ORIGINAL NEW APPLICATION

0000139978

COMMISSIONERS
Gary Pierce, Chairman
Bob Stump
Sandra D. Kennedy
Paul Newman
Brenda Burns

RECEIVED
2012 SEP 28 P 4:51
AZ CORP COMMISSION
DOCKET CONTROL

Arizona Corporation Commission
DOCKETED
SEP 28 2012
DOCKETED BY

BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF ARIZONA WATER COMPANY, AN ARIZONA CORPORATION, TO EXTEND ITS EXISTING CERTIFICATE OF CONVENIENCE AND NECESSITY FOR ITS PINAL VALLEY WATER SYSTEM	DOCKET NO. W-01445A-12-0424 APPLICATION TO EXTEND EXISTING CERTIFICATE OF CONVENIENCE AND NECESSITY TO INCLUDE ADDITIONAL TERRITORY

ARIZONA WATER COMPANY, an Arizona corporation, (the "Company") through its undersigned counsel, presents the following Application to extend its existing certificate of convenience and necessity for its Pinal Valley water system. In support of this Application, the Company submits the following:

1. The legal name of the Company, and its mailing address and telephone number are:

Arizona Water Company
P. O. Box 29006
Phoenix, Arizona 85038-9006
602-240-6860

2. The Company operates its water utility business under its name.

3. The management contact for the Company is: William M. Garfield, its President and Chief Operating Officer, whose mailing address and telephone number are provided in 1, above.

4. The Company's attorney is Robert W. Geake, its Vice President and General Counsel, whose mailing address and telephone number are provided in 1, above.

5. The Company's operator certified by the Arizona Department of Environmental Quality ("ADEQ") and currently employed by the Company is Raymond G. Murrieta, whose mailing address is 220 East 2nd Street, Casa Grande, AZ 85122. Mr. Murrieta's telephone number is 520-836-8785 and his Operator ID No. is: 03555.

6. The on-site manager for the Company's Pinal Valley water system is Raymond G. Murrieta, whose mailing address and telephone number are provided in 5, above.

7. The Company is an Arizona corporation; for Federal tax purposes, the Company is structured as a C corporation.

8. The names, titles and mailing addresses of all of the Company's officers and directors are attached hereto as Exhibit 1.

9. A copy of the Company's "Certificate of Good Standing" is attached hereto as Exhibit 2.

10. Because the Company is applying for a CCN extension, its Articles of Incorporation and By-Laws are not required to be provided.

11. The Company is authorized to issue 500,000 shares of common stock; 270,000 shares, issued on March 30, 1981, are outstanding.

12. The Company does not have an ownership interest in any other utility.

13. A description of the requested extension area is attached hereto as Exhibit 3.

14. The requested extension area is located entirely within Pinal County and entirely within the municipal boundaries of the City of Casa Grande. A copy of the Company's Casa Grande City Franchise is attached hereto as Exhibit 4.

15. A complete description of the facilities proposed to be constructed, including a preliminary engineering report, is attached hereto as Exhibit 5.

16. The estimated total construction cost of the proposed off-site and on-site facilities is attached hereto as Exhibit 6. The proposed off-site and on-site facilities will

be financed using advances and contributions in aid of construction. No utility financing application is required or necessary for this extension application.

17. A copy of the Company's most recent balance sheet and income statement, as well as an estimate of revenues, expenses, and utility plant for the first five (5) years following approval of this application, are attached hereto as Exhibit 7.

18. A copy of the Company's currently authorized tariff for its rates and charges for water service for its Pinal Valley water system, which the Company plans to implement for service to the proposed extension area, is attached hereto as Exhibit 8. In addition, copies of the Company's Service Charges, Private Fire Service, Central Arizona Project M&I Fee, and Off-Site Facilities Fee tariff schedules are attached hereto as Exhibit 9.

19. A schedule providing the Company's estimated annual operating revenues and expenses for the first five years of operation for the requested extension area is attached hereto as Exhibit 10.

20. A detailed description of the proposed construction timeline for facilities with estimated starting and completion dates and the phasing schedule is attached hereto as Attachment C of Exhibit 5.

21. A map of the proposed extension area identifying the boundaries of the area; the land ownership boundaries of the area; the owner of each parcel; the municipal corporate limits that overlap or are within five miles of the area; the service area of any public service corporation, municipality or district currently providing water or wastewater service within one mile of the area; the location of all proposed developments within the area; the proposed location of each water system and its principal components; and the location of all parcels for which a copy of a request for service has been submitted; is attached hereto as Exhibit 11.

22. Copper Mountain Ranch, the name of the development in the proposed extension area, has one existing temporary water service connection within the

proposed CCN extension area. This temporary water service meter is generally located in the vicinity of Hopi Drive and Burris Road.

23. All of the requested extension area is owned by a single landowner; the landowner's request for service is attached hereto as Exhibit 12.

24. The form of notice for the Casa Grande City Manager is attached hereto as Exhibit 13.

25. The Company will obtain all city, county and state agency approvals required to construct water utility facilities in the CCN extension area. The Company will provide all ADEQ Approvals to Construct issued for facilities in the requested CCN extension area to the Commission, as soon as they are received.

26. The estimated number of customers to be served for each of the first five years of operation, expressed separately by class is presented below:

	Residential	Commercial	Industrial	Irrigation
Year 1	600	4	0	0
Year 2	1200	0	0	0
Year 3	1800	0	0	0
Year 4	2400	0	0	0
Year 5	3000	9	0	0

27. Wastewater services will be provided by the City of Casa Grande. A letter from the City confirming service is attached hereto as Exhibit 14. The proposed development and subsequent CCN expansion area are located within the City limits, as well as the City's 208 planning boundary, which is further described and delineated in Exhibit 15, attached hereto. Furthermore, Section 14 of the Amended and Restated Development Agreement Copper Mountain Ranch, adopted by the City on January 25, 2007, states "If not located within the sewer service area certificated to a private sewer utility company, City shall provide wastewater treatment plant, mains and lift stations, if necessary, of such design, capacity and type as shall serve the reasonable need of the Property (Copper Mountain Ranch) and subsequent owners". A copy of the Amended and Restated Development Agreement is attached hereto as Exhibit 16.

28. The Company's plans for proposed water conservation measures to be implemented in the extension area are as follows:

i. The Company will apply its Best Management Practices as provided in its Best Management Practices tariffs on file with and approved by the Commission.

ii. The City, in cooperation with the Company, developed a Reclaimed Water Use Conceptual Master Plan describing the proposed use of reclaimed water from the Kortsen Road Water Reclamation Plant ("Kortsen WRP"). The City's Reclaimed Water Conceptual Master Plan is attached hereto as Exhibit 17.

iii. The City's Kortsen WRP is the planned source of reclaimed water for the Recreational areas, golf courses and other public turf areas in CCN expansion area.

iv. The demands and the infrastructure required to supply the development with reclaimed water are further described in Exhibit 18, attached hereto.

v. There are no recharge facilities proposed within the CCN expansion area or Copper Mountain Development. However, the Kortsen WRP discharges A+ reclaimed water into a managed facility within the Santa Cruz wash for recharge purposes and the City has plans to install recharge basins as part of a constructed recharge facility near the Kortsen WRP.

vi. As described in the Company's 2010 Western Group Rate Case (Docket No. W-01445A-10-0517), a Central Arizona Project ("CAP") Surface Water Treatment plant is planned and the Company has completed a preliminary design to provide treated CAP water to the Pinal Valley Division. The Company's Pinal Valley Division annual CAP allocation is 10,884 acre-feet, which is equivalent to approximately 10 million gallons per day.

vii. The Company's three-tiered residential rate design encourages water conservation by providing a discounted rate for customers with low monthly usage and increased rates for customers with increased monthly usage (see Exhibit 8,

attached hereto). The City's Landscaping Requirements promote water conversation by requiring plant material installed be listed on the City's low water use plant list. Additionally, the City has adopted the International Plumbing Code, 2003 Edition, which establishes water efficiency standards for plumbing fixture used in new construction and remodeling projects.

29. The Company's Backflow Prevention Tariff is on file with the Commission.

30. The Company's Curtailment Tariff is on file with the Commission.

31. A copy of the Company's Physical Availability Determination issued by the Arizona Department of Water Resources, which includes the proposed extension area is attached hereto as Exhibit 19.

32. Current compliance status reports from ADEQ for each water system operated by the Company, as identified by separate ADEQ Public Water System Identification Numbers ("PWSID"), are attached hereto as Exhibit 20.

33. A water use data sheet for the Pinal Valley water system is attached hereto as Exhibit 21.

WHEREFORE, Arizona Water Company respectfully requests that the Commission hold a hearing on this Application, and enter an order, or, in the alternative, that it enter an order without the necessity of a hearing, which order shall provide for the following:

1. Issuing to Arizona Water Company a CCN for the area described in Exhibit 3 to this Application.

2. Granting such other further and general relief as appropriate in the premises.

RESPECTFULLY SUBMITTED this 28th day of September, 2012.

ARIZONA WATER COMPANY

By: R. W. Geake

Robert W. Geake
Vice President and General Counsel
ARIZONA WATER COMPANY
Post Office Box 29006
Phoenix, Arizona 85038-9006

State of Arizona)
) ss
County of Maricopa)

SUBSCRIBED AND SWORN to before me this 28th day of September, 2012.

Jackie R. Craig
NOTARY PUBLIC

OFFICIAL SEAL
JACKIE R. CRAIG
NOTARY PUBLIC
STATE OF ARIZONA - MARICOPA COUNTY
My Commission Expires June 21, 2013

My Commission Expires June 21, 2013

Original and thirteen (13) copies of the foregoing filed this 28th day of September, 2012, with:

Docket Control Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

A copy of the foregoing was mailed this 28th day of September, 2012, to:

Janice Alward, Chief Counsel
Legal Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Steven M. Olea
Director, Utilities Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

By: R.W. Gaske

Exhibits

EXHIBITS

EXHIBIT 1

ARIZONA WATER COMPANY

OFFICERS AND DIRECTORS

Officers:

Chairman of the Board and Chief Executive Officer	M. L. Whitehead*
President	W. M. Garfield
Vice President and General Counsel, Secretary	R. W. Geake
Vice President and Treasurer	J. D. Harris
Vice President - Rates and Revenues	J. M. Reiker
Vice President - Engineering	F. K. Schneider
Vice President - Operations	J. T. Wilson
Assistant Secretary and Assistant Treasurer	J. R. Craig
Assistant Secretary	R. H. Nicholson, Jr.*

Address of all Officers (unless otherwise noted)	P. O. Box 29006, Phoenix, AZ 85038
*Address of M. L. Whitehead and R. H. Nicholson, Jr.	P. O. Box 6010, El Monte, CA 91734

Directors:

M. L. Whitehead	P. O. Box 6010, El Monte, CA 91734
R. H. Nicholson, Jr.	P. O. Box 6010, El Monte, CA 91734
R. W. Nicholson	P. O. Box 6010, El Monte, CA 91734
J. E. Moseley	P. O. Box 6010, El Monte, CA 91734
S. R. Thomas	P. O. Box 6010, El Monte, CA 91734
W. M. Garfield	P. O. Box 29006, Phoenix, AZ 85038
R. W. Geake	P. O. Box 29006, Phoenix, AZ 85038

EXHIBIT 2

STATE OF ARIZONA

Office of the

CORPORATION COMMISSION

CERTIFICATE OF GOOD STANDING

To all to whom these presents shall come, greeting:

I, Ernest G. Johnson, Executive Director of the Arizona Corporation Commission, do hereby certify that

*******ARIZONA WATER COMPANY******

a domestic corporation organized under the laws of the State of Arizona, did incorporate on December 15, 1954.

