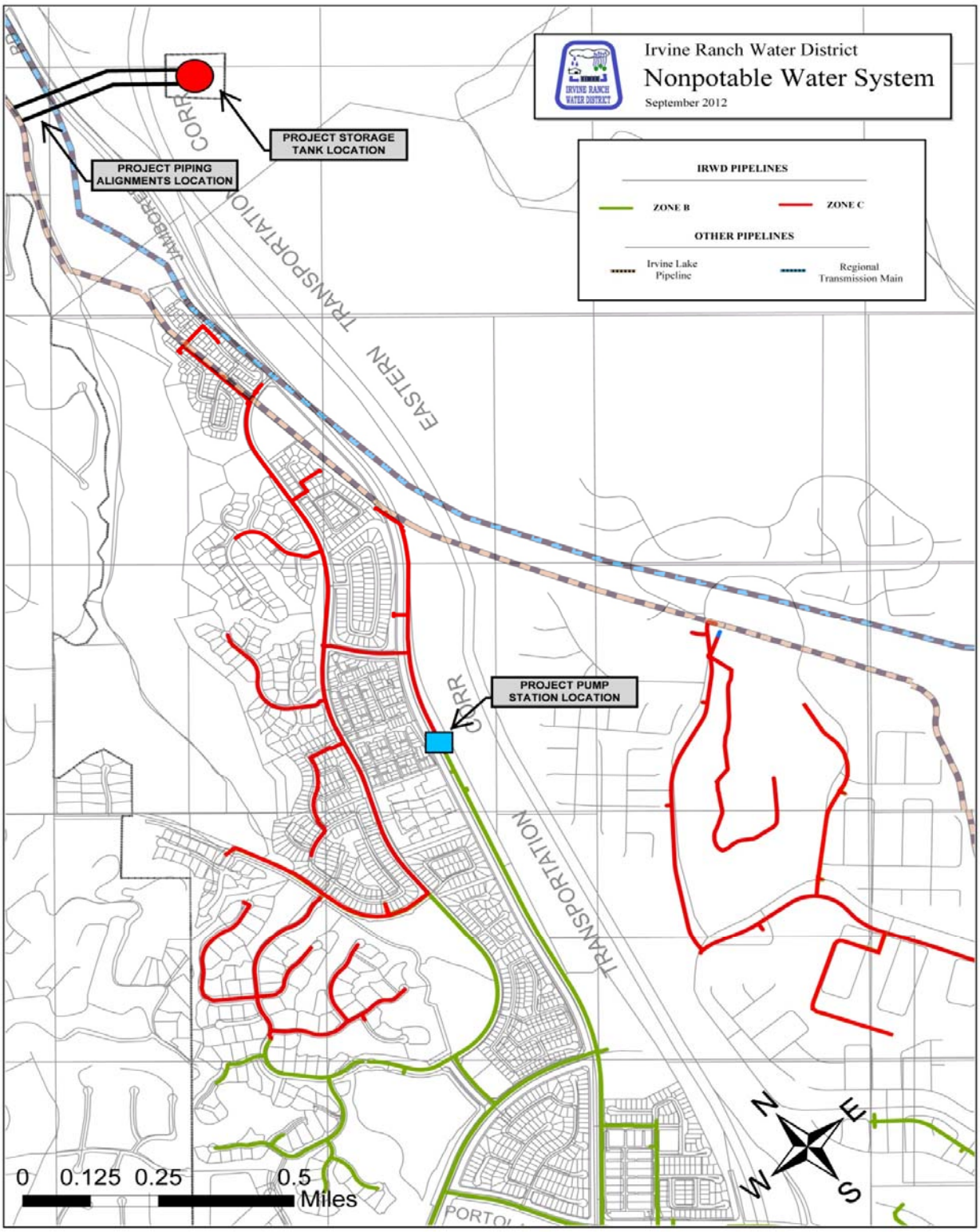


Figure 6: Irvine Lake Pipeline Conversion Project Map

A new booster pump station will be constructed to convey recycled water from Zone B to Zone C. **Figure 7** shows the proposed layout of the pump station, along Jamboree Road, adjacent to an existing IRWD drinking water pump station. IRWD already owns this property, which will facilitate Project implementation. The new pumps will be connected to the existing distribution system via below grade 12-inch diameter suction and discharge headers.

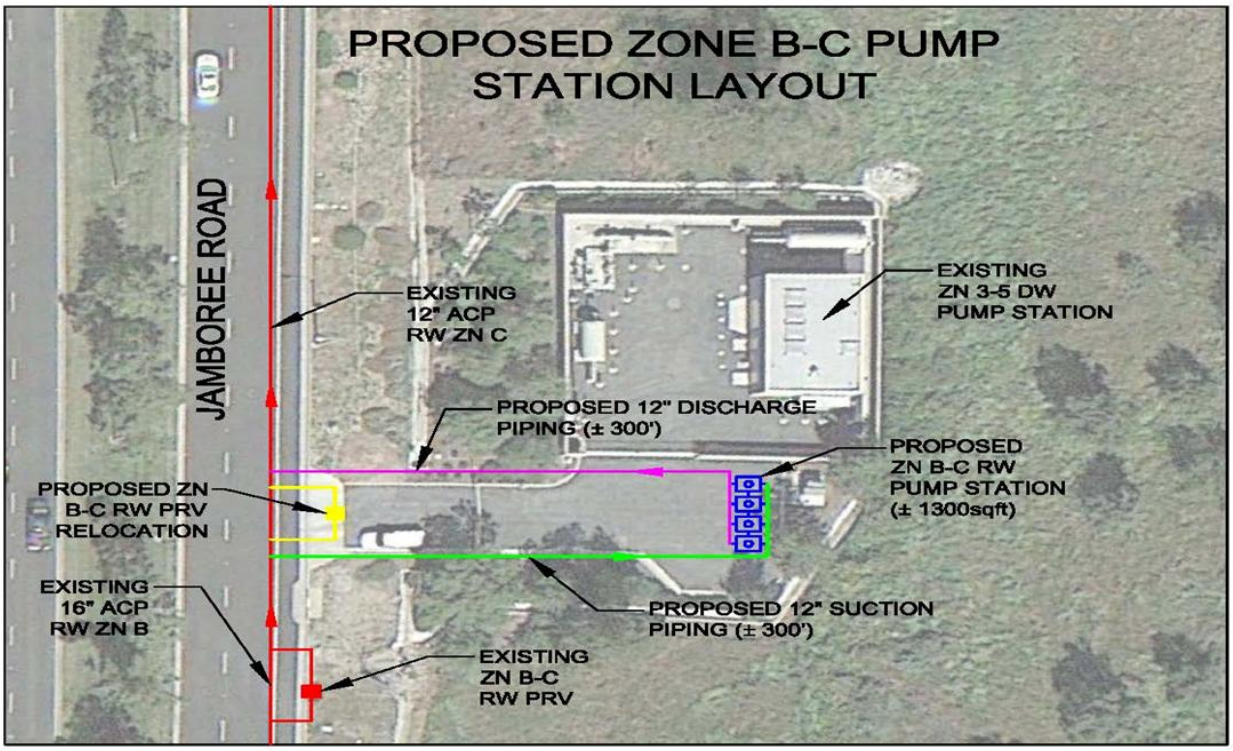


Figure 7: ILP Conversion Project Zone B-C Pump Station Site Layout

Figure 8 on the following page shows the site layout of the new Zone C storage tank and the piping connecting to the existing 54-inch ILP. The steel tank will have a storage capacity of approximately 0.56 million gallons. Two new 30-inch diameter pipelines, approximately 2,600 and 2,700 lineal feet long, will tie the storage tank to the ILP.

In summary, the ILP Conversion Project will offset imported water supplies by supplying irrigation demands with local recycled water, thereby reserving available potable water supplies in the region and reducing surface water evaporation losses at Irvine Lake.

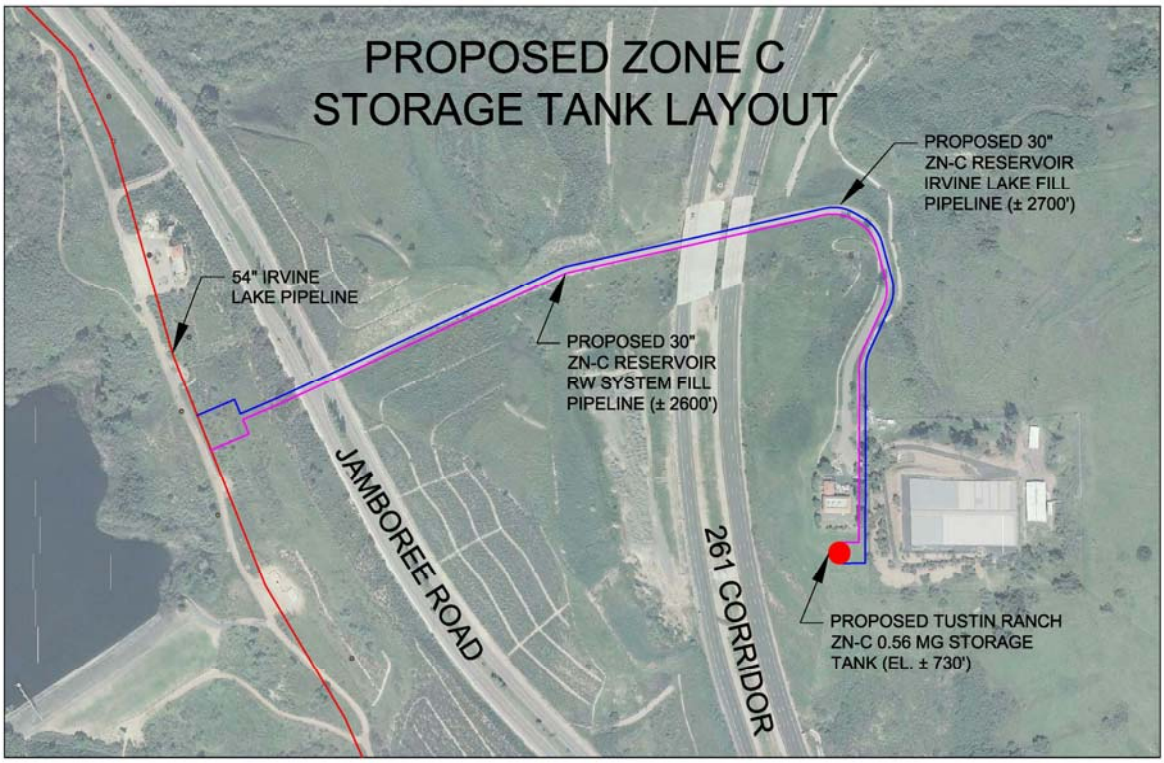


Figure 8: ILP Conversion Project Zone C Storage Tank

Water Supply Flexibility

The ILP Conversion Project will provide recycled water service to approximately 60 irrigation customers in the Tustin Ranch and Orchard Hills areas. These existing and future customers currently receive imported water for their irrigation needs. Ultimately, the Project will directly offset approximately 3,100 AFY of imported water demands by substituting local recycled water for these uses.

In addition, the ILP Conversion Project will avoid evaporation losses during storage of imported water at Irvine Lake, which results in an estimated savings of 310 AFY.

In total, the ILP Conversion Project will offset reliance on approximately 3,410 AFY of imported water. **Table 1** summarizes the water offset breakdown that will be achieved by the Project.

Table 1: Summary of Imported Water Offset by ILP Conversion Project

Service Type / Area	Annual Demands Offset by Project (AFY)
Irvine Park	340
TIC Ag	1,475
Tustin Ranch	268
Orchard Hills Zone C	727
Santiago Canyon College	12
Holy Sepulcher Cemetery	120
Improvement District 252	104
Orchard Hills Potable Water Conversion	110
Total	**3,156**

Major Tasks

A list of major tasks involved in implementation of the ILP Conversion Project follows:

Planning and Design Phase

1. Environmental compliance
2. Engineering design
3. Bid phase engineering services

Construction Phase

1. Construction of the facilities
2. Construction management and inspection
3. Start-up testing
4. Contract close-out

Detailed Breakdown of Project Tasks and Activities

Planning and Design Phase

1. Environmental Compliance: Prepare and file the Initial Study and Notice of Preparation for compliance with California Environmental Quality Act (CEQA). National Environmental Policy Act (NEPA) documentation to comply with federal grant requirements will proceed in September 2015 to complete the environmental compliance.
2. Engineering Design: Final design of the storage tank, pump station, piping, and site facilities started in January 2015 and will be completed by September 2015. IRWD will contract with an engineering firm which will provide the required geotechnical, civil, mechanical, electrical, and instrumentation/controls engineering disciplines, working on

the design as a coordinated team. Engineering design and documents will include drawings and specifications issued for competitive bids by qualified contractors.

3. Bid Phase Engineering Services: This phase will begin once the final design is complete. It is anticipated that a 60-day bid period will conclude in December 2015 when construction bids will be received and a contract will be awarded. During the bid phase, the design engineer will respond to requests for clarification of the plans and specifications by issuing addenda where necessary.

Construction Phase

1. Following issuance of the notice to proceed in January 2016, contractor mobilization and site surveying, clearing and grading will begin.
2. Construction will progress concurrently at the two sites (storage tank and pump station). The steel storage tank will be erected on a concrete pad. Solar panels will be installed to produce renewable energy for site security systems. Pumps will be installed along with piping, fittings, valves, motors, adjustable frequency drives, electrical power, and instrumentation and controls. Below grade piping will be installed connecting the storage tank to the existing ILP. Below grade piping will be installed connecting the booster pump station with the existing Zone B system to convey recycled water to the Zone C system. Site facilities and access roads, security systems, telemetry, controls, and appurtenances will be constructed. It is anticipated that the construction phase will begin in January 2016 and extend for 18 months, ending in June 2017.
3. Construction management and inspection will run in parallel with the construction phase and will include the following tasks:
    a. Contract administration: IRWD staff will manage all aspects of the Project and will be responsible for coordination of the design, construction and start-up testing phases.
    b. Review contractor shop drawing submittals: The IRWD construction management staff will oversee and inspect the contractor's work for compliance with the approved shop drawing submittals. The design engineer will be responsible for review and approval of the shop drawings.
    c. Respond to requests for information: IRWD will coordinate requests for information with the design team.
    d. Attend progress meetings and review pay requests: The IRWD Project Manager will be responsible for administrating the entire project from final design through start-up. The Project Manager will be the main point of contact for administration of the grant agreement, preparation of invoices, and preparation of all deliverables, reports, plans, specifications, and supporting documentation for the project.

e. Inspect construction: IRWD staff will provide all inspection services. When bids are received, reviewed and the construction contract is awarded, IRWD will develop a construction management staff, which will include a construction resident engineer, project manager, inspector and project administration staff.
f. Materials testing: testing of all materials used in the construction development.
g. Preparation of record drawings at completion of the Project.

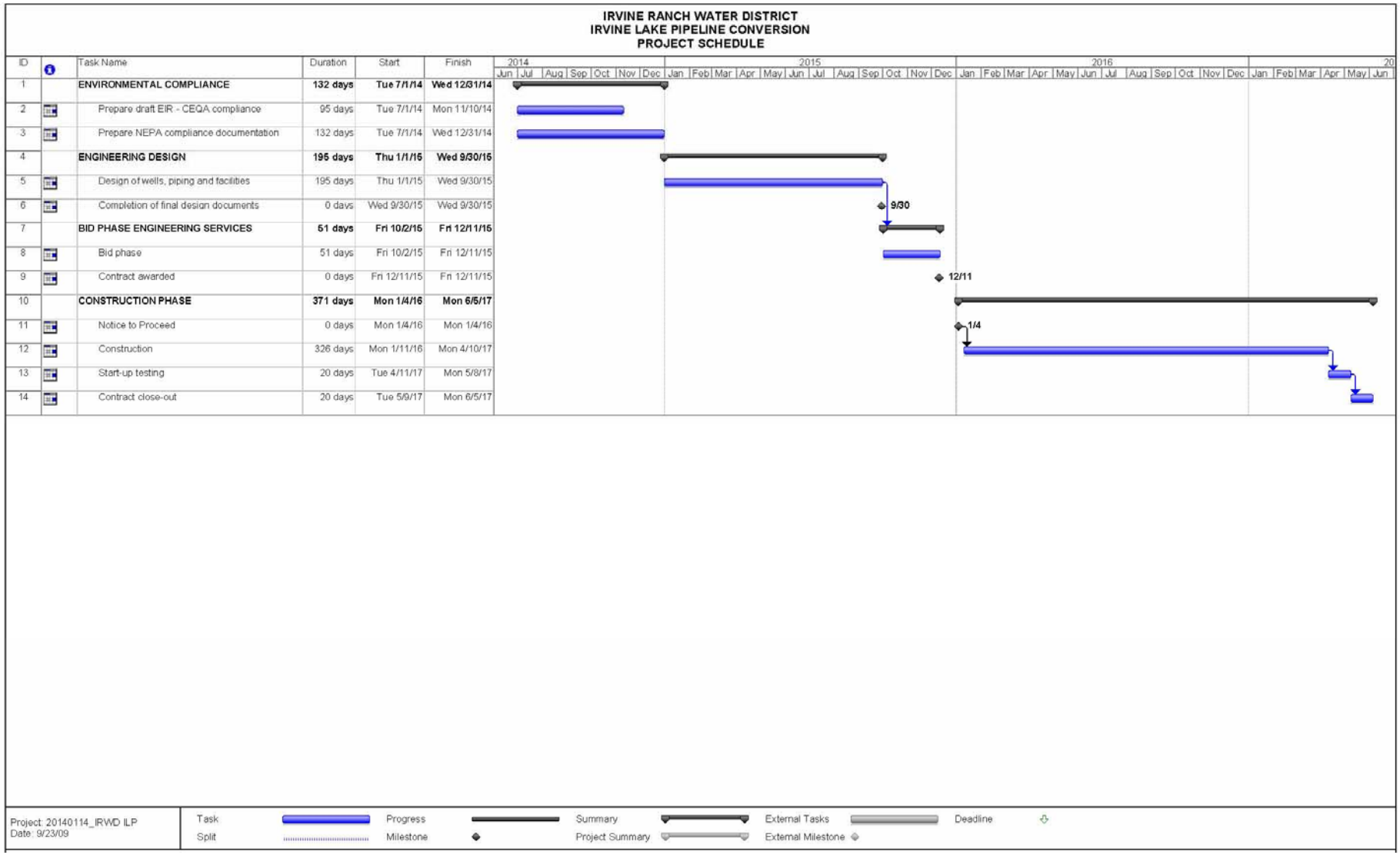
4. Start-up testing will be conducted between April and May 2017. IRWD staff will coordinate the start-up and testing phase of the project as construction nears completion.
5. Contract close-out: Administration of the project will be managed by IRWD; tasks include budgeting, expenditures, schedule and progress reporting. Status reports will be submitted with invoices as the project progresses and a final report will be submitted at the completion of the project in June 2017.

Project Schedule

The ILP Conversion Project schedule is shown in **Figure 9**. Key milestones are listed below:

- October 2015 – Environmental Compliance Completed
- September 2015 – Final Engineering Design Completed
- December 2015 – Construction Bids Received and Contract Awarded
- January 2016 – June 2017 – Construction
- May 2017 – Start-up Testing Completed
- June 2017 – Contract Close-out and Final Report Submitted to Reclamation

Figure 9: ILP Conversion Project Schedule



D.4.4. Technical Proposal: Evaluation Criteria

This section of the Technical Proposal describes how the Irvine Lake Pipeline (ILP) Conversion Project will fulfill each of the WaterSMART Drought Resiliency Project Grants for FY 2015 Program's criteria and subcriteria.

Evaluation Criterion A: Project Benefits (Total Value = 40 points possible)

The ILP Conversion Project will provide quantifiable and sustainable drought resiliency benefits by reducing imported water demands by extending IRWD's recycled water system to serve agricultural and landscape irrigation customers, offsetting approximately 3,100 AFY of imported water. Drought resiliency benefits are summarized as follows:

- The project allows for imported water to be used for higher, potable uses by using recycled water for irrigation. The project frees up and extends higher quality potable supplies for domestic purposes within the region. The project will offset 3,100 AFY in existing and planned imported water demands with a drought-resilient local recycled water supply. The project is expected to provide benefits over a 50 year operational horizon.
- The project will free-up 3,100 AFY of imported water making it available to other portions of IRWD's service area or other agencies in Southern California. The amount of imported water offset by the project represents approximately 3% of IRWD's total annual water supply portfolio, or roughly 14% of annual imported water demands.
- The project will improve the management of water supplies by expanding locations in IRWD's service area that have access to recycled water. It is estimated that the project will result in approximately 3,100 AFY of water better managed. The water management benefits are significant as previously utilized imported water will be freed up for alternative uses.
- Without the project, IRWD would otherwise purchase imported water and increase demands on MWD during critical peak summer months. The project will take demand off MWD during peak periods.

Evaluation Criterion B: Drought Planning and Preparedness (Total Value = Up to 20 points possible)

IRWD adopted a Water Shortage Contingency Plan (WSCP) in 2009 that is designed to address varying levels of supply deficits with recommended actions predicated upon the actual deficit level. In addition, IRWD is in the process of developing a drought action plan in response to the record drought that California is currently experiencing.

IRWD's water shortage contingency plan was developed via an iterative process with key District staff and regional agencies. The plan is based on multiple shortage levels that trigger a set of response measures aimed at reducing demand to the level of available supply. Steps taken at each level are cumulative. Both the severity of supply reductions and the duration over which the

reductions are experienced determine the appropriate response to shortages. The WSCP promotes supply augmentation measures that are addressed in the District's Water Resources Master Plan (WRMP). Included in the District's supply augmentation measures is the conversion of imported water uses to local supplies. The ILP Conversion Project directly meets supply augmentation needs described in the WSCP and WRMP by offsetting imported untreated water supplies with drought-resilient locally available recycled water. All projects that augment or create new water supplies are prioritized in the aforementioned planning documents. In addition, the ILP Conversion Project is listed in the draft IRWD Drought Action Plan as a key measure in combating drought through the District's recycled water program expansion.

The IRWD WSCP and draft Drought Action Plan are appended to this application for reference.

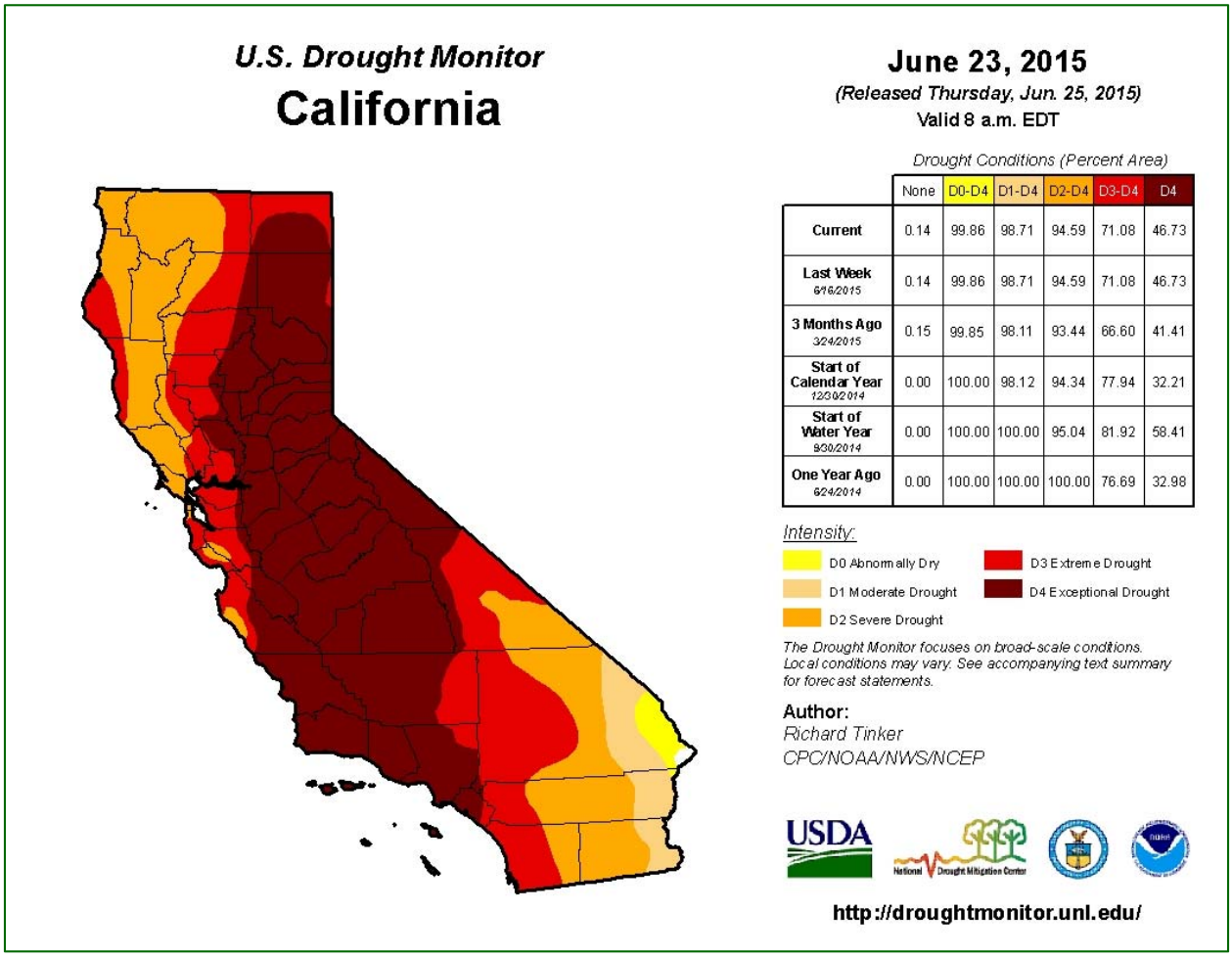
Evaluation Criterion C: Severity of Drought Impacts (Total Value = Up to 20 points possible)

Irvine Ranch Water District's service area, and the State of California as a whole, have been experiencing severe drought conditions since 2011. The three year period between fall 2011 and fall 2014 was the driest since recordkeeping began in 1895. This dry period was made worse by high temperatures, with 2014 setting a record. Governor Brown declared a statewide drought emergency in January 2014 with the State Water Resources Control Board later choosing to enforce increased conservation requirements. The June 23, 2015 update of the U.S. Drought Monitor classifies IRWD's service area as experiencing "exceptional drought." (**Figure 10**)

There is the potential for drought impacts to affect the water users that will be served by the ILP Conversion Project if no action is taken. Effective July 1, 2015, Metropolitan Water District will implement a water supply allocation for imported water deliveries. This will directly impact existing agricultural and landscape that would be served by the ILP project. These cutbacks could potentially affect agricultural production, recreation and tourism at Irvine Lake, and result in associated economic losses.