I further certify that according to the records of the Arizona Corporation Commission, as of the date set forth hereunder, the said corporation is not administratively dissolved for failure to comply with the provisions of the Arizona Business Corporation Act; and that its most recent Annual Report, subject to the provisions of A.R.S. sections 10-122, 10-123, 10-125 & 10-1622, has been delivered to the Arizona Corporation Commission for filing; and that the said corporation has not filed Articles of Dissolution as of the date of this certificate.

This certificate relates only to the legal existence of the above named entity as of the date issued. This certificate is not to be construed as an endorsement, recommendation, or notice of approval of the entity's condition or business activities and practices.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the Arizona Corporation Commission. Done at Phoenix, the Capital, this 13th Day of September, 2012, A. D.

Executive Director

By: 811333

EXHIBIT 3

LEGAL DESCRIPTION

T.5S.,R.5E.

Section 13;

The Northeast quarter and the South half of Section 14;

The North half and the Southwest quarter of Section 22;

The North half and the Southeast quarter of Section 23;

The North half and the Southwest quarter of Section 24, EXCEPT that portion of the Southwest quarter described as follows:

BEGINNING at the South quarter corner of said Section 24;

Thence North 00 degrees 09 minutes 46 seconds East, along the east line of the Southwest quarter of said Section 24, a distance of 2539.10 feet to the center of said Section 24;

Thence North 89 degrees 51 minutes 23 seconds West, along the north line of the Southwest quarter of said Section 24, a distance of 330.12 feet to a point;

Thence South 00 degrees 09 minutes 46 seconds West, along a line parallel with the east line of the Southwest quarter of said Section 24, a distance of 2638.88 feet, to a point on the south line of said Section 24;

Thence South 89 degrees 49 minutes 06 seconds East, along the south line of said Section 24, a distance of 330.12 feet to the POINT OF BEGINNING.

T.5S.,R.6E.

The West half and the North half of the Southeast quarter of Section 17;

The West half and the Southeast quarter of Section 18, EXCEPT that portion of the Southeast quarter described as follows:

BEGINNING at the East quarter corner of said Section 18;

Thence South 89 degrees 14 minutes 34 seconds West, along the north line of the Southeast quarter of said Section 18, a distance of 2649.20 feet, to the center of said Section 18;

Thence South 00 degrees 00 minutes 10 seconds West, along the west line of the Southeast quarter of said Section 18, a distance of 328.85 feet to a point;

Thence North 89 degrees 14 minutes 34 seconds East, along a line parallel with the north line of the Southeast quarter of said Section 18, a distance of 2649.67 feet to a point on the east line of said Section 18;

Thence North 00 degrees 04 minutes 41 seconds West, along the East line of said Section 18, a distance of 328.85 feet to the POINT OF BEGINNING.

EXHIBIT 4

505 13

C.G. Contract No. ___-___

FRANCHISE AGREEMENT
BETWEEN
ARIZONA WATER COMPANY
AND THE
CASA GRANDE, ARIZONA, CITY COUNCIL

Section 1. –Grant of Franchise. There is hereby granted to Arizona Water Company, a corporation organized and existing under and by virtue of the laws of the State of Arizona, its successors and assigns (hereinafter called "Grantee"), the right, privilege and franchise to construct, maintain and operate upon, over, along, across and under the present and future public streets, avenues, alleys, highways, bridges and other public places in the City of Casa Grande, Pinal County, Arizona, (hereinafter called "Municipality"), water lines, plant and system, including mains, laterals, pumps, manholes, meters, fire hydrants, regulator stations and related equipment, facilities and appurtenances, for the purpose of providing water service for all purposes in Municipality.

Section 2. Construction and Maintenance in Accordance with Municipality's Ordinances & Regulations. All facilities to be constructed and maintained pursuant to the Franchise shall be constructed and maintained in accordance with Municipality's standards with respect to repairs and maintenance of such public streets, avenues, alleys, highways, and bridges and other public places of Municipality. Prior to construction, Grantee shall apply for a right-of-way work permit in accordance with all existing ordinances and regulations of Municipality and a map showing the location of such facilities shall be submitted to Municipality's Director of Public Works, or his/her designee. If Grantee does not comply with any Municipal ordinance or regulation governing work in the public streets,

avenues, alleys, highways, and bridges and other public places of the Municipality, Grantee shall, within 30 days after written notice of non-compliance in accordance with Section 12, undertake action to achieve compliance.

Section 3. Removal or Movement of Facilities. In the event that facilities constructed pursuant to this Franchise shall at any time be found by Municipality to interfere unduly with Municipality's governmental functions over such public streets, avenues, alleys, highways or bridges or other public places, Grantee hereby agrees that it will, at its own expenses, and within a reasonable time after notice thereof by Municipality, remove or relocate said facilities so as to minimize said interference. In all other instances the costs incurred in relocating facilities shall be borne by and added to the costs of the public or private improvement causing or resulting in such relocation.

Section 4. Disposal of Unnecessary Rights-of-Way. In the event Municipality takes action to dispose of unnecessary public roadways in accordance with the provisions of the Arizona Revised Statutes, Municipality shall recognize and preserve each of Grantee's prior rights-of-way, easements, and rights under this Franchise which are affected thereby, as they existed prior to such disposition, by including specific and appropriate language for that purpose in any legal instrument utilized for the purpose of accomplishing such disposition.

Section 5. Franchise Fee.

(a) As a further consideration for the franchise hereby granted, Grantee will pay quarterly to Municipality a sum equal to 3% of the gross receipts of Grantee from the sale of all water for residential, commercial and industrial purposes, including connect or reconnect charges, service establishment or reestablishment charges, or other similar charges, within Municipality's corporate limits, as Grantee is notified from time to time by Municipality of the extent of such corporate limits. For the purpose of

verifying the amounts payable hereunder, Grantee's billing records shall be subject to inspection by duly authorized officials or representatives of Municipality, at reasonable times.

(b) Said payment shall be a franchise fee. Said payments shall only be in lieu of any and all permit fees or other fees, charges or exactions whatsoever otherwise assessed by Municipality for the construction and maintenance of Grantee's facilities within public streets, avenues, alleys, highways, and bridges and other public places of the Municipality hereunder or for inspections thereof up to the amount payable under the terms of this Section 5. Furthermore, the amount of such franchise fee may be lawfully and specifically added to customer bills.

(c) Payment as described in the preceding paragraphs shall be payable in quarterly amounts within 30 days after the end of each calendar quarter.

Section 6. Indemnity. Grantee shall save Municipality harmless from expenses, claims and liability arising by reason of the exercise of this Franchise by Grantee.

Section 7. Term. The right, privilege, and franchise hereby granted shall continue and exist for a period of twenty-five (25) years from the date that the last representative for the parties executes this Agreement(effective date), however, either party may terminate this Franchise on its tenth (10^{th}) anniversary by giving written notice of its intention to do so not less than six (6) months before the tenth (10^{th}) anniversary. While such notice may or may not result in a renegotiated Franchise, the party giving the notice of termination shall be responsible for the costs of any resulting franchise election to renew this franchise or adopt a new franchise.

Section 8. Assignability of Franchise by Grantee The right, privilege and franchise hereby granted may be assigned by Grantee in whole or in part.

Section 9. – Franchise; Non-Exclusive: This Franchise is not exclusive, and nothing herein contained shall be construed to prevent Municipality from granting other like or similar grants or privileges to any other person, firm or corporation.

Section 10. – Conflicting Ordinances: All ordinances and parts of ordinances in conflict with the provisions hereof are, to the extent applicable to a franchised water public service corporation, are hereby superseded by the terms of this Franchise.

Section 11. – Independent Provisions: If any section, paragraph, subdivision, clause, phrase or provision of this Franchise Agreement, other than Section 5, shall be adjudged invalid or unconstitutional, the same shall not affect the validity of this Franchise as a whole or any part of the provisions hereof other than the part so adjudged to be invalid or unconstitutional. If Section 5 shall be adjudged invalid or unconstitutional in whole or in part by a final judgment, this Franchise shall immediately terminate and shall be of no further force or effect.

Section 12. – Notices: Any notice required or permitted to be given hereunder shall be in writing, unless otherwise expressly permitted or required, and shall be deemed effective either (i) upon hand delivery to the person then holding the office shown below, or, if such office is vacant or no longer exists, to a person holding a comparable office, or (ii) on the third business day following its deposit with the United States Postal Service, first class and certified or registered mail, return receipt requested, postage prepaid, addressed as follows:

(a) To the City:
City Clerk
City of Casa Grande
510 East Florence Blvd
Casa Grande, Arizona 85222

With a copy to:
Casa Grande City Attorney
510 East Florence Blvd
Casa Grande, Arizona 85222

(b) To Arizona Water Company:
P.O. Box 29006

Phoenix, AZ 85038-9006

Section 13. Avowal. We, the undersigned, have executed this document in accordance with the results of the City of Casa Grande Special Election held on September 13th, 2005, on the dates below written.

CITY OF CASA GRANDE, an
Arizona Municipal Corporation

By _____
Charles T. Walton, Mayor

On behalf of the City of Casa Grande
Date: May 18, 2005

ARIZONA WATER COMPANY, an
Arizona Corporation

By William M Garfield
WILLIAM M. GARFIELD
PRESIDENT

Date: 9-27-2005

ATTEST:

_____
Gloria Leija, Casa Grande City Clerk

CASA GRANDE ARIZONA • CITY OF CASA GRANDE INCORPORATED • 1915

APPROVED AS TO FORM:

_____
Casa Grande City Attorney

State of Arizona)
Maricopa) ss **Arizona Water Company**
County of ~~Pinal~~) **Acknowledgment**

On this 27th day of September, 2005, William M. Garfield, who acknowledged himself/herself to be the President of Arizona Water Company personally appeared before the undersigned and that he/she, as such officer, being authorized to do so, executed the document in the capacity therein stated and for the purposes therein contained by signing his/her name.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.

Jackie R. Craig
Notary Public

My commission expires: 1-19-2009

"OFFICIAL SEAL"
Jackie R. Craig
Notary Public-Arizona
Maricopa County
My Commission Expires 1/19/2009

EXHIBIT 5

Expires 6-30-2015

COPPER MOUNTAIN RANCH

POTABLE WATER MASTER PLAN

Prepared for:

RISE DEVELOPMENT PARTNERS
901 N. Green Valley Parkway, Suite 150
Henderson, Nevada 89074

Prepared by:

WESTLAND RESOURCES, INC.
4001 E. Paradise Falls Drive
Tucson, Arizona 85712
(520) 206-9585

September 2012
Project No. 247.07

TABLE OF CONTENTS

TABLES

FIGURES

(follow text)

APPENDICIES

(follow text)

Expires 6-30-2013

LIST OF ACRONYMS

AAC	Arizona Administrative Code
ADD	average daily or day demand
ADPM	average daily demand of the peak month
ADEQ	Arizona Department of Environmental Quality
AWC	Arizona Water Company
CC&N	Certificate of Convenience and Necessity
CMR	Copper Mountain Ranch
FFC	fire flow capacity
FFD	fire flow duration
FFR	fire flow requirement
ft	feet
gpcd	gallons per capita per day
gpm	gallons per minute
MG	million gallons
PDD	peak daily or day demand
PHD	peak hour demand
ppdu	person per dwelling unit
PRV	pressure reducing valve
psi	pounds per square inch
WestLand	WestLand Resources, Inc.
WTP	water treatment plant

1.0 INTRODUCTION

The purpose of this water master plan is to provide the basic information that will be used for determination of the required water system facilities for the Copper Mountain Ranch (CMR) project, and to present a concept for water service for the development. Additionally, this report will define the constraints and requirements associated with the provision of water service for CMR by Arizona Water Company (AWC). This report includes proposed pressure zones, population and water usage projections, facility sizing, and locations for the water system. Final configuration of facilities and infrastructure may adjust due to final development layout.

The proposed CMR development is located within portions of Township 5 South, Ranges 5 and 6 East, between Highway 238 and Highway 387, northwest of downtown Casa Grande, Arizona (***Figure 1, Location Map***). The CMR project boundary is not currently within AWC's current Certificate of Convenience and Necessity (CC&N). AWC is in the process of extending their CC&N area in order to serve the entire CMR project.

The total area of CMR is approximately 3,500 acres. The property will be developed as predominantly residential with some commercial and mixed use. At buildout, the property is anticipated to include approximately 13,000 units: 5,846 primary housing units, 6,328 age-qualified (active adult) units, 534 multi-family (apartment units), and 292 custom home units. In addition, the site will also include an 18-hole golf course with a club house, a school site with approximately 73 acres for fields and buildings, multiple recreational centers totaling approximately 21 acres, and commercial zones consisting of approximately 72 acres. At this time only Phase I of the anticipated project phasing has been separately identified. The first phase is located on the eastern portion of the property, and consists of approximately 700 primary housing units, 2,300 age-qualified units, 25 acres of commercial zone, and 21 acres of recreational facilities.

2.0 WATER SYSTEM REQUIREMENTS

The main goal of this water master plan is to determine the required water system facilities based on a variety of engineering and operational criteria. The water system facilities reviewed included source (wells), storage (reservoirs), booster stations, and transmission pipelines. Peak daily demand (PDD) requirements were used to review the flows that must be transported through the system to determine the required source and booster station capacities. Reservoirs were sized to provide average daily demand (ADD) based on historic flows within the AWC system. In addition, reservoir storage for each zone will contain fire flow for a specified duration. Maximum velocity and friction loss criteria were used to determine pipeline sizing for moving PDD plus fire flows or peak hour demand (PHD) (whichever is greater) throughout the spine infrastructure of the water system. Further information regarding the engineering criteria used to determine sizing of the facilities is presented in the following sections.

2.1 WATER SYSTEM OPERATIONAL CONCEPT

The goal of the water master planning for the CMR system is to develop reservoir capacity using floating storage wherever possible, and to maintain standard AWC pressure zone boundaries wherever possible. The water surface of a floating reservoir is set at the high water elevation for the zone. For typical water system pressure zone boundaries, the base of the reservoir should be approximately 100 feet (ft) above the highest home served in the zone. This allows the homes within the zone boundaries to be served directly from the reservoir by gravity; system pressures are regulated by the reservoir high water elevation. The booster stations in this type of water system move water from zone to zone at PDD capacity, but do not include fire flow capacity (FFC) or PHD, which can be provided by gravity from the reservoirs. This method provides a highly reliable system with low pressure fluctuations. The system will continue to operate and provide fire flow during power outages using the remaining water in the reservoirs. Zones without a floating reservoir must have booster station capacity to provide PDD plus FFC or PHD whichever is greater, with control of the booster station based on the pressure within the water system. During initial project development, booster stations may initially operate by pressure control then later change to level control as the reservoir for that phase is completed.

2.2 WATER SYSTEM ZONE BOUNDARIES

The topography of the CMR development contains several mountainous outcrops and hilly areas. The elevation range within the project area goes from 1,460 ft to over 1,900 ft. Two of the proposed three pressure zones will be able to be served by gravity flow from floating reservoirs. The zone boundaries proposed will conform to the existing AWC pressure zones in the lower areas of the water system. In the new zones required for elevations higher than the existing AWC zones, the elevation ranges will be set to match typical AWC system pressure ranges. Typically AWC provides a pressure range of 50 to 100 pounds per square inch (psi) for their customers, at the customer side of the meter.

Any homes at the bottom of a pressure zone with pressures greater than that recommended in the International Plumbing Code will require individual pressure reducing valves (PRVs) located on the customer side of the meters to protect their internal plumbing.

The existing contour elevations and the projected zone boundaries for the CMR development are shown on ***Figure 2, Onsite Water***. The pressure zones are named for their high water elevation and are summarized in ***Table 1*** below. The 1720-Zone corresponds with AWC's Upper Zone.

Table 1: Zone Boundaries

Zone	High Water (ft)	Boundaries (ft)	Static Pressure (psi)
1720 Zone (AWC Upper Zone)	1,720	1,488-1,605	100-50
1840 Zone	1,840	1,606-1,725	101-50
1960 Zone	1,960	1,726-1,845	101-50

2.3 DEMAND CRITERIA

Demand, residency estimates, and peaking factors are based on the values currently experienced by the AWC system that serves the area. The demands within the existing system have been calculated on a per unit basis (per meter connection) presented below, which are considered typical for similar developments in this part of Arizona, and as agreed upon with AWC:

Average daily per unit water usage per meter connection ..... 0.3 gpm
Daily storage requirement per unit per meter connection ..... 400 gpcd
Average daily per capita water usage for multi-family residential ..... 90 gpcd
Average number of persons per single-family and custom residential unit. ..... 2.7 ppdu
Average number of persons per age-qualified and multi-family residential unit ..... 1.8 ppdu
Ratio of peak-day to average-day use (PDD) 2.0
Ratio of peak-hour to average-day use (PHD) 3.2

The following equations demonstrate how the factors above are used to calculate the demands for the system:

- ADD per unit= Average daily per unit water usage for all metered connections (0.3 gpm) x Number of metered connections x 1,440 minutes per day
- PDD = ADD x Ratio of peak-day to average day
- PHD = ADD x Ratio of peak-hour to average day

These factors provide the basis for the demand calculations within this report, and ultimately determine the size of the infrastructure required for the CMR project.

2.4 FIRE FLOW REQUIREMENTS

Commercial development and homes with a buildable area over 3,600 square feet (or as defined by the International Fire Code) that are not sprinklered typically have a fire flow requirement (FFR) of 1,000 to 4,000 gallons per minute (gpm). The true FFR is determined by the type and size of the structures being built. Based on a conversation with Barbara Rice from the Casa Grande Fire Department, the fire flow for a brick school with sprinklers would require 2,500 gpm for two hours. This will be used for the commercial FFR. For areas that are strictly residential, it is assumed the FFR is 1,000 gpm for two hours.

Actual building types and size will determine final fire flow. FFC can be provided to a zone by either designing its booster stations with a fire flow capacity equal to the FFR or by building that zone's storage reservoirs with additional storage capacity equal to the FFR multiplied by the fire flow duration (FFD). It is assumed that every zone will have FFC available within the reservoirs that serve that zone. The following equations demonstrate how the factors above are used to calculate the FFC for the system:

- FFC (for booster, in gpm) = FFR
- FFC (for reservoir, in gallons) = FFR x FFD

2.5 WELL SUPPLY CRITERIA

The total supply requirement for the water system is based on meeting the PDD for the entire CMR development. More specifically, it is required that the CMR project have enough well capacity to meet PDD for the development. Well capacity for a water system is typically determined based on having sufficient capacity with the largest well out of service. However, because of the size of the AWC system and the number of total wells serving this area of the system, the master plan assumes that the overall water system well capacity addresses the requirement to have PDD with the largest well out of service.

2.6 STORAGE CRITERIA

The Arizona Administrative Code (AAC) reservoir-sizing criteria for the CMR project requires average daily demand of the peak month (ADPM) unless the system has multiple wells. Because the AWC system has multiple wells, ADPM is not required; however, storage for the reservoirs will be designed to match the actual system numbers recorded by AWC for this area. Storage will be 400 gallons per day per unit (metered connection). Reservoirs have been designed to meet this storage requirement plus FFC. The storage tank calculation is based on usable volume and described below. Final tank layout and tank dimensions will be determined during facility design.

- Total Storage Capacity in Million Gallons (MG) = 400 gallons per unit plus FFC

2.7 BOOSTER STATION CRITERIA

The booster station capacity requirement for zones with floating reservoirs is based on providing water to the reservoir at a rate equal to the total PDD of the zones, uphill from the booster station. PHD and fire flow will be provided directly from the reservoirs, except in cases where no floating storage is provided for that zone. For zones served only by a booster station and no floating reservoir, the booster capacity is based on providing PHD or PDD plus FFC, whichever is larger. Booster stations are to be sized to provide their design capacities with the largest pump out of service.

2.8 DISTRIBUTION SYSTEM CRITERIA

The design criteria for the distribution system are generally used to size and arrange the distribution lines to provide the required flows while meeting the Arizona Department of Environmental Quality (ADEQ)

requirement to maintain 20 psi under all conditions of flow. The standard water main sizing criteria limits velocities to a maximum of 5 feet per second under PDD conditions. In addition, velocities shall not exceed 10 feet per second under PDD plus fire flow or PHD conditions. Pipeline sizes must be designed to maintain adequate pressures throughout the system. The maximum friction head loss for lines up to and including 8-inches in diameter should be 8 ft or less per 1,000 ft. Head loss for lines over 8-inches in diameter should be 5 ft or less per 1,000 ft, according to pipe size. For main transmission lines, friction loss should be near 2 ft per 1,000 ft. Minimum pressures within the zone shall be 50 psi at PHD conditions throughout the system. A minimum pressure of 20 psi must be maintained throughout the zone at PDD plus fire flow conditions. Pipeline sizes outlined in this master plan are based on the above-stated pipeline velocities and head loss criteria. Once final improvement plans are developed, a hydraulic model will further define pipeline sizes and alignments.

3.0 DEMAND CALCULATIONS

3.1 BUILDOUT PROJECTIONS

The demand projections for CMR have been examined separately for each of the three pressure zones, to size of the facilities associated with each zone. A land use plan provided by Rise Development Partners shows the locations and acreage of each parcel of housing type ***(Figure 2; Onsite Water Master Plan)***. The development plan provides the total number of dwellings, as well as the number of dwelling units provided by type: primary residential, multi-family, age-qualified, and custom lot. WestLand Resources, Inc. (WestLand) used the development plan layout to develop the three pressure zones, determine the number of acres of each housing type within each zone, and calculate the number of dwelling units within the three pressure zones according to the number of acres located within that zone. The anticipated number of dwelling units total 13,000 as previously described. In addition to the residential units there is another 25 commercial units and school projected. The unit for the commercial property was calculated by taking 20 percent of the commercial acreage, with the assumption that each commercial unit was 1 acre in size. The proposed Phase I lies entirely within the 1720-Zone. The anticipated number of dwelling units (residential and commercial) for Phase I totals 3,022 units. The acreage and number of dwelling units separated by phase and pressure zone is summarized in ***Table 2***. The projections for Phase I are listed separately for purposes of sizing infrastructure to serve that initial phase.