If the ILP Conversion Project is implemented, the project will reduce IRWD's imported water deliveries to Irvine Lake by extending its recycled water system to serve those agricultural and landscape irrigation customers.

Figure 10: U.S. Drought Monitor



Evaluation Criterion D: Nexus to Reclamation (Total Value = Up to 15 points possible)

The ILP Conversion Project is connected to Reclamation project activities by supporting the *"Santa Ana Watershed Basin Study"*.

In the past, IRWD has collaborated with Reclamation in projects increasing water sustainability in the region: (1) Strand Ranch Integrated Water Banking Project, which was partly funded by the Water 2025 Grant Program, (2) Irvine Basin Surface and Groundwater Improvement Projects, which were funded under Title XVI, and (3) Stockdale Recovery Facilities Project.

Santa Ana Watershed Basin Study

The ILP Conversion Project will implement the regional goals of the *"Santa Ana Watershed Basin Study"*, which is the WaterSMART Basin Study completed by Reclamation in September 2013. The Project will improve operational efficiency and increase water supplies in the region.

Water 2025 Program

IRWD entered into Cooperative Agreement No. 08-FG-35-0253 with the Bureau of Reclamation for the Strand Ranch Water Banking Project on September 25, 2008, in the amount of $300,000. The Project included construction of recharge basins, recovery facilities, and Cross Valley Canal capacity. The agreement was closed on June 1, 2009 with all terms and conditions met and final payment processed.

Title XVI for the Irvine Basin Surface and Groundwater Improvement Projects

On May 24, 2004, IRWD received Project authorization under the Reclamation Wastewater and Groundwater Study and Facility Act for the Irvine Basin Surface and Groundwater Improvement Projects, which supported impaired groundwater recovery and treatment projects. IRWD's recycled water system is not authorized for funding under IRWD's prior Title XVI Program funding. Therefore, the ILP Conversion Project cannot be part of IRWD's Title XVI authorization.

1. IRWD entered into Cooperative Agreement No. 08-FC-35-0238 with Reclamation on July 21, 2008 under the Irvine Basin Groundwater and Surface Water Improvement Project as authorized under Section 1626 of Title XVI for the Irvine Desalter and South Irvine Brineline. The total obligation under the cooperative agreement is $37,541,766 of which Bureau of Reclamation share is 25%.

2. IRWD entered into Cooperative Agreement No. R10AC35R09 with Reclamation under IRWD's Title XVI program for the Natural Treatment System Site No. 67 effective December 22, 2009. This project proposes a subsurface flow wetland specifically designed to naturally remove selenium and nitrate from low flows diverted into the facility. This project was completed in September 2011.

3. IRWD entered into Cooperative Agreement No. R10AC34R04 with Reclamation under IRWD's Title XVI program for Tustin Legacy Well 1 project effective March 26, 2010. This well project will be a new well located on the former Marine Corps Air Station Tustin. It is estimated that this well will produce about 1,500 gallons per minute of impaired groundwater. This project was completed in September 2010.

4. IRWD entered into Cooperative Agreement No. R10AC35R08 with Reclamation under IRWD's Title XVI program for Wells 21 and 22 Desalter Project effective April 30, 2010. This well project includes supply facilities (wells), groundwater conveyance pipeline, treatment facilities and brine disposal pipeline and finished water transmission pipeline. The project is expected to deliver up to 6,700 AFY of potable water to IRWD's Zone 1 potable distribution system.

Stockdale Recovery Facilities Project

IRWD entered into a Cooperative Agreement No. R14AP00114 with Reclamation under Public Law 111-11, Section 9604 Water Management Improvement for the Stockdale Recovery Facilities Project effective September 19, 2014. This project will install three wells with piping, solar-

powered flow meters, and related appurtenances near the existing Stockdale Integrated Banking Project recharge basins in Kern County, California, to extract and recover up to annual average of 2,700 acre-feet per year (AFY) of stored groundwater, offsetting and conserving imported water supplies.

Evaluation Criterion E: Project Implementation (Total Value = Up to 5 points possible)

Preliminary planning has been completed for the project and engineering design of the project facilities was initiated in January 2015. Environmental compliance work was started in June 2015 with construction expected to commence in early 2016. Major tasks and milestone dates for the ILP Conversion Project are described below:

Major Tasks

A list of major tasks involved in implementation of the ILP Conversion Project follows:

Planning and Design Phase

1. Environmental compliance
2. Engineering design
3. Bid phase engineering services

Construction Phase

1. Construction of the facilities
2. Construction management and inspection
3. Start-up testing
4. Contract close-out

Detailed Breakdown of Project Tasks and Activities

Planning and Design Phase

1. Environmental Compliance: Prepare and file the Initial Study and Notice of Preparation for compliance with California Environmental Quality Act (CEQA). National Environmental Policy Act (NEPA) documentation to comply with federal grant requirements will proceed in June 2015 to complete the environmental compliance.
2. Engineering Design: Final design of the storage tank, pump station, piping, and site facilities began in January 2015 and will be completed by September 2015. IRWD has contracted with URS and Kleinfelder, who will provide the required geotechnical, civil, mechanical, electrical, and instrumentation/controls engineering disciplines, working on the design as a coordinated team. Engineering design and documents will include drawings and specifications issued for competitive bids by qualified contractors.

3. Bid Phase Engineering Services: This phase will begin once the final design is complete. It is anticipated that a 60-day bid period will conclude in December 2015 when construction bids will be received and a contract will be awarded. During the bid phase, the design engineer will respond to requests for clarification of the plans and specifications by issuing addenda where necessary.

Construction Phase

1. Following issuance of the notice to proceed in January 2016, contractor mobilization and site surveying, clearing and grading will begin.
2. Construction will progress concurrently at the two sites (storage tank and pump station). The steel storage tank will be erected on a concrete pad. Solar panels will be installed to produce renewable energy for site security systems. Pumps will be installed along with piping, fittings, valves, motors, adjustable frequency drives, electrical power, and instrumentation and controls. Below grade piping will be installed connecting the storage tank to the existing ILP. Below grade piping will be installed connecting the booster pump station with the existing Zone B system to convey recycled water to the Zone C system. Site facilities and access roads, security systems, telemetry, controls, and appurtenances will be constructed. It is anticipated that the construction phase will begin in January 2016 and extend for 18 months, ending in June 2017.
3. Construction management and inspection will run in parallel with the construction phase and will include the following tasks:
    a. Contract administration: IRWD staff will manage all aspects of the Project and will be responsible for coordination of the design, construction and start-up testing phases.
    b. Review contractor shop drawing submittals: The IRWD construction management staff will oversee and inspect the contractor's work for compliance with the approved shop drawing submittals. The design engineer will be responsible for review and approval of the shop drawings.
    c. Respond to requests for information: IRWD will coordinate requests for information with the design team.
    d. Attend progress meetings and review pay requests: The IRWD Project Manager will be responsible for administrating the entire project from final design through start-up. The Project Manager will be the main point of contact for administration of the grant agreement, preparation of invoices, and preparation of all deliverables, reports, plans, specifications, and supporting documentation for the project.
    e. Inspect construction: IRWD staff will provide all inspection services. When bids are received, reviewed and the construction contract is awarded, IRWD will

develop a construction management staff, which will include a construction resident engineer, project manager, inspector and project administration staff.

f. Materials testing: testing of all materials used in the construction development.
g. Preparation of record drawings at completion of the Project.

4. Start-up testing will be conducted between April and May 2017. IRWD staff will coordinate the start-up and testing phase of the project as construction nears completion.
5. Contract close-out: Administration of the project will be managed by IRWD; tasks include budgeting, expenditures, schedule and progress reporting. Status reports will be submitted with invoices as the project progresses and a final report will be submitted at the completion of the project in June 2017.

Project Schedule

The ILP Conversion Project schedule is shown in **Figure 11**. Key milestones are listed below:

- October 2015 – Environmental Compliance Completed
- September 2015 – Final Engineering Design Completed
- December 2015 – Construction Bids Received and Contract Awarded
- January 2016 – June 2017 – Construction
- May 2017 – Start-up Testing Completed
- June 2017 – Contract Close-out and Final Report Submitted to Reclamation

Figure 11: ILP Conversion Project Schedule

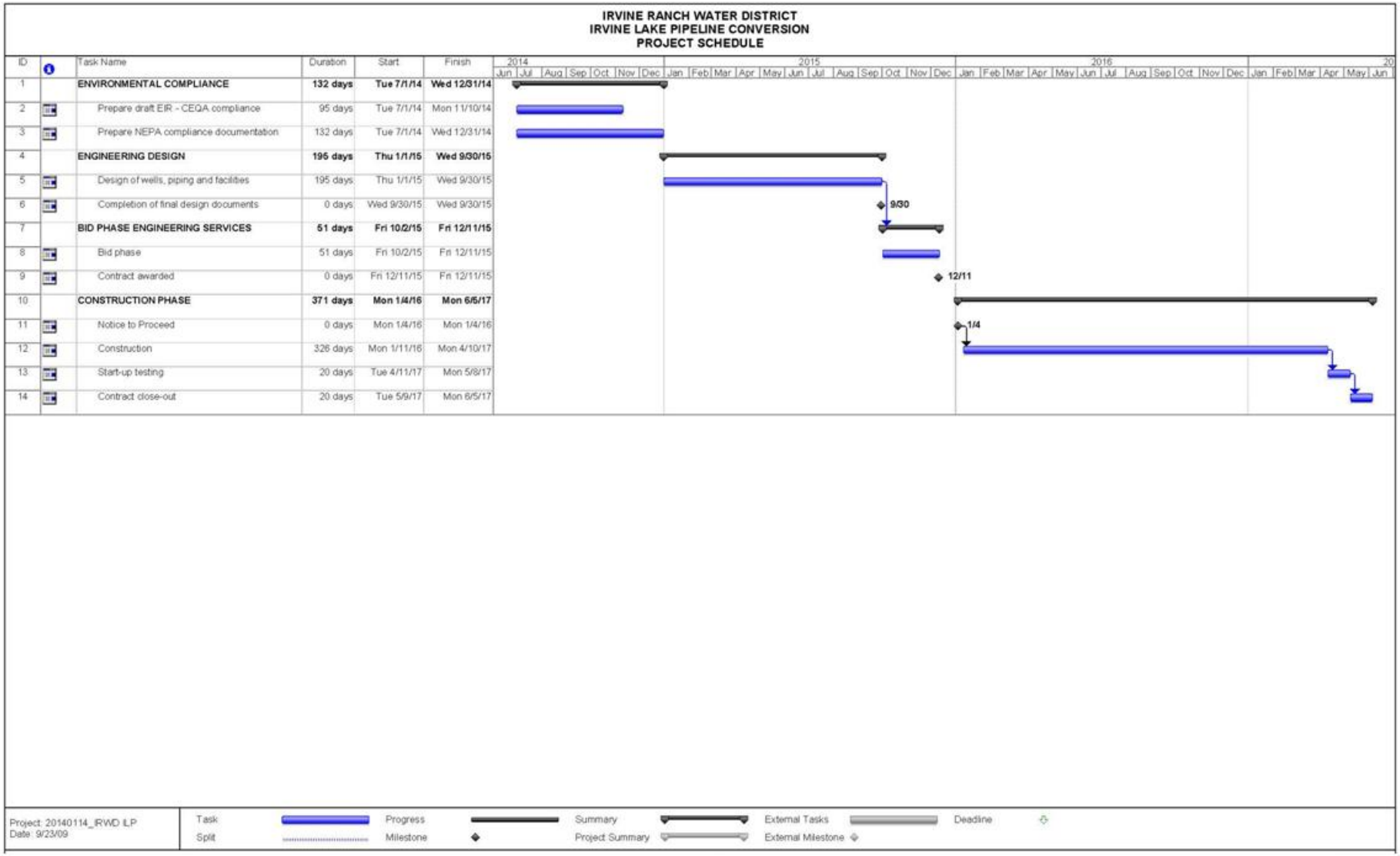


Table 2 summarizes the applicable agencies and permits/approvals for the Project.

Table 2: Summary of Permits/Approvals Required for the ILP Conversion Project

Agency	Permit/Approval
County of Orange	▪ Encroachment permits
City of Irvine	▪ Encroachment permit
Orange County Fire Authority (OCFA)	▪ Business Emergency Plan (BEP) Update ▪ Fire Master Plan
Regional Water Quality Control Board (RWQCB)	▪ Stormwater Pollution Prevention Plan (SWPPP)
South Coast Air Quality Management District (SCAQMD)	▪ Permit to Construct/Operate
California Department of Public Health (CDPH)	▪ Title 22 Engineering Report Update
State of California Department of Transportation	▪ Encroachment permit
California Occupational Safety and Health Administration (CAL/OSHA)	▪ Excavation/Tunneling Permit (by Contractor)

D.4.5. Technical Proposal: Performance Measures

This section of the Technical Proposal describes how the Irvine Lake Pipeline (ILP) Conversion Project will fulfill each of the WaterSMART Drought Resiliency Project Grants for FY 2015 Program's criteria.