Table 2: Number and Total Acreage of Commercial and Residential Units by Type and Zone

Phasing	Zone	ACREAGE					# OF UNITS				
		Commercial (acres)	Single Family Residential (acres)	Multi-Family (acres)	Age-Qualified (acres)	Custom Lots (acres)	Commercial[3] (units)	Primary Residential (units)	Multi-Family (units)	Age-Qualified (units)	Custom Lots (units)
Phase I[1]	1720-Zone Phase I	46	139	0	232	0	9	717	0	2296	0
Buildout	1720-Zone[2]	93	1,036	38	351	40	20	5,346	534	3,468	30
	1840-Zone	26	97	0	231	351	5	500	0	2,286	262
	1960-Zone	0	0	0	58	0	0	0	0	574	0
	TOTAL	**119**	**1,133**	**38**	**640**	**391**	**25**	**5,846**	**534**	**6,328**	**292**

[1] These values represent Phase I only.
[2] These totals are for the entire 1720-zone (including Phase I)
[3] CMR commercial areas include plans for a school, golf course, town center, various commercial zones, and recreational facilities. For the school area, it is assumed that there will be a total of 1,000 students.

3.2 DEMAND PROJECTIONS

Based on the criteria in Section 2, ***Table 3*** has been prepared to present the projected demands by zone for the CMR development. This table provides the basis for the sizing of all water infrastructures. The ADD is based on serving the number of units within the zone, as well as the non-residential uses. A detailed spreadsheet showing the demand calculations is provided in ***Appendix A***.

Table 3: Demand by Zone

Phasing	Zone	Average Daily Demand (gpd)	Reservoir Storage Requirement (gpd)	Reservoir Storage + Fire Flow (gpd)	Peak Day Demand (gpm)	PDD + Fire Flow (gpm)	Peak Hour Demand (gpm)
Phase I[1]	1720-Zone Phase I	1,309,609	1,208,921	1,508,921	1,819	4,319	2,910
Buildout	1720-Zone[2]	4,068,161	3,758,976	4,058,976	5,650	8,150	9,040
	1840-Zone	1,321,308	1,221,353	1,521,353	1,835	4,335	2,936
	1960-Zone	247,958	229,591	229,591[3]	344	1,344[4]	551
	TOTAL	**5,637,427**	**5,209,920**	**5,809,920**	**7,830**	**13,830**	**12,528**

[1] These values represent Phase I only.
[2] These totals are for the entire 1720-zone (including Phase I).
[3] Fire flow for this zone is included in the 1840-Zone reservoir
[4] A 1,000 gpm fire flow requirement is assumed for this zone

4.0 PROPOSED SYSTEM AND ANALYSIS

4.1 WELL SITES

A draft report by Clear Creek and Associates (Clear Creek) outlining general aquifer characteristics in the area surrounding CMR is provided in ***Appendix B***. Based on the general information provided by Clear Creek, it is assumed the wells that will be serving the CMR development will be located approximately two miles southeast of the project site. While the aquifer at that location appears to have adequate source capacity, it is assumed that the water will need to be treated for arsenic removal. AWC currently utilizes a coagulation-filtration process to remove arsenic from water sources. For purposes of this master plan, it is assumed that a water treatment plant (WTP) similar to the existing AWC WTP's will be built to treat all source water. The WTP will be located at one of the well sites, which will also include the 1720-Zone booster station that will deliver to the CMR development to fill the 1720-Zone reservoirs (***Figure 3, Offsite Water***). At this time, is assumed that the water will only require treatment for arsenic. Other potential water quality issues such as nitrate or fluoride are assumed avoidable by well location, depth, and casing design. The actual water quality of the new wells will determine the required water treatment.

As stated in Section 2.5, the water system requires source capacity to meet PDD. The PDD for the overall CMR development has been calculated at 7,830 gpm, and the PDD for Phase I is approximately 1,819 gpm. It is proposed that six wells will serve the CMR development. Each well is assumed to have a capacity of approximately 1,250 gpm (based on the preliminary well siting study by Clear Creek in ***Appendix B)***. Two wells will be required to serve the PDD of the Phase I area. The wells will all pump to the WTP for centralized treatment located at the existing Scott Reservoir. The WTP will discharge treated water to the existing 5.0 MG Scott Reservoir. Refer to ***Figure 3*** for location of the well sites.

4.2 RESERVOIRS AND BOOSTERS

As stated in Section 2.6, each zone will be provided with sufficient storage to provide for the storage requirement plus additional storage for that zone's FFC flow capacity (reservoir storage + FFC).

As stated in section 2.7, booster stations will have sufficient capacity to meet PHD or PDD (whichever is greater) for all zones fed by that station. If the zone does not have FFC within a floating reservoir, the booster station feeding that zone must also provide for fire flow.

1720-ZONE – Phase I

During the first phase of the CMR project, all development will be located on the eastern end of the CMR property and will be entirely situated within the 1720-Zone. Domestic and FFC demands in the first phase will be fed entirely by an offsite booster station, based on pressure control. The booster station FFC will be provided from the 1720-Zone reservoirs in the future. The PDD for the first phase of the CMR project totals 1,819 gpm. With an additional 2,500 gpm required for FFC, the capacity of the booster station serving the Phase I will be sized for 4,300 gpm. At full buildout of the CMR project, through additional phasing, this booster station will eventually have a total capacity of 5,650 gpm.

1720-ZONE

Based on the demand projections for the CMR development, the 1720-Zone will have a total storage requirement of 4.1 MG; this includes a FFC of 2,500 gpm for 2 hours. It is assumed there will be four 1.0 MG reservoirs that will be placed at 2 different sites and phased in over the build-out period for the 1720-Zone. Each site will have two 1.0 MG reservoirs. Actual phasing of the CMR development will determine which reservoirs are constructed at what point in the development implementation.

The PDD for the 1720-Zone is calculated to be approximately 5,650 gpm. Since the floating reservoirs will provide fire flow and peaking demands within the zone, the 1720-Zone booster station at the WTP location will only provide PDD. The 1720-Zone booster station at the WTP will be sized to convey the PDD for all three zones uphill from that booster station, or 7,830 gpm. The booster station capacity may be phased in over time, based on the phasing of demands within the CMR development.

1840-ZONE

The 1840-Zone storage capacity has been calculated as 1.2 MG, which includes a FFC of 2,500 gpm for two hours as well as the storage requirement (0.23 MG) for the 1960-Zone system. It is assumed the storage for the 1840-Zone will be phased, with two 0.75 MG reservoirs constructed at the same site.

The 1840-Zone reservoirs will be filled by 1840-Zone booster stations located at the 1720-Zone reservoir sites. These booster stations must be capable of providing the PDD for the zones uphill from the booster stations, which totals 2,179 gpm. However, it is also assumed that in the early phases of development there will not be an 1840-Zone floating reservoir, and one of the 1840-Zone booster stations will need to provide PDD plus fire flow for the 1,860-Zone based on pressure control. Therefore, one of the booster stations for the 1840-Zone has been sized to include 2,500 gpm FFC. A second booster station will be located at the other 1720-zone reservoir site to provide additional flows needed to meet PDD for the 1840-Zone and 1960-Zone. Actual system phasing will determine the final capacities required for each booster station. If an 1840-Zone reservoir is built in the early development phases, the 2,500 gpm FFC can be incorporated into the reservoir and the booster station capacities will be reduced to PDD. For purposes of this master plan the 1840-Zone booster stations are sized at 4,679 gpm and 1,000 gpm.

1960-ZONE

The 1960-Zone storage requirement has been calculated to be 0.23 MG. Due to the size and location of the 1960-Zone system it is not practical to build a reservoir at a high water elevation to serve the system by gravity. The storage requirement for the 1960-Zone system has been included in the 1840-zone reservoirs.

The PDD for the 1960-Zone has been calculated at 344 gpm. Because the 1960-Zone consists of only age qualified units, it has been assumed that the FFC required is 1,000 gpm, therefore the booster station for the 1960-Zone has been sized for 1,400 gpm.

The requirements for the reservoir and booster capacities at CMR are summarized in ***Table 4*** below:

Table 4: Reservoir and Booster Sizing

Phasing	Zone	STORAGE REQUIREMENTS		BOOSTER REQUIREMENTS	
		Reservoir (MG)	Total Storage Capacity (MG)	Booster Station	Total Flow (gpm)
Phase I[1]	1720 Phase I	No reservoir for Phase I	N/A	1720-Zone booster at Well Collection/Treatment Plant Site	4,300
Buildout	1720[2]	Four @ 1.0 MG reservoirs	4.1	1,720-Zone booster at Well Collection/Treatment Plant Site	7,830
	1840	Two @ 0.75 MG reservoirs	1.5	Two 1840-Zone Boosters, one at each 1720 Zone Reservoir Site[3]	4,679
	1960	N/A (included in 1840-Zone storage)	N/A	One 1960-Zone at 1840-Zone Reservoir Site [4]	1,200

[1] Assumes all PDD and FFC will be served by booster station in Phase I
[2]Represents total demand for all Phases of 1720-zone.
[3] One booster station includes 2,000 gpm fire flow capacity for early phases of development
[4] Booster station includes 1,000 gpm fire flow capacity