Performance of the Irvine Lake Pipeline (ILP) Conversion Project will be measured by the irrigation flow meters at the customer sites that will be converted from imported water to recycled water use.

As explained earlier in Section E.3, the ILP Conversion Project will avoid evaporation losses in Irvine Lake. Existing agricultural and irrigation customers near the lake are supplied untreated imported water via the Irvine Lake Pipeline. Irvine Lake stores untreated imported water purchased from MWD as well as native runoff water. With a surface area of 700 acres, evaporation losses at Irvine Lake are estimated at 49.7 inches per year by the Office of Water Use Efficiency, Department of Water Resources, California Irrigation Management Information System, which amounts to an average annual evaporation loss of about 2,900 AFY. In comparison to the total volume of the lake, the evaporation losses represent just over 10 percent of its 28,000 AF storage volume. Effectively, this means that approximately 10 percent more untreated imported water must be purchased and stored in the lake to yield enough untreated water for irrigation demands

and allow for evaporation losses. Therefore, in order for IRWD to supply 3,100 AFY to its customers in this area, approximately 3,410 AFY of untreated imported water must be purchased, with the difference, 310 AFY, being lost to evaporation at Irvine Lake. Converting these existing irrigation demands from untreated imported water to recycled water will eliminate this 310 AFY of evaporation loss in the lake.

In summary, the performance of ILP Conversion Project will be measured by the annual metered volume of irrigation water converted from imported to recycled water.

D.5 Environmental and Cultural Resources Compliance

The Irvine Lake Pipeline (ILP) Conversion Project will comply with all State and Federal environmental compliance requirements.

Answers to specific Reclamation questions follow:

1. *Will the project impact the surrounding environment (i.e., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.*

   The ILP Conversion Project will be constructed primarily on two sites in the north Irvine-Tustin area, near Jamboree Road and the Eastern Transportation Corridor (California State Routes 261 and 241). The sites are less than two miles apart. The booster pump station will be constructed at the southern site, adjacent to an existing IRWD potable water pump station. The storage tank will be built at the northern site. Below ground pipelines will be constructed connecting the pump station and tank with the existing ILP.

   Because the immediate surrounding area is already developed and has existing water-related improvements, the impacts caused by construction of the Project will be mitigated by typical dust control, runoff containment, traffic control, cultural resources protection measures, noise and air emissions controls. The sites will be fenced and storm water pollution prevention protection plans will be enforced. Animal habitat will be protected and the contractor will be required to take special precautions. Construction impacts are expected to be limited in nature and controlled by mitigation measures. Long-term impacts during operation of the pump station and storage tank will comply with the requirements of the EIR.

2. *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 the proposed project?*

Neither the booster pump station site nor the storage tank site is located close to creeks; thus, the likelihood of the Project activities on the critical habitat are minimal. Mitigation measures for any threatened or endangered species will be determined in the Mitigated Negative Declaration and required for the Project. CEQA and NEPA documentation will evaluate the potential for the Project to impact biological resources, such as sensitive species and critical habitats.

3. *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.*

   The Project area does not contain any wetlands within its boundaries. The ILP Conversion Project will reduce withdrawals from Irvine Lake, which stores imported water and native runoff. The Project will expand IRWD's recycled water system to serve irrigation use, offsetting imported water demands. Reducing the withdrawals from Irvine Lake, particularly during the summer, will provide benefits for recreational use at the lake.

4. *When was the water delivery system constructed?*

   The Irvine Lake Pipeline was constructed in 1970 as part of the agricultural irrigation water supply conveyance system to bring imported water through Municipal Water District of Orange County (MWDOC) and Metropolitan Water District of Southern California (MWD) to the Irvine Ranch. Irvine Lake, which is located on Santiago Creek in Orange County, was constructed in between 1929 and 1931. IRWD's recycled water system has been gradually expanded over the years, beginning in 1963 and continuing today.

5. *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.*

   The ILP Conversion Project will not result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes). Piping connections will be made with the Irvine Lake Pipeline, which was constructed in 1970.

6. *Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.*

   No buildings, structures, or features in the Project area are listed or eligible for list on the National Register of Historic Places.

7. *Are there any known archeological sites in the proposed project area?*

   No known archeological sites are located in the proposed Project area. The ILP Conversion Project will be constructed in the north Irvine-Tustin area, near the Eastern Transportation Corridor (California State Routes 261 and 241), and where other water infrastructure owned by IRWD already exists. The recycled water booster pumping station will be located at the same site as an existing IRWD potable water pump station.

8. *Will the project have a disproportionately high and adverse effect on low income or minority populations?*

   No, the ILP Conversion Project will have no disproportionately high and adverse effects on low income or minority populations.

9. *Will the project limit access and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?*

   No, the Project is not located on or near any Indian sacred sites or tribal lands.

10. *Will the project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?*

    No, the Project will not introduce, support the continued existence, or spread of noxious weeds or non-native invasive species known to occur in Orange County.

Note, if mitigation is required to lessen environmental impacts, the applicant may, at Reclamation's discretion, be required to report on progress and completion of these commitments. Reclamation will coordinate with the applicant to establish reporting requirements and intervals accordingly.

Under no circumstances may an applicant begin any ground-disturbing activities (including grading, clearing, and other preliminary activities) on a project before environmental compliance is complete and Reclamation explicitly authorizes work to proceed. This pertains to all components of the proposed project, including those that are part of the applicant's non-Federal cost share. Reclamation will provide a successful applicant will information once environmental compliance is complete. An applicant that proceeds before environmental compliance is complete may risk forfeiting Reclamation funding under this FOA.

D.6 Existing Drought Contingency Plan

IRWD's most recent Water Shortage Contingency Plan (WSCP) is attached to this application.

D.7 Required Permits or Approvals

Permits and approvals will be required from local, regional, and State agencies for the Irvine Lake Pipeline (ILP) Conversion Project. **Table 3** summarizes the applicable agencies and permits/approvals that are anticipated for the Project.

Table 3: Summary of Permits/Approvals Required for the ILP Conversion Project

Agency	Permit/Approval
County of Orange	▪ Encroachment permits
City of Irvine	▪ Encroachment permit
Orange County Fire Authority (OCFA)	▪ Business Emergency Plan (BEP) Update ▪ Fire Master Plan
Regional Water Quality Control Board (RWQCB)	▪ Stormwater Pollution Prevention Plan (SWPPP)
South Coast Air Quality Management District (SCAQMD)	▪ Permit to Construct/Operate
California Department of Public Health (CDPH)	▪ Title 22 Engineering Report Update
State of California Department of Transportation	▪ Encroachment permit
California Occupational Safety and Health Administration (CAL/OSHA)	▪ Excavation/Tunneling Permit (by Contractor)

D.7 Letters of Project Support

IRWD will be the source and support for all non-Federal funding for the project. IRWD will fund the entire non-Federal share of the project costs from IRWD's Capital Improvement Budget.

D.8 Official Resolution

The official Resolution of IRWD Board of Directors, authorizing this application and committing IRWD to the financial and legal obligations associated with receipt of WaterSMART Grant financial assistance is included at the end of this application.

D.9 Project Budget

The proposed project budget is presented in this section.

D.9.1. Funding Plan and Letters of Commitment

The total estimated project budget for the Irvine Lake Pipeline Conversion Project is $14,406,686.

OMB Number: 4040-0008
Expiration Date: 06/30/2014

BUDGET INFORMATION - Construction Programs

NOTE: Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case, you will be notified.

COST CLASSIFICATION	a. Total Cost	b. Costs Not Allowable for Participation	c. Total Allowable Costs (Columns a-b)
1. Administrative and legal expenses	$ 82,700.00	$	$ 82,700.00
2. Land, structures, rights-of-way, appraisals, etc.	$	$	$
3. Relocation expenses and payments	$	$	$
4. Architectural and engineering fees	$ 100,084.00	$	$ 100,084.00
5. Other architectural and engineering fees	$	$	$
6. Project inspection fees	$	$	$
7. Site work	$ 3,759,400.00	$	$ 3,759,400.00
8. Demolition and removal	$ 425,000.00	$	$ 425,000.00
9. Construction	$ 9,950,837.00	$	$ 9,950,837.00
10. Equipment	$	$	$
11. Miscellaneous	$ 86,015.00	$	$ 86,015.00
12. SUBTOTAL *(sum of lines 1-11)*	$ 14,404,036.00	$	$ 14,404,036.00
13. Contingencies	$	$	$
14. SUBTOTAL	$ 14,404,036.00	$	$ 14,404,036.00
15. Project (program) income	$	$	$
16. TOTAL PROJECT COSTS *(subtract #15 from #14)*	$ 14,404,036.00	$	$ 14,404,036.00

FEDERAL FUNDING

17. Federal assistance requested, calculate as follows: (Consult Federal agency for Federal percentage share.) Enter the resulting Federal share.	Enter eligible costs from line 16c Multiply X 2 %	$ 288,080.72

RESOLUTION NO. 2015 -15

RESOLUTION OF THE BOARD OF DIRECTORS OF
IRVINE RANCH WATER DISTRICT AUTHORIZING SUBMISSION OF
A GRANT APPLICATION FOR THE IRVINE LAKE PIPELINE CONVERSION PROJECT
TO THE DEPARTMENT OF THE INTERIOR, BUREAU OF RECLAMATION, POLICY
AND ADMINISTRATION

WHEREAS the Department of the Interior, Bureau of Reclamation, Policy and Administration (Reclamation) has released a Funding Opportunity Announcement to provide federal grant funding under the WaterSMART: Drought Resiliency Project Grants for Fiscal Year (FY) 2015; and

WHEREAS Reclamation is seeking applications from eligible water delivery agencies to cost share 50 percent or more with Reclamation on projects that increase the reliability of water supplies; improve water management; facilitate the voluntary sale, transfer, or exchange of water; provide benefits for fish and wildlife and the environment; and

WHEREAS the Irvine Ranch Water District is eligible to submit an application for grant funding up to $300,000 for its Irvine Lake Pipeline Conversion project with a cost share of 50 percent or more of the total project costs.

NOW, THEREFORE, the Board of Directors of IRVINE RANCH WATER DISTRICT DOES HEREBY RESOLVE, DETERMINE and ORDER as follows:

Section 1. The General Manager of the Irvine Ranch Water District or his/her designee is hereby authorized to submit an application to Reclamation for grant funding up to $300,000 for the Irvine Lake North Pipeline Conversion project.

Section 2. The Board of Directors of the Irvine Ranch Water District has reviewed and supports the application for a grant from Reclamation for the construction of Irvine Lake North Pipeline Conversion project facilities.

Section 3. The Irvine Ranch Water District hereby agrees and further confirms that it has the capability to provide its cost share funding (50 percent or more of the total project costs) as specified in the application's project funding plan.

Section 4. The General Manager or his/her designee is hereby authorized to enter into a cooperative agreement and any amendments thereto with Reclamation on behalf of the Irvine Ranch Water District.

Section 5. The General Manager or his/her designee is hereby authorized to work with Reclamation to meet the established deadlines for entering into a cooperative agreement.

Section 6. That the Secretary is hereby authorized to certify a copy of this resolution to accompany the grant application.

ADOPTED, SIGNED AND APPROVED this 8th day of June, 2015.

President, IRVINE RANCH WATER DISTRICT
and the Board of Directors there of

Secretary, IRVINE RANCH WATER DISTRICT
and the Board of Directors there of

APPROVED AS TO FORM:
BOWIE, ARNESON, WILES & GIANNONE
Legal Counsel—IRWD

By: _____

STATE OF CALIFORNIA)
) SS.
COUNTY OF ORANGE)

I, Nancy Savedra, Assistant Secretary of the Board of Directors of Irvine Ranch Water District, do hereby certify that the foregoing Resolution was duly adopted by the Board of Directors of said District at a regular board meeting of said Board held on the 26th day of May 2015, and that it was so adopted by the following vote:

AYES:	DIRECTORS	LaMar, Matheis, Swan and Withers
NOES:	DIRECTORS	None
ABSTAIN:	DIRECTORS	None
ABSENT:	DIRECTORS	Reinhart

(SEAL)

Nancy Savedra
Assistant Secretary of IRVINE RANCH WATER DISTRICT
and of the Board of Directors thereof

STATE OF CALIFORNIA)
) SS.
COUNTY OF ORANGE)

I, Nancy Savedra, Assistant Secretary of the Board of Directors of Irvine Ranch Water District, do hereby certify that the above and foregoing is a full, true and correct copy of Resolution No. 2015-15 of said Board, and that the same has not been amended or repealed.

Dated: 6/10/15

Nancy Savedra
Assistant Secretary of IRVINE RANCH WATER DISTRICT
and of the Board of Directors thereof

(SEAL)

WATER SHORTAGE CONTINGENCY PLAN
February 2009

PART I: EXECUTIVE SUMMARY

Background

IRWD's response to a water supply shortage varies depending on the magnitude and nature of the shortfall. A supply shortage is defined as a reduction in total supplies, typically resulting from one of two conditions:

- Drought conditions that limit availability of imported water or local supplies.
- System interruptions that result from emergency outage conditions.

IRWD's response to any water supply shortage depends on the cause, severity and anticipated duration of the shortage. Use of local supplies, storage and other supply augmentation measures can mitigate shortages, and are assumed to be in use to the maximum extent possible during declared shortage levels. The resultant net shortage levels can be addressed by demand reduction programs, as described in this Plan. This document is intended primarily to address drought supply shortages, however at the discretion of the Board, this Plan may also be used to address system outages, although these are more explicitly addressed in IRWD's Water Supply Reliability Study (June 2008).

Supply Shortage Conditions

Given the assumption that the level of water supply shortage experienced at any point in time is net of mitigating supply factors, two basic considerations emerge in formulating a water shortage plan: (1) the shortage must be offset by demand reduction, and (2) the demand reduction program must be incremental in nature since shortage conditions are normally progressive. This means that a shortage contingency plan should be designed to address varying levels of supply deficits with recommended actions predicated upon the actual deficit level. Therefore this plan develops a shortage response based upon four levels of supply cutbacks:

- *Level One* is a shortage warning and low level shortage condition with supply reductions of up to 10%.
- *Level Two* is a significant shortage condition indicated by shortages between 10 to 25%.

- *Level Three* is a severe shortage condition indicated by shortages ranging from 25 to 40%.
- *Level Four* is a crisis shortage condition resulting when shortages exceed 40%.

Each shortage level will trigger a set of response measures aimed at reducing demand to the level of supply. Steps taken within each level should be considered cumulative; that is, Level Two responses will include most if not all the responses in Level One plus the additional actions necessary to meet the Level Two condition. Level Three will include most if not all the responses in Level Two plus the additional measures necessary to meet a Level Three condition, and so on.

However, if a shortage condition persisted over an extended period of time, it may be necessary to implement a higher level response to sustain required reductions. Thus both the severity of supply reductions and the duration over which the reductions are experienced will determine the appropriate response.

Supply Shortage Response Measures

In addition to basic measures which are always in effect, there are three types of response measures that can be implemented by the District in the event of a supply shortage.

- Voluntary measures through increased public outreach, education and awareness (V)
- Demand management through the use of the District's allocation-based rate structure (D).
- Mandatory measures through restrictions on use and enforcement (M).

In general terms, voluntary customer responses and demand management through the use of the allocation-based rate structure will be used in all four shortage levels identified in this plan. A combination of voluntary and demand management strategies are likely to be sufficient to address virtually all shortage levels. Responses to shortages in Levels Three and Four may also include restrictions on use and enforcement. Below is a summary of anticipated supply shortage response measures.

Supply Shortage Response Measure	IRWD Supply Shortage Level	Voluntary (V), Demand Management (D) or Mandatory (M)
Public Education	Always In Effect	
Prohibition of Gutter Flooding	Always In Effect	
Prohibition of Leaks	Always In Effect	
Prohibition of Water Waste	Always In Effect	
Enhanced Public Awareness Campaign	Level One	V
Target Over-Allocation Customers for Surveys/Assistance	Level One	V
Review and Adjust Customer Allocations and/or Tiers as necessary	Level One/Two	D
Reduce Potable and Untreated Irrigation and Agricultural Allocations by 30% or other percentage specified in the shortage level declaration	Level Two	D
Reduce Potable and Untreated Irrigation Allocations by 60% or other percentage specified in the shortage level declaration	Level Three	D
Reduce Commercial, Industrial and Institutional Potable Allocations by 10% or other percentage specified in the shortage level declaration	Level Three	D
Increase Rates for Over-Allocation Use Tiers	Level Three/Four	D
Further reduction of allocations, tightening of tiers and rate increases to achieve necessary demand reductions	Level Four	D/M
Eliminate Outdoor Use (100% reduction)	Level Four	D/M
Mandatory restrictions and enforcement	Level Four	M

These response measures may be applied singly or in combination and may vary according to the severity and duration of the shortage. Other measures may be applied in lieu of or in addition to those described in this plan. The application of shortage level response measures or restrictions may vary as to type of water service. In the implementation of measures or restrictions on potable water service through the declaration of a shortage level, the District will determine and set forth how and to what extent, if any, such measures or restrictions, or different measures or restrictions, will be applied to nonpotable water services furnished by the District. IRWD's Board of Directors will declare the level of shortage based on water supply conditions.

Imported Water Supply Shortage

An imported water supply shortage represents one of the main causes of a supply shortage for the District. In 2008 approximately one-third of IRWD's water supply was imported through Metropolitan Water District of Southern California (MWD). While potential reductions in imported water deliveries from MWD can be mitigated to some extent by the addition of other local supplies, such as increased pumping from groundwater facilities, or the conversion of certain potable water uses to recycled water (see IRWD's Water Resources Master Plan (WRPM) and Urban Water Management Plan (UWMP)), the range of shortages projected herein is assumed to be net of those supply augmentation measures. That is, supply shortages identified as, say 20%, is the actual shortage confronted by the District's customers after supply augmentation factors have been implemented. This plan is intended to develop a set of options to reduce demand; the development of supply augmentation options is outside the scope of this analysis and is addressed in the WRMP and UWMP.

In February 2008 the MWD adopted a Water Supply Allocation Plan based on its declared level of shortage. IRWD has performed analysis relating to varying hydrologic conditions, availability of supply augmentation measures and additional conservation. Based on the results of the modeling, Table 1 illustrates IRWD water shortage levels correlated with MWD's allocation shortage plan.

Table 1: IRWD Water Shortage Levels Correlated with MWD Allocation Stages:

MWD Stage	MWD Supply Shortage	IRWD Reliability Range	IRWD Shortage Level
1	5%	97-100%	1
2	10%	95-100%	1
3	15%	93-100%	1
4	20%	91-100%	1
5	25%	88-99%	1 or 2
6	30%	86-97%	2
7	35%	84-95%	2
8	40%	82-92%	2
9	45%	79-89%	2

10	50%	77-88%	2 or 3

The above table assumes a dry local hydrology for multiple years and limited access to groundwater. Actual correlations may differ depending on local hydrology at the time of the shortage.

PART II: SHORTAGE RESPONSE STRATEGIES

Basic Measures Always In Effect

The following basic measures are considered good water management practices, and are always in effect regardless of whether a shortage level is declared. These measures are contained in IRWD's Rules and Regulations (Section 15):

(a) *Gutter Flooding* - No person shall cause or permit any water furnished to any property within the District to run or to escape from any hose, pipe, valve, faucet, sprinkler, or irrigation device into any gutter or otherwise to escape from the property if such running or escaping can reasonably be prevented.

(b) *Leaks* - No person shall permit leaks of water that he has the authority to eliminate.

(c) *Washing Hard Surface Areas* - Washing down hard or paved surfaces, including, but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards.

(d) *Waste* - No person shall cause or permit water under his control to be wasted. Wasteful usage includes, but is not limited to, the uses listed in Section 13(a) of Exhibit 1 to the Memorandum of Understanding Regarding Urban Water Conservation in California, dated December 11, 2002, as amended from time to time, or the counterpart of said list contained in any successor document.

Under the District's allocation-based conservation rate structure that is in effect during non-shortage conditions, customer allocations are limited to the amount that is reasonable for the customer's needs and property characteristics, and reflect the exclusion of these types of wasteful water uses.

Water Supply Shortage Response Measures

IRWD would employ a range of measures in response to potential shortages depending on the level and duration. While the measures will be applied incrementally, this Plan builds in a level of flexibility to adopt additional measures to ensure the appropriate level of demand reduction.

The use of IRWD's allocation-based rates and the assessment of higher rates for over-allocation or wasteful use provides IRWD with an additional strategy to help achieve demand reductions. For illustration purposes, Table 2 shows water reductions requirements that would be required during three shortage conditions, using water demand data from 2007 (See Appendix A for total treated and untreated water demands).

Table 2: Water Conservation Requirements – Acre-Feet:

Shortage Percentage	**10%**	**25%**	**40%**
Treated and Untreated Water	6,673	16,683	26,693
Treated Water Only	5,874	14,686	23,497

In order to achieve the necessary demand reductions, IRWD's measures will progress from voluntary reductions to reduction of discretionary uses through financial incentives or restrictions to reduction of non-discretionary uses through financial incentives or restrictions based on the level of the shortage. Most shortages, unless extreme (Level Four or system outage), can be addressed with a combination of voluntary measures and a reduction of discretionary uses through financial incentives.

Response Measures: Voluntary

The single most important step the District can take in implementing voluntary measures is to inform the public consciousness in order to help reduce water demand. It should be noted that the District has implemented on-going water use efficiency and outreach programs since the early 1990's, and those efforts combined with the allocation-based tiered rates, have resulted in somewhat hardened levels of demand. The District will employ additional strategies to achieve the necessary demand reductions in a shortage situation. Most of the effort will be focused on providing additional outreach to high usage tier customers.

1. *Public Outreach:* An outreach program will educate the public and local leaders on the water supply situation; what actions are proposed; what the intended achievements are; and how these actions are to be implemented. This will be accomplished by having key District personnel present to groups such as the city council, community associations,

chambers of commerce, business groups, etc. An endorsement of proposed District plans by these groups will assist in obtaining the public support essential in confronting water shortages.

The public at large will be informed through press releases, billing inserts, water conservation booths, community association meetings, newsletters, church groups, etc. Literature will be provided on the shortage condition, conservation methods, and water-saving devices and be distributed through the fire and police stations, libraries, city hall, schools, shopping center, recreation facilities, etc. Certain behavior modifications, such as those listed below, can help address the need for immediate conservation.

- Survey plumbing every two months and eliminate water loss resulting from leaky plumbing fixtures.
- Restrict showers to five minutes or less; fill the bath tub no more than one-quarter full.
- Do not run water unnecessarily while shaving, brushing teeth, bathing, preparing food, etc.
- Run only full loads of laundry and dishes.
- Reduce landscape watering.
- Fill swimming pools to a lower level to minimize water loss due to splashing.

2. *Education Programs:* School programs will focus on the water shortage situation. In addition to the usual District background information, the supply situation and conservation methods will be highlighted. Demonstrations using sample water-saving devices can be given; literature will be distributed.

3. *Logo:* A water conservation or shortage response logo will be adopted and vigorously promoted as a symbol to influence public attitudes toward water use.

4. *Media:* Extensive use of all available forms of media will be employed and coordinated with other agencies. This includes public service messages on radio and television and

press releases in local newspapers. The messaging and level of response will be correlated with the need for demand reductions.

5. *Target Over-Allocation Customers:* District staff will ramp up its ongoing outreach efforts to more aggressively target over-allocation customers. Over-allocation use is considered wasteful use; customers in these tiers will be contacted via letter, telephone, e-mail and other means. On-site assistance/audits will help identify the source of the over-allocation use and provide recommendations to address the problem.

6. *Customer Service:* Anyone observing potential over-use within IRWD's service area will be encouraged to call in to IRWD's Customer Service Department for assistance. A customer service representative will generate a customer service request (CSR) linked to the account to ensure appropriate follow-up and resolution by the District.

Response Measures: Demand Management and Use of Allocation-Based Rates

The allocation-based tiered rate structure adopted by IRWD in 1991 is intended to function as a tool to promote ongoing water use efficiency. Water is allocated on an individual customer basis established upon specific indoor uses and outdoor irrigation needs. The structure includes a five-tiered system for residential customers and a four-tiered system for non-residential customers, and charges progressively higher rates for progressively higher amounts of water used. Use within a customer's allocation is encouraged through a significantly tiered commodity pricing system which discourages wasteful use. The allocation-based tiered rates provide IRWD with an effective mechanism to alter demand through pricing.

Analysis of Usage and Tiers

A detailed analysis of the usage and tiers, with the most recently available data, is one of the first steps that should be undertaken in developing demand management strategies, including potential adjustments to the tiers and allocations. Appendix A: 2007 Annual Usage and Tier Break-Down shows the annual usage and tier break-down information for treated and untreated

water sources, based on data from calendar year 2007. The first two tiers shown (1 and 2) indicate usage within allocation. Tiers 3 to 5 indicate over-allocation use.

Basic water allocations should be reviewed on a periodic basis taking into consideration changes since the most recent review of these allocations, including changes to the plumbing code that improve water use efficiency, water conservation devices and more efficient irrigation systems available to the average customer. Beyond this, there are several mechanisms that can be employed either separately or in combination to achieve the necessary level of demand reductions.

Allocation Adjustment Strategies for Demand Management

1. Adjusting the Tier Thresholds: This strategy does not adjust the actual allocation formula itself, but rather adjusts the percentage thresholds for the over-allocation tiers. The current tiers and thresholds for the various account types are shown in Table 3. Adjusting the tier thresholds downward would have the effect of shifting more use into the higher over-allocation tiers. Customers in these tiers would be subjected to increased rates depending on the extent of their use (percentage of use above allocation). Reducing the tier thresholds would send stronger price signals by moving over-using customers into the higher tiers.