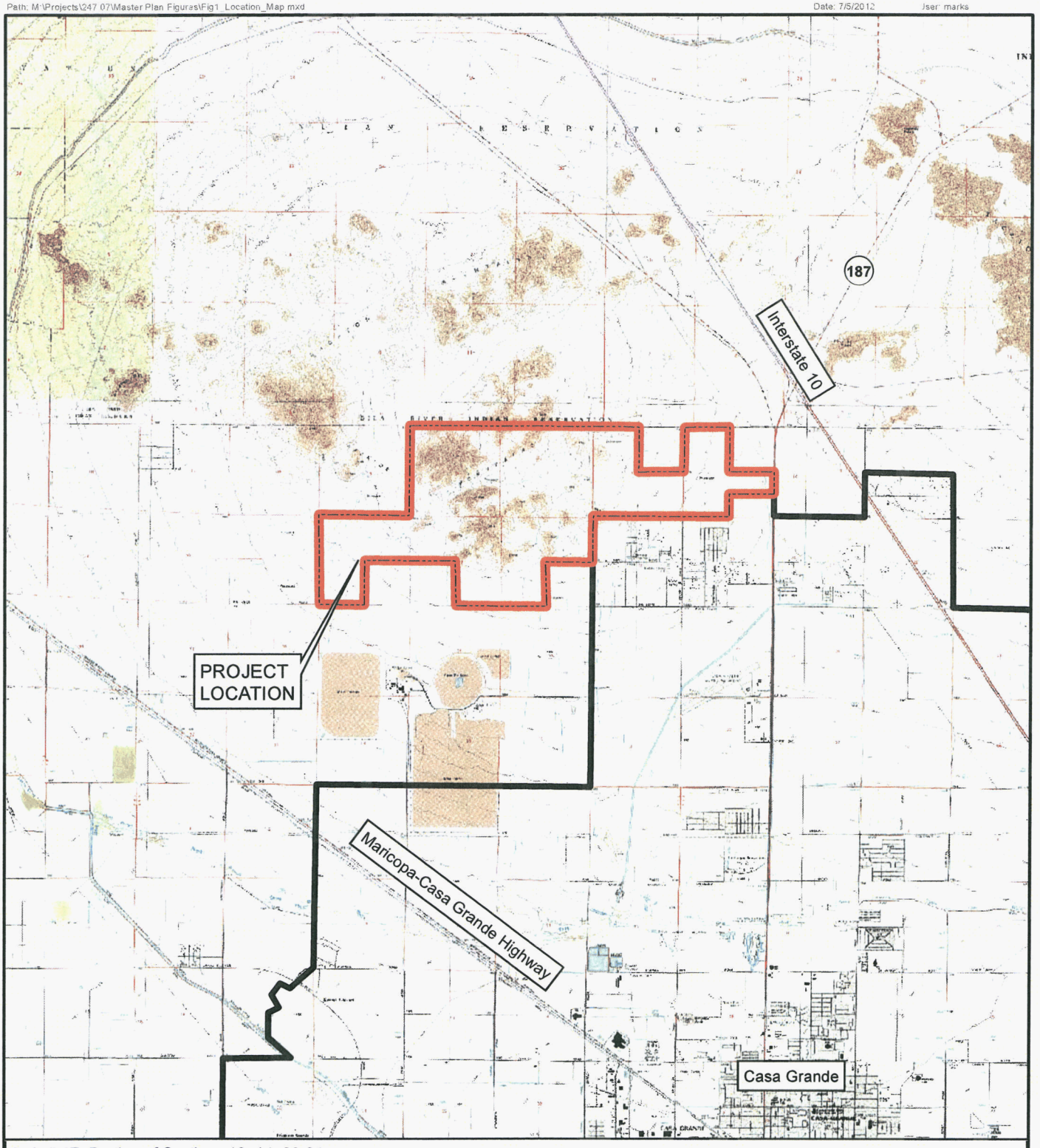
Proposed locations of the reservoirs and booster stations are shown on ***Figures 2 and 3***.

4.3 PIPELINE SIZING AND LOCATION

Pipeline sizes are based on the design criteria set forth in Section 2.7 of this report. Pipelines have been placed in the proposed roadways (on-site) and in existing (or planned) roadways for the offsite lines. It is assumed that sufficient right of way is available for the off-site pipelines from the wells to the WTP and from the 1720-Zone booster station to the CMR development. Final pipeline alignments will be determined by final well locations and CMR improvement plans. Refer to ***Figures 2 and 3*** for the location and size of transmission pipeline placement. Calculations for the estimated lengths of internal distribution lines are shown in ***Appendix C***.

FIGURES

Path: M:\Projects\247 07\Master Plan Figures\Fig1 Location_Map.mxd Date: 7/5/2012 User: marks



T5S, R5E, Portion of Sections 13, 14, 22-24,
T5S, R6E, Portion of Sections 17 & 18,
Pinal County, Arizona,
Casa Grande West USGS 7.5' Quadrangle
Data Source: Site Boundary by America Nevada Company
Photo Source: ESRI USA Topo Map

Legend

- Project Area
- Current Arizona Water Company CC&N

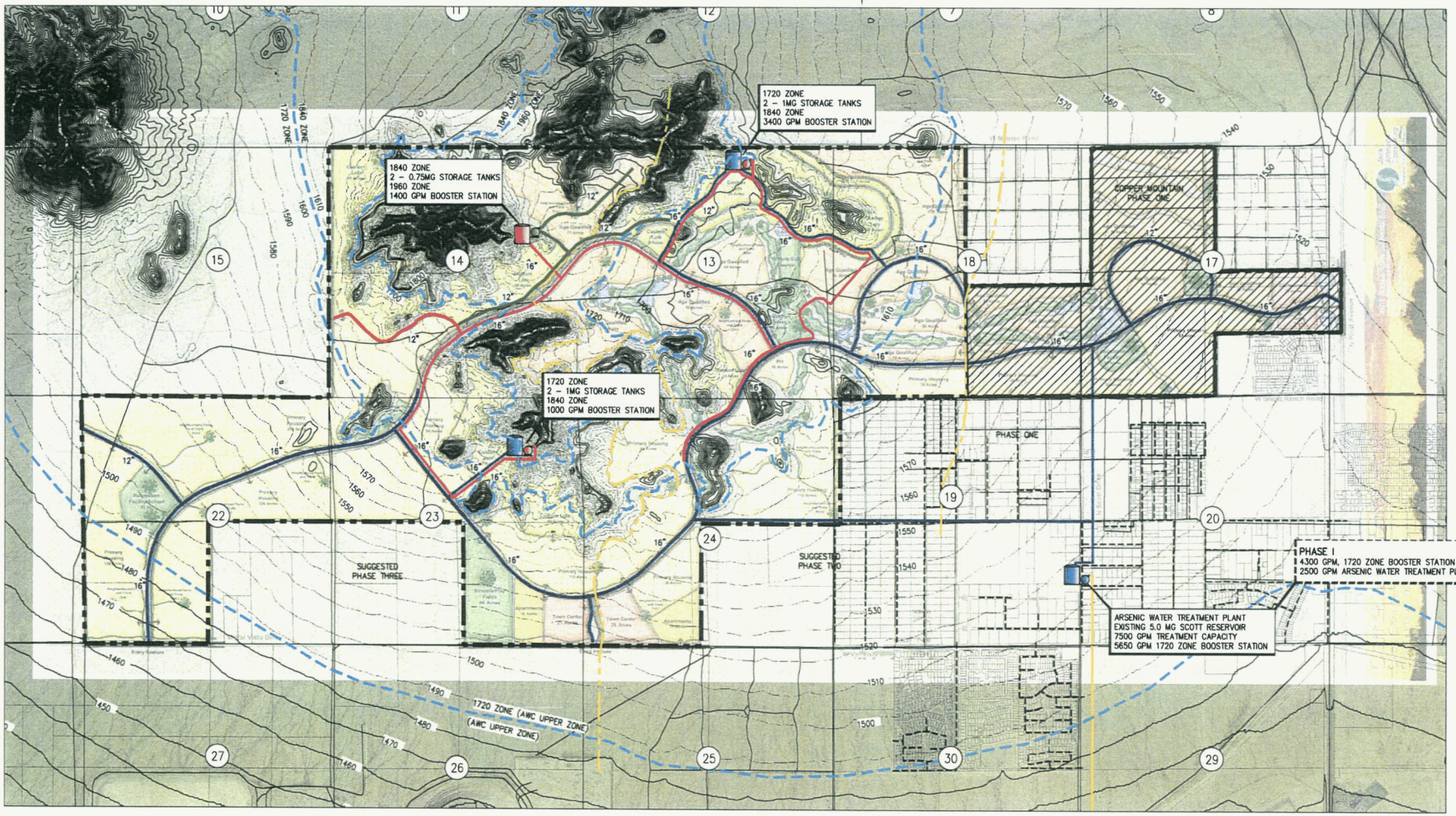
N

0 4,800 9,600 Feet

WestLand Resources, Inc.
Engineering and Environmental Consultants

COPPER MOUNTAIN
Master Plan

LOCATION MAP
Figure 1



ZONE BOUNDARY TABLE

ZONE	ZONE BOUNDARY	HIGH WATER
1720	1488 – 1605	1720
1840	1606 – 1725	1840
1960	1726 – 1845	1960

LEGEND

- ZONE BOUNDARY
- PHASE BOUNDARY
- 1720–ZONE
- 1840–ZONE
- 1960–ZONE
- COPPER MOUNTAIN PHASE 1
- STORAGE TANK
- BOOSTER PUMP
- (30) SECTION NUMBER

N
W E
S

1000' 0' 1000'
SCALE: 1" = 1000'

WestLand Resources, Inc.
Tucson • Phoenix • Flagstaff
4001 E. Paradise Falls Drive
Tucson, Arizona 85712 (520) 206-9585

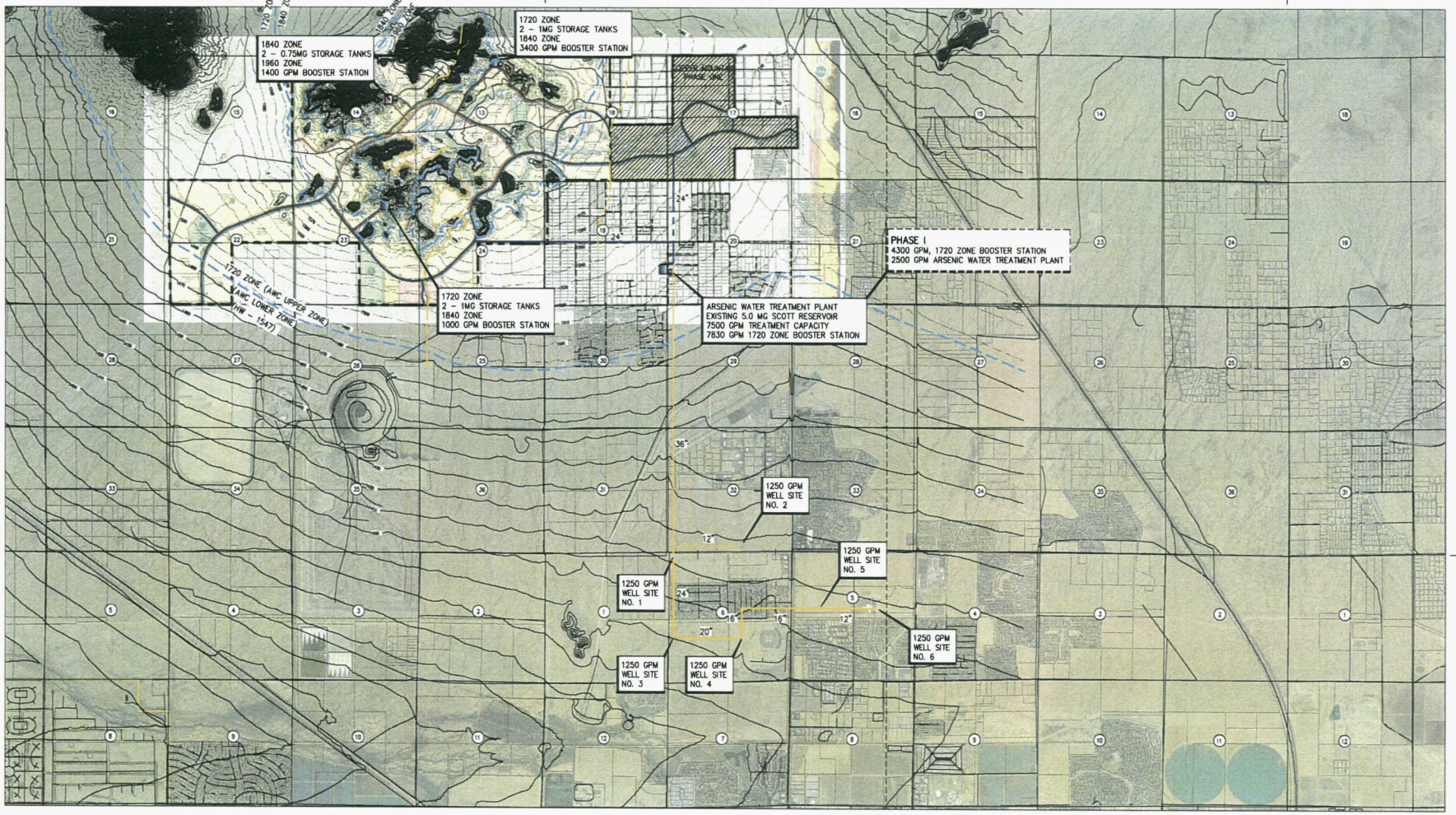
m:\projects\t247.07\master plan figures\master-plan-water-exhibit two.dwg July 2, 2012 mark stucky