Table 3: Allocation-Based Rates Tier Thresholds

Tier	Percentage of Allocation		
	Residential	Irrigation	Non-Residential
Low Volume	0-40%	0-40 %	N/A
Base	41-100%	41 – 100%	0-100%
Inefficient	101 – 150%	101 – 110%	101 – 110%
Excessive	151 -200%	111 -120%	111 -120%
Wasteful	201% +	121% +	121% +

2. Allocation Adjustments: An adjustment to the allocation entails refining the allocation formula. This can be done either as a simple percentage adjustment or by adjusting a specific portion of the formula. For example, residential allocations are made up of an

indoor plus an outdoor allocation component. It is possible to adjust the outdoor component downward to allow for less outdoor irrigation or eliminate it altogether depending on the need for demand reductions. Water allocations could also be set to levels that would eliminate all outdoor water use including irrigation, car washing, pool filing, agricultural use of non-recycled water etc. Under this scenario the indoor component could be left the same or could be altered as necessary.

3. Rate Increases for Over-Allocation Use: This approach entails adopting higher rates for over-allocation use, and would be linked to purchases of imported water at Metropolitan's penalty rates, among other things.

These three types of allocation adjustments can be established and refined based on customer response in such a way that specified uses are discouraged. The allocations can be established in such a way that certain uses are not included in the allocation. Customers engaging in these uses would receive over-allocation tier charges on their water bill.

In Levels One and Two, a combination of adjusting the tier thresholds and/or the allocations, as necessary, is likely to be sufficient to achieve the required demand reductions. In Levels Three and Four, those strategies, plus the use of rate increases with stronger price signals for over-allocation use, could be used to achieve further demand reductions. In all cases, adjustments to the allocations, tiers and rates will be at the discretion of the Board, and will be based on an assessment of the supply shortage, customer response and need for demand reductions.

Enforcement Mechanism:

Application of any or a combination of the allocation adjustment strategies will place customers into the higher usage tiers, which acts as a reporting and enforcement mechanism by creating a strong financial incentive for customers to reduce demands. The higher rates for above allocation use reflect and incorporate the cost of additional demand management measures, as well as the additional cost to IRWD of acquiring water supplies in a shortage.

Response Measures: Mandatory

Extreme shortage conditions (severe Level Three and Level Four) may require that the District adopt restrictions and/or ration water for health and safety purposes only. A system outage requires a rapid response based on the fact that there is typically a need for more immediate action to deal with an emergency situation. In a system outage emergency, the IRWD Board of Directors will declare a shortage based upon the projected impact of the system outage. Since adjustments to tiers and allocations typically have a time lag in implementation and effect, those measures will be of limited usefulness in a system outage. Therefore, in addition to the measures always in effect, the Board may impose any combination of the following mandatory measures and rationing to alleviate demands.

1. *Potable Irrigation Ban*: Outdoor irrigation would be the initial target for any demand reductions. Demand reductions or eliminations that cannot be met through voluntary measures and financial incentives related to adjustments in the allocation based rate structure, would be attained through a ban on potable irrigation. Table 4 indicates the potential demand reductions that could be attained from 30%, 60% and complete elimination of outdoor irrigation. This includes dedicated landscapes, mixed use commercial accounts and residential outdoor irrigation.

Table 4: Potential Water Savings (AF) Based on Irrigation Cutbacks:

% Irrigation Cutback	**30%**	**60%**	**100%**
Potable Irrigation	8,980	17,959	29,932
Untreated Irrigation	351	701	1,169
Total	9,330	18,660	31,101

2. *Ban on car-washing and pool-filling:* Demand reductions on car-washing and pool filling that cannot be achieved through voluntary measures and financial incentives related to adjustments in the allocation-based rate structure would be attained through a ban on these actions.

Enforcement Measures

1. *Flow restrictors:* Under extreme conditions of noncompliance, the District could install flow restrictors in individual service lines. Thus, water would be available for drinking, cooking, sponge baths, and slow fill of toilet tanks, but showers and other high volume type uses would not be possible. Under these conditions individual customer reaction would be severe. It would probably be necessary to augment the customer service field service staff to maintain surveillance of these services to assure that unauthorized changes are not made by the customer.

2. *Mandatory Restrictions and Fines:* The District's ability to establish restrictions on water use and to possibly discontinue non-health and safety related service in the case of repeat violators is provided for under the Water Code of the State of California Chapters 3 and 3.5).

PART III: SHORTAGE RESPONSE PLAN

IRWD Water Supply Shortage Levels

In the event of a shortage, IRWD's Board of Directors, in accordance with the provisions of the California Water Code, will determine and declare the shortage level based on an assessment of the available supplies and demands, and may adjust the measures applied based on response in order to achieve the appropriate level of reduction. The following are the levels of shortage which may be declared; the approximate ranges of conditions the levels represent; and the reductions to be achieved:

Level One (Shortage Warning - up to 10% shortage):

Measures selected would be designed to achieve the following objectives:

Objectives:

- Public awareness of water supply situation and conservation opportunities
- Encourage diligent repair of water leaks
- Reduce over-allocation use
- Reduce outdoor over-irrigation

Measures: The measures used in Level One are primarily voluntary actions that modify customer behavior resulting from an enhanced public awareness campaign. In addition, increased outreach targeted toward over-allocation customers to help them identify the source of their overuse, and correct the problem should be sufficient to meet the objectives in Level One.

Costs and Outcomes: Based on 2007 data, a supply shortage of 10% represents approximately 6,600 AF. Information from the 2007 Annual Usage and Tier Break-Down presented in Appendix A indicates that over allocation use (sum of usage in tiers 3-5) accounts for approximately 4,200 AF of non-recycled water usage. Therefore, reducing the over-allocation use, combined with a strong public awareness campaign is expected to be sufficient to achieve the necessary reductions in Level One. The cost to implement voluntary responses is minimal, especially considering the return in reduced demand on the investment. None of the recommended steps would be difficult to implement or administer. The District has the basic infrastructure to pursue most voluntary measures through the Public Affairs and Conservation

Departments. However, the District may need to conduct training and adjust its staff resources to effectively provide additional outreach to high usage tier customers.

Level Two (Significant Shortage Condition - 10-25% shortage): Measures selected would be designed to incorporate the objectives listed under Level One, and achieve the following further reduction in use:

Objectives:

- Review of allocations and potential adjustments to reduce outdoor irrigation and agricultural uses by 30%, or a percentage to be specified in the shortage declaration, based on a supply and demand analysis.
- Discourage filling of fountains, pools and water features and other discretionary uses.

Measures: Use of allocation and tier threshold adjustments is expected to be sufficient to achieve the necessary demand reduction objectives in a Level Two shortage. Adjustments to the allocations would employ the demand management/allocation adjustment strategies described in Part II of the document (pages 8-9).

Costs and Outcomes: A Level Two shortage can be offset by voluntary public response and perhaps minimal additional measures, such as reducing water allocations for non-crucial water uses including irrigation demands. Again using the 2007 Annual Usage and Tier Break-Down in Appendix A, a 30% reduction in potable irrigation and agricultural use (potable and untreated) would reduce the demands by an additional 9,300 AF , which combined with the Level One measures would result in a reduction in total demand of approximately 25%. Currently, there are some agricultural users using treated water within IRWD's service area. However, in the future, this demand is anticipated to decline to zero, in which case additional measures and adjustments to the allocations may be necessary to achieve the necessary Level 2 reductions. Depending on the duration and severity of the Level Two shortage, additional temporary staff in water conservation may be required to increase water awareness campaigns and assist customers with reduced irrigation allocations.

Level Three (Severe Shortage Condition - 25-40% shortage): Measures selected would be designed to incorporate the objectives listed under Level Two, and achieve the following further reduction in use.

Objectives:

- Further reductions in and/or eliminations of non-essential uses.
- Further reduce outdoor irrigation and agricultural uses by 60%, or a percentage to be specified in the shortage declaration, based on an analysis of supply and demand.
- Reduction in commercial, industrial and institutional use by 10%, or a percentage to be specified in the shortage declaration, based on an analysis of supply and demand.
- Elimination of specific municipal uses such as street cleaning, hydrant flushing, water-based recreation, etc.
- Activation of a District Task Force to investigate and consult with high-volume users (i.e. public authorities, universities, community associations, etc.) to assist in reducing the water demands of their properties.

Measures: Again, use of the demand management/allocation-based rate adjustment strategies described in Part II of this document (pages 8-9) will used as a key tool to achieve these objectives. For example, allocations can be reduced to minimize outdoor use and other discretionary uses by excluding those types of uses from the allocation. If necessary, higher rates for over-allocation use could also be adopted, at the discretion of the Board.

Costs and Outcomes: While it is difficult to precisely estimate the total reduction in demand that would be realized from the cumulative measures taken in Levels One, Two and Three, a Level Three shortage condition could entail significant adjustments to allocations and the implementation of mandatory measures to meet the District's reduction needs. In addition to increasing over-allocation tier charges, all common area landscape irrigation and agricultural irrigation should be reduced drastically, or eliminated completely if necessary by adjusting the water use allocations. Reduction of allocations of treated and untreated water serving irrigation (including residential landscapes) by 60% would reduce total demand by approximately 27% (see Appendix A: 2007 Annual Usage and Tier Break-Down). When one meter serves both internal use and landscaping, monitoring and public support would be needed to ensure that no

irrigation takes place. An expanded irrigation group would be effective in these efforts. Untreated or recycled water use would only be reduced as needed based on the impact of reduced wastewater flows to recycled water production. Commercial, industrial and institutional customer allocations would be reduced by up to 10%.

Level Four (Crisis Shortage Condition - more than 40% shortage): Measures selected would be designed to incorporate the objectives listed under Level Three, and achieve the following further reductions in use:

Objectives:

- Cease all outdoor water uses for landscape and agriculture, subject to reserved rights relating to local wells.

Measures: A Level Four shortage would likely require further adjustments to allocations and the use of all the Demand Management/Allocation-Based Rates strategies described in Part II (pages 8-9) at the discretion of the Board. In addition, the Board may determine that it is necessary to use mandatory restrictions and possible discontinuation of non-health and safety related service in order to achieve the necessary demand reductions in a Level Four shortage.

Costs and Outcomes: If over-allocation charges had been previously avoided, this tool would almost certainly be needed at this level of supply deficiencies. Increasing the over-allocation tier charge, formulated upon projected penalty charges imposed by outside supply agencies, could be added to the allocation-based tiered rate structure, sufficient to encourage demand reduction to required levels, pay for an equivalent water conservation project designed to meet the required reduction in demands and provide a source of revenue to purchase additional supplies at penalty rates. Over-allocation usage tier charges would also offset the additional administrative and implementation costs to the district including increased staffing to address shortages and enhancement and expansion of the District's water conservation programs and projects.

Appendix A

2007 Annual Treated and Untreated Water Usage

and Tier Break-Down

USER DECRIPTION	TOTAL (AFY)	Allocation Tier (AFY)				
		1	2	3	4	5
AG-TREATED	975	975	0	0	0	0
AG-UNTREATED	6,669	6,669	0	0	0	0
COMM-TREATED	8,431	8,153	163	114		0
COMM-UNTREATED	9	9	0	0	0	0
CONSTRUCTION	882	882	0	0	0	0
INDUST-TREATED	5,273	5,034	50	32	156	0
LAKE	141	141	0	0	0	0
IRRIG-TREATED	6,313	4,442	1,450	81	60	280
IRRIG-UNTREATED	1,164	647	396	22	16	83
MULTI-RESIDENTIAL	10,681	6,608	3,473	425	93	82
PUBLIC AUTHORITY-TREATED	2,652	2,463	26	21	142	0
SINGLE-RESIDENTIAL	23,537	13,138	7,784	1,878	450	287
TOTAL Acre-Feet	**66,731**	**49,166**	**13,341**	**2,575**	**917**	**733**
Percentage	**100%**	**75%**	**20%**	**4%**	**2%**	**1%**

Revised 6/14/15

Irvine Ranch Water District
Drought Action Plan

BACKGROUND:

California is entering a fourth year of unprecedented drought, and in April 2015 Governor Brown issued an Executive Order mandating a 25% reduction in statewide urban potable water use from 2013 levels. The State Water Resources Control Board adopted a regulation on May 5, 2015 that allocated reduction percentages to each urban water agency. IRWD's mandated reduction is 16%, a reduction of approximately 8,000 acre-feet. This Drought Action Plan (Plan) identifies a suite of actions designed to achieve the mandated reduction. The plan will be modified and adapted as necessary to ensure that IRWD meets or exceeds its targeted reduction.

OBJECTIVES:

- Meet or exceed the District's 16% mandated reduction, and reduce the District's potable water use by approximately 8,000 acre-feet by February 2016.
- Maintain the District's financial stability while promoting increased conservation and associated reduced water sales.
- Provide regulatory, policy and legislative leadership to meet local and state goals of increased urban efficiency and the effective and balanced use of water resources to meet customer needs, sustain a strong economy and protect California's environment.

STRATEGIES:

Irvine Ranch Water District has always taken a proactive approach to water conservation and is looked to as a leader by other water agencies throughout the state and country. This plan provides a menu of District-wide opportunities for water savings and includes water efficiency programs, customer education and outreach, expansion of the use of recycled water, operational practices and modifications, as well as policy and regulatory considerations.

Programs and projects were also prioritized based upon ease of implementation and the potential water savings. They are further broken down, into immediate programs that can be implemented by July 31, 2015, and those that are expected to be implemented by December 31, 2015. Some projects will require additional evaluation.