FIGURE 2

COPPER MOUNTAIN

ONSITE WATER MASTER PLAN

SEPTEMBER 13, 2012



ZONE BOUNDARY TABLE

ZONE	ZONE BOUNDARY	HIGH WATER
1720	1488 – 1605	1720
1840	1606 – 1725	1840
1960	1726 – 1845	1960

LEGEND

- ZONE BOUNDARY
- (30) SECTION NUMBER
- 1720–ZONE
- 1840–ZONE
- 1960–ZONE
- WELL COLLECTION LINE
- PHASE I OFFSITE
- COPPER MOUNTAIN PHASE 1
- STORAGE TANK
- BOOSTER PUMP
- WELL SITE

N
W E
S
2000' 0' 2000'
SCALE: 1" = 2000'

Westland Resources, Inc.
Tucson • Phoenix • Flagstaff
4001 E. Paradise Falls Drive
Tucson, Arizona 85712 (520) 206-9585

m:\projects\247.07\master plan figures\master-plan-water-exhibit three.dwg July 2, 2012 mark stucky

FIGURE 3

COPPER MOUNTAIN

OFFSITE WATER MASTER PLAN

SEPTEMBER 13, 2012

ATTACHMENT A

DEMANDS SPREADSHEET

ARIZONA WATER COMPANY
WATER DISTRIBUTION SYSTEM APPROVAL

ALL WATER MAINS AND APPURTENANCES ARE TO BE INSTALLED AS PER ARIZONA WATER COMPANY'S STANDARD SPECIFICATIONS FOR THE INSTALLATION OF DUCTILE IRON WATER MAINS ON FILE WITH THE ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY. THIS APPROVAL DOES NOT APPLY TO PRIVATE DISTRIBUTION SYSTEMS ON THE CUSTOMER'S PREMISES. THIS APPROVAL IS VALID FOR A PERIOD OF EIGHTEEN MONTHS FROM THE DATE OF THIS APPROVAL AFTER WHICH TIME THE WATER DISTRIBUTION SYSTEM PLAN(S) ARE SUBJECT TO RE-REVIEW AND APPROVAL.

DATE OF APPROVAL 09 / 10 / 2012

APPROVED BY

COPPER MOUNTAIN RANCH DEMAND CALCULATIONS

ADD	432	GPD/unit
PDD (booster/well)	2	times ADD
PDD (well)	2	times ADD
PHD	3.2	times ADD
Storage	400	GPD/unit

	PPDU	GPCD Water	Demand/ Unit Water
Single-family	2.7	160	432
Multi-family	1.8	240	432
Active Adult	1.8	240	432
Custom Lots	2.7	160	432

		Area (acres)						# of Service Connections					
	Units	Lower	1720 Zone- Phase I	1720 Zone - Complete*	1860 Zone	2000 Zone	Total	Lower	1720 Zone- Phase I	1720 Zone	1860 Zone	2000 Zone	Total
Single-family	5,474	0	139	1,036	97	0	1,133	0	717	5,345	500	0	5,846
Multi-family	500	0	0	38	0	0	38	0	0	534	0	0	534
Active Adult	5,926	0	232	351	231	58	640	0	2,296	3,469	2,286	574	6,329
Custom Lots	273	0	0	40	351	0	391	0	0	30	262	0	292
Total	12,173	0		1,465	679	58	2,201	0	3,013	9,378	3,048	574	13,000
Prorated Total	13,000												
*Includes Phase 1													

		Acres for Potable Calculation					# of Service Connections				
		1720 Zone- Phase I	1720 Zone - Complete*	1860 Zone	2000 Zone	Total	1720 Zone- Phase I	1720 Zone	1860 Zone	2000 Zone	Total
Commercial		25	25			25	5	5	0	0	5
Town Center			47			47	0	9	0	0	9
Community Park							0	0	0	0	0
Golf Clubhouse				26		26	0	0	5	0	5
Rec. Facility		21	21			21	4	4	0	0	4
School								1			1
Total						Total	9	20	5	0	25
*Includes Phase 1											

		Potable Demand				
		1720 Zone- Phase I	1720 Zone - Complete*	1860 Zone	2000 Zone	Total
Residential		1,301,660	4,051,227	1,316,815	247,958	5,616,000
Commercial		2,160	2,160	0	0	2,160
Town Center		0	4,061	0	0	4,061
Community Parks		0	0	0	0	0
Golf Clubhouse		0	0	2,246	0	2,246
Rec Facility		1,814	1,814	0	0	1,814
School		0	432	0	0	432
Golf course		3,974	8,467	2,246	0	10,714
ADD		1,309,609	4,068,161	1,321,308	247,958	5,637,427
Storage		1,208,921	3,758,976	1,221,353	229,591	5,209,920
PDD (booster)		2,619,217	8,136,322	2,642,616	495,917	11,274,854
PDD (well supply)		2,619,217	8,136,322	2,642,616	495,917	11,274,854
PHD		4,190,748	13,018,116	4,228,185	793,466	18,039,767
Storage+FF		1,508,921	4,058,976	1,521,353	229,591	5,809,920
PDD (booster)(GPM)		1,819	5,650	1,835	344	7,830
PDD(booster) + FF (GPM)		4,319	8,150	4,335	1,344	13,830
PDD (well supply)(GPM)**		1,819	5,650	1,835	344	7,830
PHD (GPM)		2,910	9,040	2,936	551	12,528

	PHASE I				
	Year 1	Year 2	Year 3	Year 4	Year 5
Storage	241,784	483,568	725,352	967,137	1,208,921
PDD (booster)	523,843	1,047,687	1,571,530	2,095,374	2,619,217
PDD (well supply)	523,843	1,047,687	1,571,530	2,095,374	2,619,217
PHD	838,150	1,676,299	2,514,449	3,352,598	4,190,748
Storage+FF	301,784	603,568	905,352	1,207,137	1,508,921
PDD (booster)(GPM)	364	728	1,091	1,455	1,819
PDD(booster) + FF (GPM)	2,864	3,228	3,591	3,955	4,319
PDD (well supply)(GPM)	364	728	1,091	1,455	1,819
PHD (GPM)	582	1,164	1,746	2,328	2,910

ATTACHMENT B

CLEAR CREEK
WELL SITING
STUDY

COPPER MOUNTAIN RANCH DEVELOPMENT
DRAFT PRELIMINARY WELL SITING STUDY

CLEAR CREEK ASSOCIATES

To: Ms. Kara D. Festa, P.E., Vice President, WestLand Resources, Inc.

From: Steven W. Corell, R.G. Clear Creek Associates

Subject: Copper Mountain Ranch Development - - DRAFT Preliminary Well Siting Study

Date: July 3, 2012

1 INTRODUCTION

This letter report summarizes a preliminary data review and well siting study for the Copper Mountain Ranch Development. The Copper Mountain Ranch Development (CMRD) is located within the Sacaton Mountains about 8 miles northwest of downtown Casa Grande, Arizona. The CMRD is also located in the Maricopa-Stanfield and Eloy sub-basins of the ADWRs Pinal Active Management Area (AMA). The CMRD consists of about 3,638 acres located within portions of Township 5 South, Ranges 5 and 6 East, between Highway 238 and Highway 87 (**Figure 1**). The CMRD will be a mixed residential and commercial development that will include about 13,000 residential units, 200 acres of non-residential use, and one 18 hole golf course. Annual water demand at build-out is estimated to be about 5,000 gpm or 8,065 acre-feet/year. The CMRD will be served by the Arizona Water Company and Certificate of Convenience and Necessity (CC&N) extension is currently in development to bring the parcels into the Arizona Water Company CC&N area.

The purpose of the preliminary well siting study is to provide a determination of feasible areas for public supply wells. The focus of the study area is Townships 5 and 6 South, Ranges 4, 5, and 6 East of the Gila and Salt River Baseline and Meridian. A number of hydrologic and demographic criteria will impact the feasibility of permitting, constructing, and operating a public supply well. Hydrologic criteria considered in the preliminary study included:

- Depth-to-bedrock,
- Depth-to-groundwater
- Aquifer saturated thickness,
- Reported registered well pumping rates, and
- Proximity to existing wells, ADWR Rule R12-15-830 prohibits new water supply wells within an AMA from causing more than 10 feet of water level decline in neighboring wells, after a pumping period of 5 years,

2 DATA REVIEW

2.1 DEPTH-TO-BEDROCK

Depth-to-bedrock contours shown on **Figure 2** are from a gravity survey conducted by the University of Arizona (Oppenheimer and Sumner, 1980). The depth-to-bedrock deepens with distance away from the Sacaton Mountains. An area of shallow bedrock extends south-southeast toward Casa Grande (area between 800 ft. contours/**Figure 2**) generally separating the Eloy and Maricopa-Stanfield sub-basins. The depth-to-bedrock is in excess of 1,600 feet in the Eloy sub-basin, and is greater than 3,200 feet in the western portion of the study area in the Maricopa-Stanfield sub-basin.

Three geologic units have been previously described for the alluvial materials within the study area including the Upper Alluvial Unit (UAU), the Middle Silt and Clay Unit (MSCU), and the Lower Conglomerate Unit (LCU) (Hardt and Cattany, 1965; Wickham and Corkhill, 1989). These geologic units generally comprise the regional aquifer of the area. A brief description of each hydrogeologic unit follows.

UAU: primarily unconsolidated to slightly consolidated interbedded sand and gravel with some finer grained materials existing as lenses.

MSCU: fine grained materials consisting predominantly of silt, clay, and sand, with intermittent sand and gravel lenses. Deeper portions of the basin contain evaporite deposits consisting of anhydrite.

LCU: semi-consolidated to consolidated coarse sediments consisting of granite fragments, cobbles, boulders, sand and gravel.

2.2 DEPTH-TO-GROUNDWATER

ADWR published a map (Rascona, S.J., 2006) showing groundwater elevations and depth-to-water based on water levels collected by ADWR staff between November 2002 and February 2003. A portion of this map illustrating the groundwater elevation and depth-to-water is shown on **Figure 3**. Local or perched water-bearing areas are indicated as shaded areas on **Figure 3**, located on the western margin of the study area in the Maricopa-Stanfield sub-basin, and a portion of the southeastern study area in the Eloy sub-basin. In the Eloy sub-basin portion of the study area depth-to-water ranges from 24 feet to 322 feet with groundwater elevations ranging from 1,143 feet above mean sea level (amsl) to 1,313 feet amsl. Groundwater generally flows to the north-northwest in response to groundwater pumping north and northwest of Casa Grande.