Programs will be implemented using an adaptive approach, based upon customer response as well as the water savings achieved to meet the District's mandated 16% reduction. Under this approach, the following programs may be modified and schedules adjusted. The following is a description of the programs to be implemented immediately and the longer term programs to be implemented by December 31, 2015.

WATER EFFICIENCY PROGRAMS

o

Immediate Programs to be Implemented by July 31, 2015

Program	Description	Lead	Status
Drought Response Center	In order to respond to increased customer requests for on-site assistance, higher call volumes, and new and expanded water efficiency program offerings, additional temporary staff and consultants will be brought on to augment the water efficiency staff. Five full-time temporary staff will be recruited as part of the initial effort. We anticipate two positions will be dedicated to answering phone calls and scheduling customer surveys. Two additional temps will assist in conducting surveys. Another temp will back-fill for water efficiency staff assigned to testing proposed rate changes and other reporting needs in the billing system. They may be supplemented with consultants, based on customer response and resources needs in an adaptive approach.	Amy McNulty/Shavonne Mays	4 Temps Hired as of 6/8. Still need to recruit one additional temp. Training in progress. IS working on procuring and setting up computers and access. Drought Team Shirts and vehicle magnets being ordered. On-call RFQ process completed and eligible consultants added to standing list.
On-line Customer Contact Form	In order to better organize and manage the increase in customer incoming communications and requests, staff will create an online form that customers can easily use to request information from district speakers, site surveys, and report water waste. This will make managing the steady stream of incoming	Erika Blaska	"Soft-launch" implemented. Full launch planned once initial review is complete, and Drought Team are fully trained. Emails directed to Water Efficiency team.

	customer requests and reports into a more manageable form and ensure all inquiries are addressed in a timely manner by the appropriate staff.		
Home Check-Up Survey Program Expansion	IRWD will contract with a qualified firm or recruit temporary staff to significantly increase the resources available to conduct residential home water efficiency surveys targeted toward customers with over-allocation use. The surveys will include an inventory of plumbing fixtures and irrigation equipment. Customers will receive recommendations for the retrofit of inefficient devices and information on IRWD rebate programs. The information collected will also be used by staff in designing additional programs targeted toward residential programs.	Amy McNulty/Shavonne Mays	Drought Team Temps being trained. On-call process complete if consultant assistance is needed..
"Brown is the New Green" Lawn Coma Program	This new program is designed to maximize savings from a reduction in outdoor water use. Customers will be encouraged to let their lawns go dormant or die , and either leave them brown or cover them with mulch. Customers can make reservations for turf removal program funding with the timeline extended into the fall. Staff will work with MWDOC and Metropolitan to modify the current requirement for live turf at time of installation. ~~As an option, customers can choose to receive a one-time~~	Amy McNulty/Lindsey Stuvick/Fiona Sanchez/ Beth Beeman	Graphics and marketing complete and being launched via customer newsletter, ads in Spectrum, website and movie theaters. Requirement for live turf has been waived. Staff is coordinating with MWDOC re turf removal program and funding. Meeting scheduled June 17.

	~~incentive of $500 at the end of the drought, based on photo plus water use data, to re-seed their landscapes with drought tolerant varieties~~.		
RightScape Workshop Series	Staff has increased the frequency of the RightScape Workshop Series. The next series is scheduled for June 3, June 17 and July 1. It will be video recorded, edited and posted on the IRWD website as a resource to customers.	Juan Garcia/Shavonne Mays	Series already underway. 27 sign-ups for June 3. 85 people attended.
RightScape Contest	This contest will see which residential customers can save the most water by rewarding the winner with a new RightScape front yard. The contest will be for three months: July, August, and September to coincide with the peak of summer. Water use from the same month in 2014 will be used for the baseline to compare their 2015 usage and determine the savings. Customers will opt in through an online registration form. ~~A SWIM smart meter (see SWIM program description below) will be installed between May and June~~. Signs will be provided for the homeowners to place in their front yards. The contest will run from July through September. Staff will send out text alerts to participants on their status and post progress on social media. At the end of September one winner from each "village" in IRWD's service area will	Amy McNulty/Fiona Sanchez/Beth Beeman/Erika Blaska	Article announcing the contest for June Pipelines completed. Contest to have 3 winners selected for a landscape makeover of up to $6,000 (this is the cap per site for turf removal). It will not be able to done in conjunction with SWIM meters. Savings assessment will need to be based on billing data. Will need identifier in CC&B and reports. Details still being worked out to adapt the contest. Contractors with expertise already evaluated and on standing list through the on-call RFQ process.

	be selected. The winners' new landscapes will be installed in October which is a good time of year to plant. IRWD will rely on contracted labor from a landscape design and installation company that will already be under contract for the commercial turf removal direct install.		
Water Smart Report Program Expansion	The successful Water Smart Report Program will be expanded to target all over-allocation customers (currently customers who are over allocation for at least three months are targeted) effective July 1. This program alerts customers about their water use relative to other similar customers and also refers them to specific programs and IRWD assistance.	Lindsey Stuvick	Board approved variance to continue and to expand the program with Water Smart for FY 2015/16 on June 8. Agreement in process.
Smart Water Integrated Management (SWIM) Meter Program	A pilot study using the SWIM smart meters will be conducted to determine the long term benefits to the District of this type of emerging technology. Smart Water Infrastructure Management (SWIM) enables meters to be read remotely via a cellular signal without the need for AMI or infrastructure to be constructed. Staff can install the SWIM meters in the same manner as a normal meter. The contractor would configure the meters and create customer dashboards for viewing the data. Customers can access their usage data by computer or smartphone	Fiona Sanchez/Amy McNulty/Tony Mossbarger/Gina Jackson	Alexanders developing a proposal for a 1,000 unit pilot program targeting high users. IRWD to pay cost of device and service for the pilot. Alexander's to waive early termination fees. Pilot will not be incorporated into billing system, but run in parallel. Due to cost structure non-drought related program to be deferred.

	and can set up alerts and notifications for defined parameters. SWIM enables instant feedback to customers on their water using behaviors which is a very powerful tool to use in achieving a behavior change. This system is fully compatible and can be easily incorporated into IRWD's existing meter reading and billing system. In the near term, these Smart Meters will also be important to several other programs to provide customers with immediate feedback on their water saving actions. Smart meters will be used in three primary ways: 1. Installed on over-allocation customers to more closely monitor their water use. ~~2. Installed on customers who opt to participate in any of the District's competition style programs.~~ ~~3. Installations will also be available for any customer who would like one with the condition that IRWD have access to their real time usage data.~~		
Increased Rebate Program Funding	Supplemental funding for the following devices will be increased to drive participation rates: Turf Removal Program – An increase of $1 for a total of $3 for IRWD customers was implemented effective May 1, **but discontinued May 26 due to program funding changes and**	Amy McNulty/Lindsey Stuvick	Board approved supplemental funding agreement June 8. Additional $1 provided by IRWD discontinued in anticipation of IRWD needed to fully fund the program and administrative costs by late summer/early fall due to lack of further

	uncertainty.. This program will transition to the "Brown is the New Green" program during the peak of summer, and then will resume in fall. Applications in process will be honored. High Efficiency Clothes Washers and High Efficiency Toilet incentive levels will be reviewed and any recommended changes **were** incorporated into the FY 2015-16 MWDOC Incentive Program Agreement. ~~Staff anticipates bringing the new program agreement for consideration by the Board in June.~~		funding from MWD at that time.
Commercial, Industrial, Institutional (CII) Program	Temporary staff and/or consultants will be brought on to work with CII customers to conduct surveys to review allocations and ensure they are set appropriately, as well as identify opportunities for water savings including plumbing fixtures and process water improvements. Information from the surveys will be used to design future programs such as plumbing retrofit programs targeted toward CII customers.	Amy McNulty/Lindsey Stuvick	Temp employee started June 8 to backfill for Lindsey Stuvick. On-call RFQ process completed and qualified consultants placed on standing list.

Programs Implemented by December 31, 2015

Staff will develop and begin implementation of the following programs by December 31, 2015.

Commercial Landscape Upgrade Direct Install Program	IRWD will contract with a qualified landscape design and installation company to remove turf in commercial complexes and/or HOAs that are using potable water for irrigation. This program initially will target older areas with mixed-use meters where the indoor use and irrigation are on the same meter (such as the Irvine Business Center, Santa Ana Heights). At these sites it is often difficult for customers to determine how much water is going to irrigation and tend to over-irrigated as a result. These are also large turf areas. The contractor for this program will also provide the work for the outdoor portion of the Water-Energy Residential Direct Install Program and the Landscape Renovation Contest. This program can also work in conjunction with follow on from the "Brown is the New Green" program once the weather is more appropriate for establishing new plants.
Cooling Tower Conversions and Efficiency Program	This program will offer financial assistance to convert cooling towers to recycled water where recycled water is readily available. In addition, since supermarkets often have poorly maintained cooling towers this program will provide financial assistance to hire a cooling tower maintenance contractor to install remote monitoring equipment. This will enable the customer and the contractor to monitor the water quality, chemical feed and most importantly the water usage through make-up and blow-down meters. This program was successfully implemented by LADWP with Ralphs supermarkets. There are four Ralphs markets in IRWD's service area that have interest in the proposed offering and there is interest from Whole Foods as well.
Water-Energy Residential Direct Install Program	IRWD was awarded a $1.2 million grant from the Department of Water Resources to fund the direct installation of plumbing fixtures within single family and multi-family homes. This program is in partnership with Southern California Edison (SCE) and Southern California Gas Company (SoCal Gas) and leverages their existing programs. This program will offer customers a whole-house water and energy efficiency upgrades. Staff will expand this program to include the outdoor using the contracted landscape design and installation company. The plumbing fixtures will be installed using the vendors that have been contracted with bySCE and SoCal Gas. . Joining with the energy utilities will enhance the program marketing and allow IRWD a foot in the door in new innovative water-energy nexus programs. Educational materials on water efficiency inside and outside the home will be developed and provided with the customers.

Reverse Osmosis Outreach Program	Staff will develop a new program to target customers with whole-house reverse osmosis (R/O) systems and educate them on the wasteful water characteristics of the systems, the affects that the systems have on their water bills and the importance in assisting the community in achieving water conservation target established by the State. The program will ask them to turn off the system during the drought. Customers with whole-house R/O systems are often unaware of how much additional water they require. In some cases customers are using R/O water for swimming pools and other outdoor potable uses.

CUSTOMER EDUCATION AND OUTREACH

The customer outreach plan to increase water savings will be divided into two approaches:

1) Short-term, which includes new immediate programs that we can get off the ground quickly and will have the most immediate impact, and
2) Longer-term, which includes new programs that will be started by December 31, 2015.

The goal of both approaches is to focus the attention of IRWD customers on the drought, the importance of saving water now, and the programs that IRWD offers assist them. The outreach plan will be coordinated with the water efficiency programs, and may be adapted as necessary to support planned program schedules and potential modifications. Following is a list of immediate and long-term outreach efforts that will be implemented.

Immediate Outreach

Program	Lead	Status
Turf Rebate Postcard		
OPA Specific Rebate Postcard	Beeman	Complete
Lawn Kill/Coma Incentive Program Postcard		
What Does the Governor Mandate Mean To You ~~Postcard~~ Letter	Beeman	Mailed week of June 8
Service Area Bus Stop Advertisements	Beeman	
New Home Water Checkup Packet/Online Signup/Pre-Checkup Confirmation Letter		
RightScape Landscape/Gardening Workshop Series	Erika Blaska	In Progress/Ongoing
Magnetic Signs on District Vehicles	Bendzick-Sin	Ordered
OPA Irrigation Controller Workshop	Amy McNulty/Juan Garcia	Scheduled
Irvine Communities Article (over 90,000 reached)		
IRWD Plant Guide Development & Distribution	Ericka Blaska/Juan Garcia	In Process.
Drought Directory on IRWD Website (like Angie's List)		
DroughtLines Customer Billing Insert Rebranding		
Restaurant/Hotel Outreach – Includes Personal Visits with Table Top Displays/Cards		

Save Water Banner outside IRWD		
Window Posters for Businesses/Community Centers/City Offices/Schools		
Social Media Advertisements		
Bill Messages/Messages On-Hold Outreach		
IRWD Drought Messages on Buses (local routes)	Beeman	June 22
ValPak Advertisements		
Outreach Materials in City Hall Lobbies		
Community Landscape Contest – Win a Drought Makeover for your Home	Blaska/McNulty	Advertised in June Pipelines.