In the Maricopa-Stanfield sub-basin portion of the study area depth-to-water ranges from 47 feet to 595 feet, and groundwater elevations range from 1,291 feet amsl to 734 feet amsl. Groundwater generally flows to the west and southwest toward a groundwater depression located in the central portion of the Maricopa-Stanfield sub-basin (**Figure 3**). Groundwater generally occurs under unconfined conditions in the Lower Aquifer, the Upper Aquifer is generally de-watered throughout most of the study area.

2.3 AQUIFER SATURATED THICKNESS

The depth-to-bedrock map (**Figure 2**) and static water level data from the ADWRs Well Registry Database were used to prepare an estimated saturated aquifer thickness map shown on **Figure 4**. Saturated aquifer thicknesses greater than 1,000 feet occur in the western and southwestern portion of the study area, and in the eastern portion of the study area north of Casa Grande.

2.4 REGISTERED WELL PUMPING RATES

A map of reported pumping rates for ADWR registered wells is shown on **Figure 5**. Reported pumping rates greater than 1,500 gpm occur in the western and southwestern portion of the study area generally in the area of saturated aquifer thickness greater than 1,000 feet. Pumping rates greater than 1,500 gpm also occur in the southeastern portion of the study area generally east of Casa Grande. The ADWR Well Registry Database indicated pumping rates as high as 2,800 gpm in the study area.

2.5 PROXIMITY TO EXISTING WELLS

Proximity to existing wells, ADWR Rule R12-15-830 prohibits new water supply wells within an AMA from causing more than 10 feet of water level decline in neighboring wells, after a pumping period of 5 years. For this preliminary analysis ADWR registered water wells within the study area were assigned an assumed impact radius, 660 feet for exempt wells, and 1,320 feet for non-exempt wells. The assumed impact circles for registered water wells in the study area are shown on **Figure 6**; areas between the assumed impact circles indicate areas of potential development. An inventory of all wells shown on **Figure 6** is provided in **Table 1**.

3 POTENTIAL GROUNDWATER SOURCE AREA

A preliminary review of hydrologic conditions indicates that new supply wells located in the western portion of the study area (Maricopa-Stanfield sub-basin), and in the southeastern portion of the study area (Eloy sub-basin) would likely produce significant amounts of groundwater. **Figure 7** shows an area de-lineated with the greatest potential for development of groundwater. Higher reported pumping rates generally correlate with areas of greatest saturated aquifer thickness (**Figure 7**). Groundwater quality was not reviewed as part of the preliminary well siting study. A previous Well Siting Investigation -- Copper Mountain Ranch (Southwest Ground-water Consultants, June 20, 2003) indicated TDS values ranged from 220 to >2,000 milligrams per liter (mg/L), arsenic values ranged from 8 to 258 micrograms per liter (ug/L), fluoride concentrations ranged from 0.2 to 12 mg/L, and nitrate as nitrogen concentrations ranged from 0.56 to 79 mg/L. Groundwater quality may limit production of potable water in some areas from certain zones, mixing of water from areas of poor water quality with other areas may result in acceptable water quality. A more detailed well siting study will need to evaluate groundwater quality, proximity to environmental sites, and land ownership.

4 REFERENCES

Arizona Department of Water Resources, 2012. ADWR Groundwater Site Inventory (GWSI) database.

Arizona Department of Water Resources, 2012. ADWR Registry of Groundwater Rights (ROGR) Registry database.

Oppenheimer, J.M., and Sumner, J.S., 1980. Depth-to-bedrock map, Basin and Range province, Arizona: Tucson, University of Arizona, Department of Geosciences, Laboratory of Geophysics, 1 sheet, scale 1: 1,000,000 (available as Arizona Geological Survey publication NP-14).

Southwest Ground-water Consultants, 2003. Well Siting Investigation Copper Mountain Ranch, Pinal County, Arizona.

Attachments

Figure 1 – Location Map

Figure 2 – Depth-to-Bedrock Map

Figure 3 – Groundwater Level Map

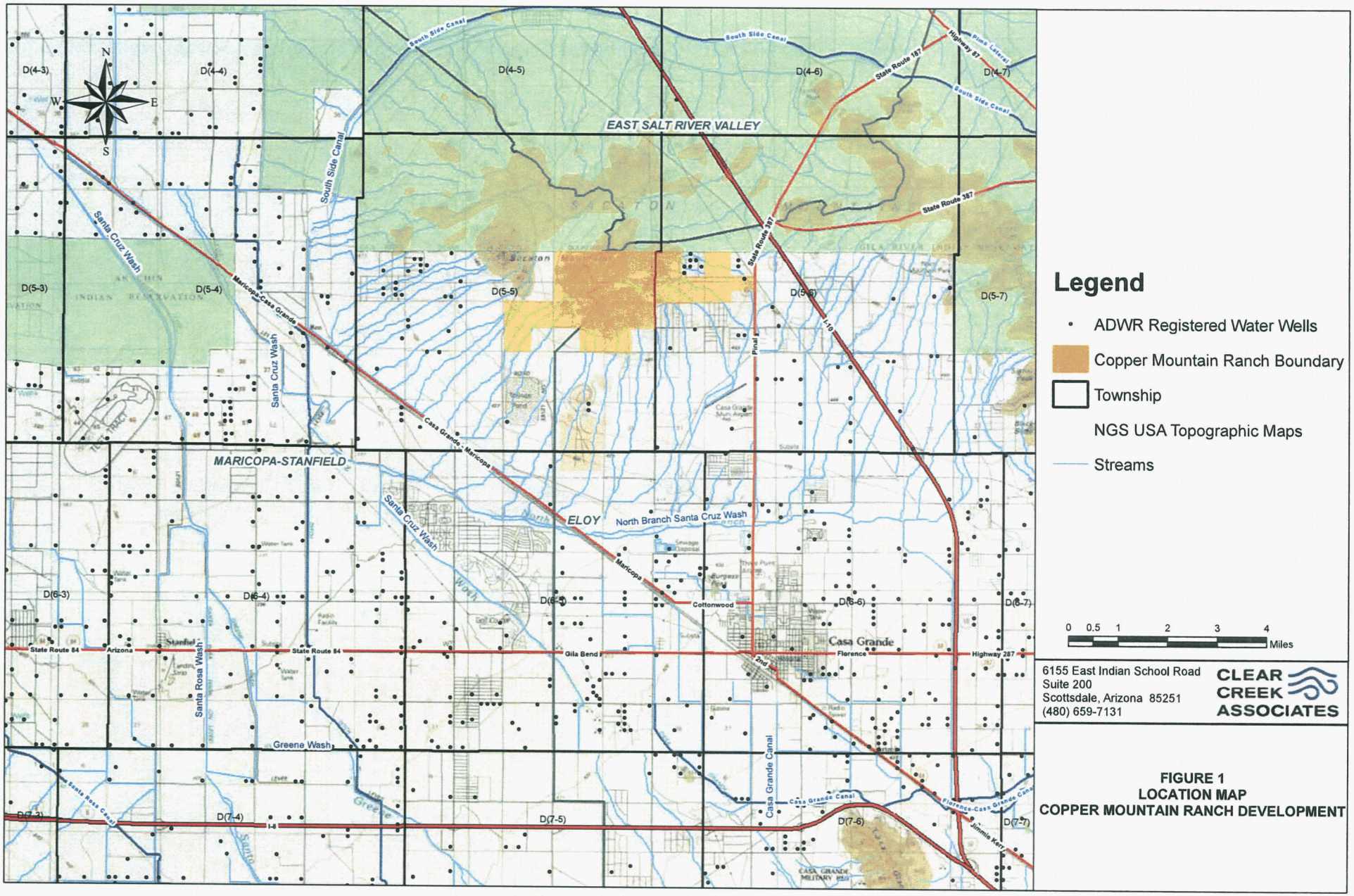
Figure 4 – Approximate Saturated Aquifer Thickness Map

Figure 5 – ADWR Registered Well Pumping Rates (GPM)

Figure 6 – ADWR Registered Water Wells With Approximate Impact Radius

Figure 7 – Groundwater Zone for Potential Additional Development

Table 1 – Study Area Well Inventory



Legend

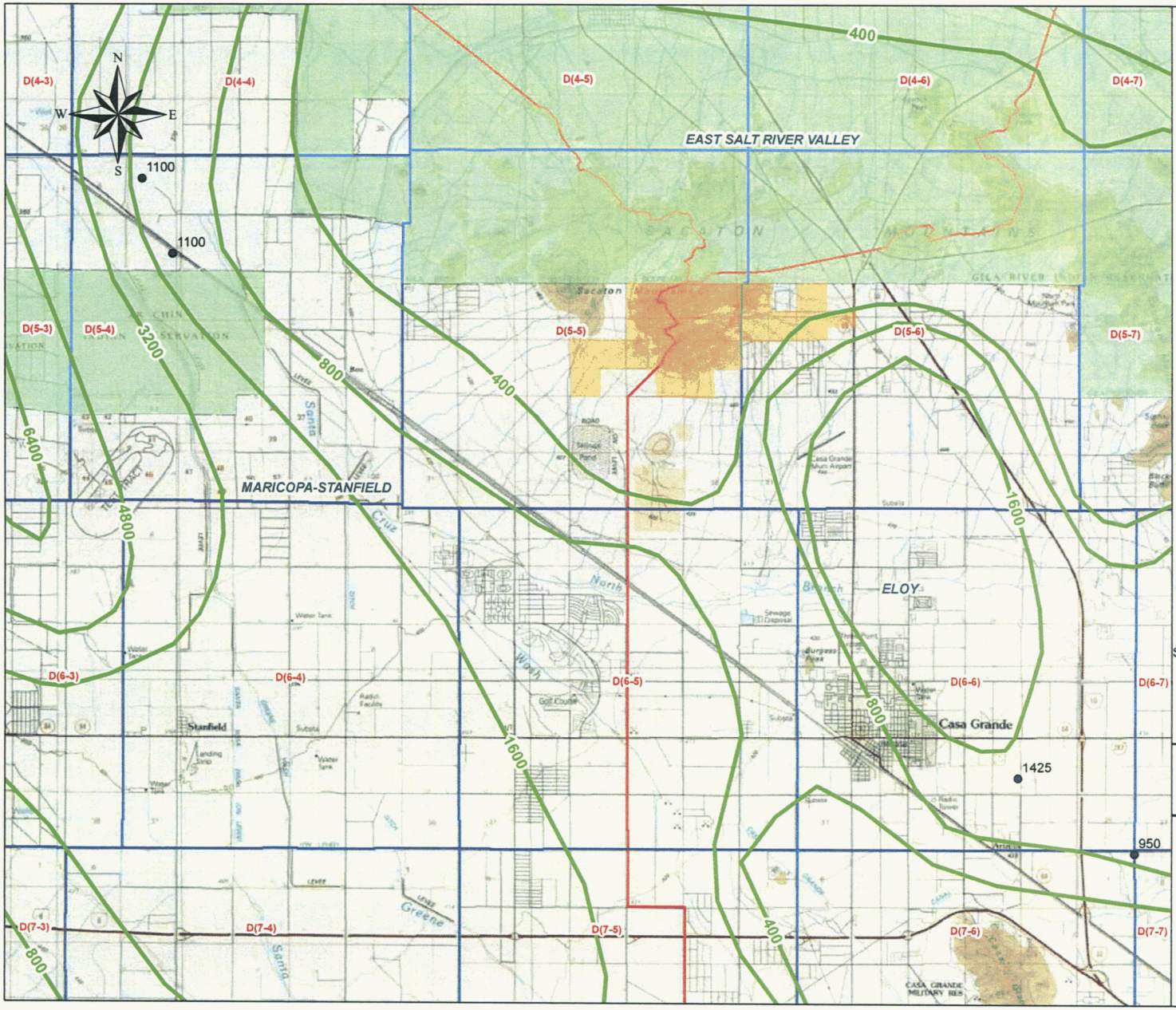
- ADWR Registered Water Wells
- Copper Mountain Ranch Boundary
- Township
- NGS USA Topographic Maps
- Streams