Long-Term Outreach

Program	Lead	Status
Joint Community Events with COI/Lake Forest/Tustin	Beeman	City of Irvine Event scheduled for September 12.
Movie Theater Advertisements	Beeman	Complete. Ads will be released beginning week of June 22.
Drought Outreach Education Van for community events and home audits		
Saturday Morning Landscape Consultant Services (at IRWD Drought Garden)		
Articles for Property Managers to use for their websites/newsletters		
Businesses/Chamber of Commerce Lunch Workshops		
Video RightScape Workshops for online viewing	Blaska/Garcia	
Targeted Outreach Letters for Whole Home Reverse Osmosis Customers		
Bus Wrap Collaboration with OCTA	Beeman	Complete. Week of June 22.
Include Rightscape Program Messages in School Education Program Materials		
Continue Implementation of RightScape Program	Blaska/Garcia	Ongoing.
Video Spots for City Television Channels		
Save Water Messages at Irvine Auto Center Electronic Billboard		
IRWD Garden Tour – join us and see local drought resistant gardens		
Installation of Drought Demonstration Gardens at Schools		

RECYCLED WATER PROGRAM EXPANSION

The recycled water customer development program will focus on expanding the authorized use of recycled water where it can replace potable water use through expediting conversions from potable water. Due to regulatory requirements, conversions and expansions of use may take longer to implement than other actions, but will be expedited when feasible, particularly for projects that are already in process. Following is a list of recycled water customer development programs that will be expedited:

Program	Description	Lead	Status
Industrial Process Water Conversions	Staff has been working with Royalty Carpet to reintroduce recycled water used for carpet dyeing	Mark Tettemer	

	which will reportedly use approximately 200 acre-feet per year. Metropolitan Water District of Southern California will be providing funding for the project as part of its On-site Retrofit Pilot Project Program. Staff will be looking for other industrial process water conversion opportunities.		
Recycled Water Customer Fill-Up Station for residential customers	**Staff is developing a new program that will allow customers to come and fill up containers with recycled water for irrigation uses on their properties. This is modeled on a successful program implemented by Dublin San Ramon Services District. Customers receive training on the use of recycled water and then can fill up during specific operating hours under IRWD supervision. The undeveloped area adjacent to IRWD's Sand Canyon parking lot will be used for this program, which staff expects to launch later summer/fall.**	Mark Tettemer/Beth Beeman	Staff coordinating to ensure necessary permit requirements are met and developing operational procedures. Marketing to promote the new program being developed.
Cooling Towers Conversions	Staff is working with UCI to study the use of recycled water in their Central Plant and Anteater Recreation Center cooling towers. This effort will also assist UCI in meeting the 25% reduction mandate for State facilities. The conversion of the UCI cooling towers is expected to save 150 AF of potable water per year. Staff will be working to identify additional cooling tower conversion opportunities to promote the Cooling Tower Conversions and Efficiency Program described above.	Mark Tettemer	

Potable Irrigation Conversions	Staff is coordinating with the City of Irvine, the Irvine Company and other customers to discuss potential conversion from potable irrigation to recycled water. Staff is prioritizing the work based on potential water savings, determining whether recycled water is available at those locations and getting cost estimates to construct the recycled water services and arranging for the installation of necessary facilities.	Mark Tettemer	Staff is reviewing and prioritizing conversion requests by cost-effectiveness, time required, and access to existing recycled water lines.
Street Sweeping/Construction Activities	Street sweepers typically fill up their trucks with potable water from fire hydrants along their routes. Contractors typically get a temporary construction meter which they connect to a fire hydrant to fill their trucks to get water for construction related activities including grading and dust control. A challenge with using recycled water for theses uses is access to recycled water because there aren't fire-hydrants on the recycled water distribution system. Staff is looking at potential locations where street sweeping and construction related activities occur and where fire-hydrant like recycled water facilities can be located to facilitate recycled water use Staff is currently working with the Cities of Irvine and Lake Forest on the installation of fire-hydrant like recycled water facilities. Staff has also contacted the RWQCB staff to start a dialogue with them about any conditions	Mark Tettemer	In process

	associated with such uses of recycled water.		
Avocado Orchards	Staff is in design for the necessary improvements to convert the upper reach of the Irvine Lake Pipeline from untreated, imported water to recycled water. A key customer that is currently served from this reach of the Irvine Lake Pipeline is the Irvine Company (TIC) which has hundreds of acres of avocado orchards which would be converted to recycled water. An assessment of the use of recycled water for the orchards will be completed within three months.	Mark Tettemer	

OPERATIONAL DROUGHT CONTROL MEASURES

The operations department has conducted a District-wide evaluation to identify ways and means to reduce potable water consumption. The evaluation also looked closely at recycled water use as well as supplemental water purchased from Metropolitan Water District of Southern California. Additionally, staff has also explored potential sources of new water supply for both IRWD's potable and recycled systems. Some of the ongoing and initial actions to be taken are identified below. The following is a list of identified opportunities broken down between potable and recycled water systems with subsections based on facility and location. Other opportunities require further review and perhaps physical modifications of equipment and processes.

Potable Water

Facility	Description	Lead	Tentative Schedule	Estimated Annual Water Saved AF/YR
MWRP	Convert odor scrubbers from potable to recycled water (RW)		Complete	18
	Convert pump packing water supply from potable to RW		In process	6
	Filter Pump Station natural gas engine cooling water conversion from potable to RW		Estimated completion by June 30	4
Biosolids Project	Utilize RW for polymer mixing, packing, odor control		Future. Consulting with project CMT	
Collection System	Convert sewer jetting and cleaning to RW		Long term. This requires additional RW hydrants to be installed throughout IRWD service area. In process.	13
Agency-Wide Irrigation	4 of 25 sites can be turned off	Ken Drake	Complete	6
			Total Annual AF Savings	47

Recycled Water

Facility	Description	Lead	Tentative Schedule	Estimated Annual Water Saved AF/YR
MWRP	Reduction in sludge flow to OCSD • Approximately 1 MGD less is going to OCSD		Already in place. Optimize for further reductions	1,120
	Optimize plant utility water use (spray water, backwash).		0.5 MGD reduction since January 2014	
Irvine Lake	Modify Irvine Lake summer season operations to reduce evaporation by using the 'match flow' strategy		Will occur May through September each year.	382
Agency-Wide Irrigation	7 of 18 sites on RW can be turned off	Ken Drake	Complete	2
			Total Annual AF Savings	1,504

Other Water Sources

Facility	Description	Lead	Tentative Schedule	Estimated Annual Water Saved AF/YR
Lake Forest Wells	Rehabilitate Lake Forest Wells 1,3,4,5 and 7.		Long term	2,420 combined potable and RW
PTP & Wells 21 & 22	Initiate brine recovery		Long term	1;200
SGU	Divert this into RW system		Under evaluation.	645
DATS, PTP, Wells 21 & 22	Capture off spec water from DATS, PTP, and Wells 21/22 and return to process.		Long term	275
MWRP	Groundwater pumping. Need to verify the potential TDS and selenium impact to MWRP effluent		2 months. Piping modifications required. Under review.	251
Wells 21 & 22	Explore 21/22 bypass ratio.		Under evaluation	241
Rattlesnake and Sand Canyon Reservoirs	Consider seepage return systems at Rattlesnake and Sand Canyon Reservoirs.		Long term	14
Leak detection	Reduce water loss through leak detection		On going	12
Modify fire hydrant testing protocol	Calculate fire flows instead of performing actual flow tests.		Could begin immediately	1
San Diego Creek	Water rights. Convert diversion to consumptive permit		Long term	

Total		5,059

OTHER ACTIONS

This section identifies other short-term actions that the District may consider that will require changes to District policies or outside agency regulatory changes. Longer term capital projects and institutional program modifications are also identified in this section. Capital projects require in-depth planning, design and the construction of facilities. Institutional program modifications would involve coordination and collaboration with other agencies and stakeholders to develop mutually beneficial projects. Long-term activities would require additional work to evaluate the feasibility of each action and would not be implemented to meet the state's short-term mandated potable use reduction. These activities could be implemented to provide the District with enhanced reliability and operational flexibility to respond to water shortages in the future.

Short-Term Activities

Area	Lead	Status	Description
Policy/Capital			Require the use of recycled water instead of potable water for permitted non-potable purposes (street sweeping, construction). Install wharf valves painted purple in key locations around District.
Policy	Fiona Sanchez	Rules and Regs reviewed. Due to other pending modifications to sewer billing will be brought to Board in July or August.	Modify courtesy adjustment policies. Temporarily eliminate adjustments for pool maintenance drain and refill. Staff to review and bring revised variance and adjustment policies for Board consideration in June.
Policy	Mark Tettemer	Complete	Revise Shady Canyon agreement eliminating the use of potable water.
Policy			Require all commercial car washes to use on-site recirculation/recycling systems.
Regulatory			Recycle gray water discharges (industrial).

Long-Term Activities

Area	Lead	Status	Description
Capital	Cortez	Design contract will be awarded in July. Pipeline will be constructed by Spring 2016.	Install pipeline at Baker Ranch to convert dual piped irrigation areas from potable water system to recycled water system.
Capital			Activate the Lake Forest wells.
Capital			Divert Well 106 and Well 72 from the recycled water system to the Irvine Desalter

			Plant for use in the potable water system.
Capital			Install Smart Meters to allow the District and customers the ability to perform real-time monitoring of water use.
Institutional	Burton	MOU being prepared for diversion to start in early July. Excess sewage available for Summer 2015 only.	Divert excess sewage flow from El Toro Water District's Lake Forest service area to LAWRP for recycled water production.
Institutional / Capital	Burton	No excess recycled water available per ETWD. Complete	Divert excess recycled water from El Toro Water District to IRWD.
Institutional / Capital			Divert Lake Forest area sewage flow from LAWRP to MWRP.
Regulatory / Institutional			Water conservation outside IRWD. This would allow IRWD to receive credit for implementing and achieving water savings in areas outside of IRWD's service area.
Institutional			OCWD: Shallow wells at Anaheim recharge basins
Institutional			OCWD: Shallow wells at South Basin contaminated area
Regulatory			San Diego Creek Diversion to MWRP RW system (consumptive right)
Regulatory			Non-potable water use in decorative lakes.
Regulatory	Compton		Work with State Board to recognize "Extraordinary Supplies".
Regulatory			Implement Indirect and Direct Potable Reuse (IPR/DPR).

RESOLUTION NO. 2015 -15

RESOLUTION OF THE BOARD OF DIRECTORS OF
IRVINE RANCH WATER DISTRICT AUTHORIZING SUBMISSION OF
A GRANT APPLICATION FOR THE IRVINE LAKE PIPELINE CONVERSION PROJECT
TO THE DEPARTMENT OF THE INTERIOR, BUREAU OF RECLAMATION, POLICY
AND ADMINISTRATION

WHEREAS the Department of the Interior, Bureau of Reclamation, Policy and Administration (Reclamation) has released a Funding Opportunity Announcement to provide federal grant funding under the WaterSMART: Drought Resiliency Project Grants for Fiscal Year (FY) 2015; and

WHEREAS Reclamation is seeking applications from eligible water delivery agencies to cost share 50 percent or more with Reclamation on projects that increase the reliability of water supplies; improve water management; facilitate the voluntary sale, transfer, or exchange of water; provide benefits for fish and wildlife and the environment; and

WHEREAS the Irvine Ranch Water District is eligible to submit an application for grant funding up to $300,000 for its Irvine Lake Pipeline Conversion project with a cost share of 50 percent or more of the total project costs.

NOW, THEREFORE, the Board of Directors of IRVINE RANCH WATER DISTRICT DOES HEREBY RESOLVE, DETERMINE and ORDER as follows:

Section 1. The General Manager of the Irvine Ranch Water District or his/her designee is hereby authorized to submit an application to Reclamation for grant funding up to $300,000 for the Irvine Lake North Pipeline Conversion project.

Section 2. The Board of Directors of the Irvine Ranch Water District has reviewed and supports the application for a grant from Reclamation for the construction of Irvine Lake North Pipeline Conversion project facilities.

Section 3. The Irvine Ranch Water District hereby agrees and further confirms that it has the capability to provide its cost share funding (50 percent or more of the total project costs) as specified in the application's project funding plan.

Section 4. The General Manager or his/her designee is hereby authorized to enter into a cooperative agreement and any amendments thereto with Reclamation on behalf of the Irvine Ranch Water District.

Section 5. The General Manager or his/her designee is hereby authorized to work with Reclamation to meet the established deadlines for entering into a cooperative agreement.

Section 6. That the Secretary is hereby authorized to certify a copy of this resolution to accompany the grant application.

ADOPTED, SIGNED AND APPROVED this 8th day of June, 2015.

President, IRVINE RANCH WATER DISTRICT
and the Board of Directors there of

Secretary, IRVINE RANCH WATER DISTRICT
and the Board of Directors there of

APPROVED AS TO FORM:
BOWIE, ARNESON, WILES & GIANNONE
Legal Counsel—IRWD

By: _____

STATE OF CALIFORNIA)
) SS.
COUNTY OF ORANGE)

I, Nancy Savedra, Assistant Secretary of the Board of Directors of Irvine Ranch Water District, do hereby certify that the foregoing Resolution was duly adopted by the Board of Directors of said District at a regular board meeting of said Board held on the 26th day of May 2015, and that it was so adopted by the following vote:

AYES:	DIRECTORS	LaMar, Matheis, Swan and Withers
NOES:	DIRECTORS	None
ABSTAIN:	DIRECTORS	None
ABSENT:	DIRECTORS	Reinhart

(SEAL)

Nancy Savedra
Assistant Secretary of IRVINE RANCH WATER DISTRICT
and of the Board of Directors thereof

STATE OF CALIFORNIA)
) SS.
COUNTY OF ORANGE)

I, Nancy Savedra, Assistant Secretary of the Board of Directors of Irvine Ranch Water District, do hereby certify that the above and foregoing is a full, true and correct copy of Resolution No. 2015-15 of said Board, and that the same has not been amended or repealed.

Dated: 6/10/15

Nancy Savedra
Assistant Secretary of IRVINE RANCH WATER DISTRICT
and of the Board of Directors thereof

(SEAL)