0 0.5 1 2 3 4 Miles

6155 East Indian School Road
Suite 200
Scottsdale, Arizona 85251
(480) 659-7131

CLEAR CREEK ASSOCIATES

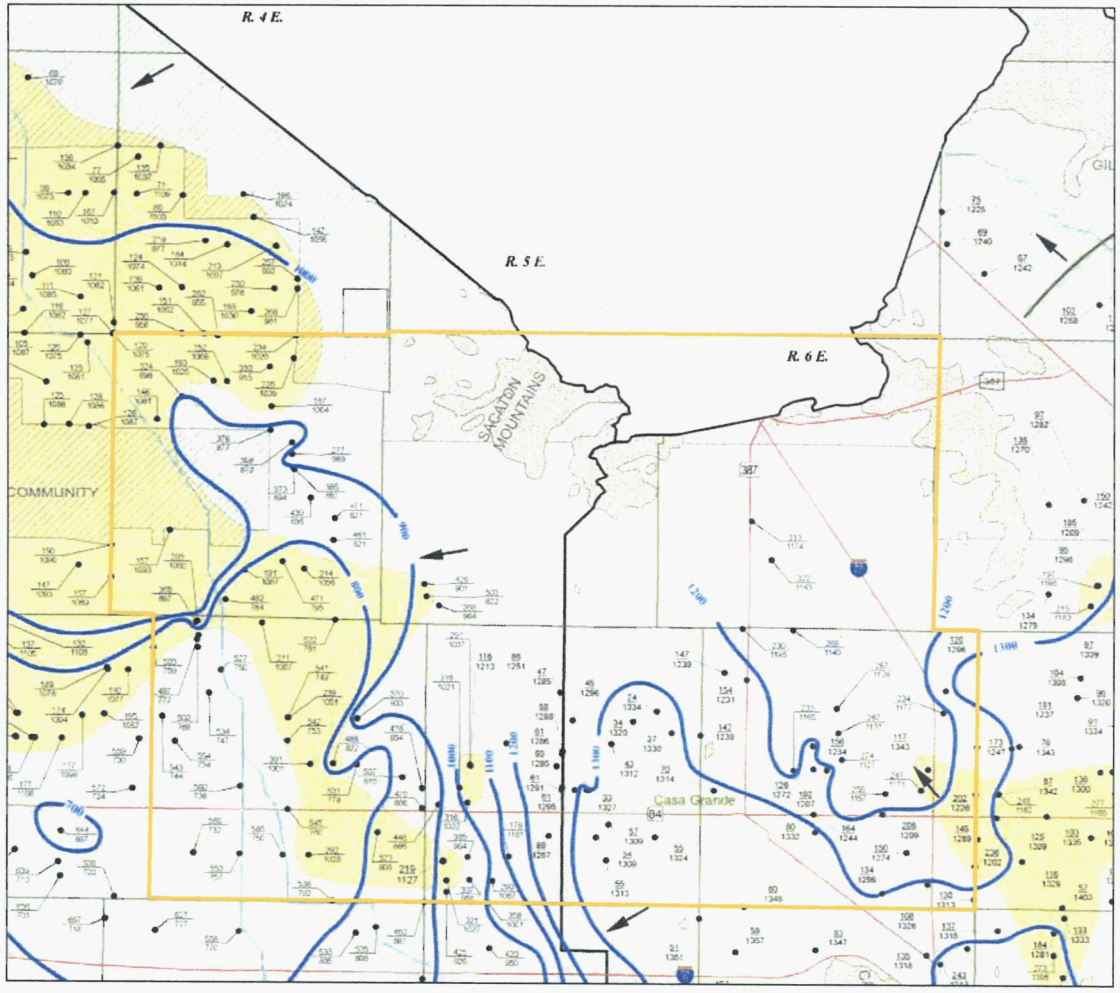
FIGURE 1
LOCATION MAP
COPPER MOUNTAIN RANCH DEVELOPMENT



6155 East Indian School Road
Suite 200
Scottsdale, Arizona 85251
(480) 659-7131

CLEAR CREEK ASSOCIATES

FIGURE 2
DEPTH-TO-BEDROCK MAP
COPPER MOUNTAIN RANCH DEVELOPMENT



WELL IN WHICH DEPTH TO WATER WAS MEASURED IN NOV. 2002 - FEB 2003 – UPPER NUMBER, 154, IS DEPTH TO WATER IN FT BELOW LAND SURFACE. LOWER NUMBER, 1231, IS THE ALTITUDE OF THE WATER LEVEL IN FEET ABOVE MEAN SEA LEVEL. DATUM IS REFERENCED TO THE NATIONAL VERTICAL GEODETIC DATUM OF 1929

ALLUVIAL FILL (may consist of SILT, SAND, CLAY, GRAVEL, CONGLOMERATE, SANDSTONE, MUDSTONE, EVAPORITES, AND VOLCANICS).

HARDROCK (GRANITIC, METAMORPHIC, VOLCANIC OR CONSOLIDATED SEDIMENTARY ROCK - WATER MAY OCCUR IN WEATHERED OR FRACTURED ZONES, JOINT SYSTEMS, OR FLUVIAL DEPOSITS OVERLYING BEDROCK)

LOCAL AREAS OF DISTINCT WATER-BEARING ZONES WITH INCONGRUENT WATER-LEVEL ELEVATIONS.

INDIAN LANDS

WATER - LEVEL ALTITUDE CONTOUR (INTERVAL REPRESENTS 100 FEET).

SUPPLEMENTAL WATER - LEVEL ATLITUDE CONTOUR (INTERVAL REPRESENTS 50 FEET.

GENERAL GROUNDWATER FLOW DIRECTION

MAJOR HIGHWAY

COUNTY LINE

MAJOR WATERWAY

CAP AQUADUCT

SUB-BASIN BOUNDARY

BOUNDARY OF PINAL AMA

Copper Mountain Ranch Study Area

Source: Rascona, S.J., 2006. Maps Showing Groundwater Conditions in the Pinal Active Management Area Maricopa, Pinal, and Pima Counties, Arizona. Nov. 2002 – Feb. 2003. ADWR Hydrologic Map Series Report No. 36.

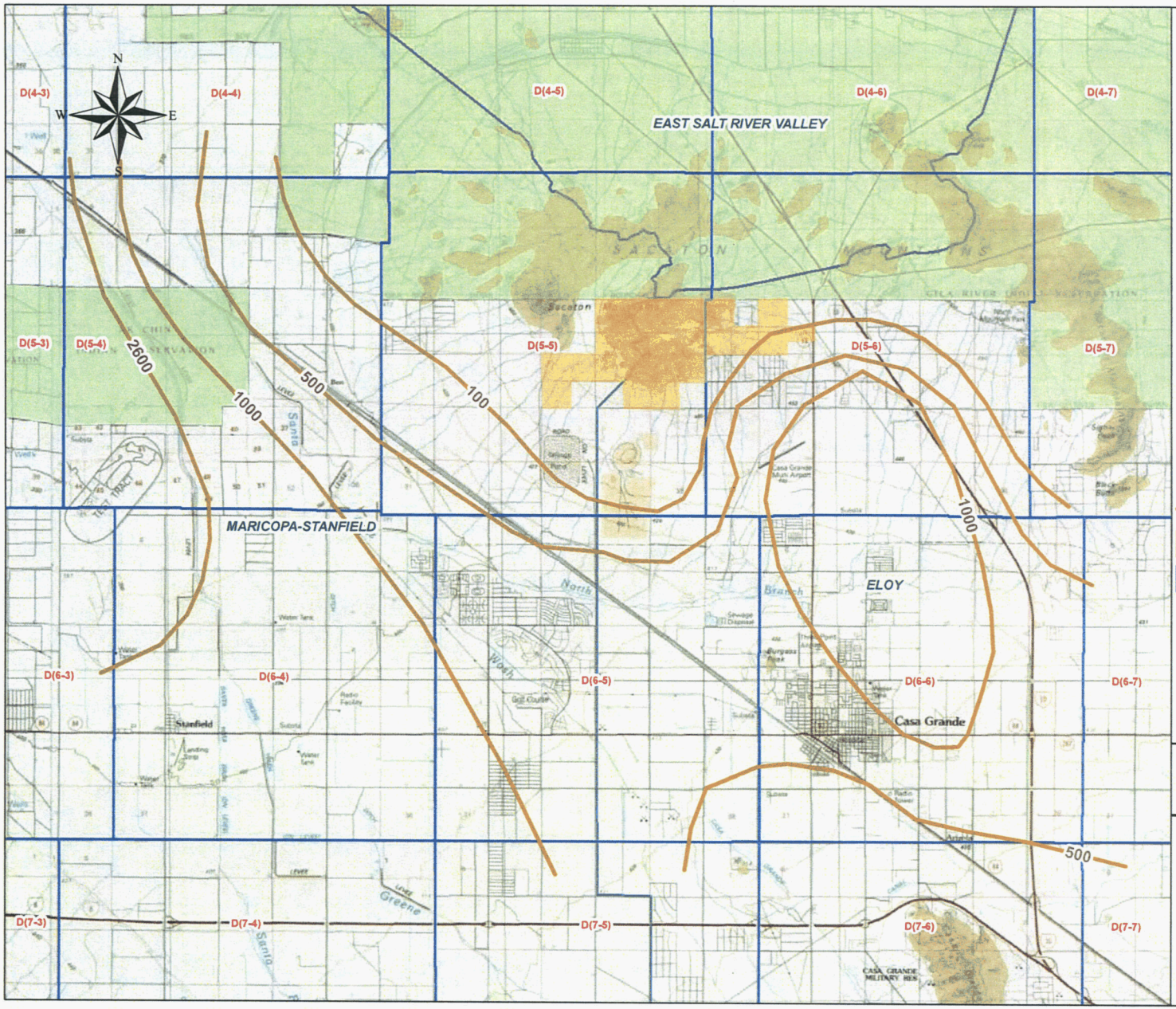
CLEAR CREEK ASSOCIATES

Date: JUNE 2012 | Version: 1

FIGURE 3

GROUNDWATER SURFACE MAP

COPPER MOUNTAIN RANCH DEVELOPMENT



Legend

- Approximate Saturated Thickness Contour
- Copper Mountain Ranch Boundary
- Township
- NGS USA Topographic Maps

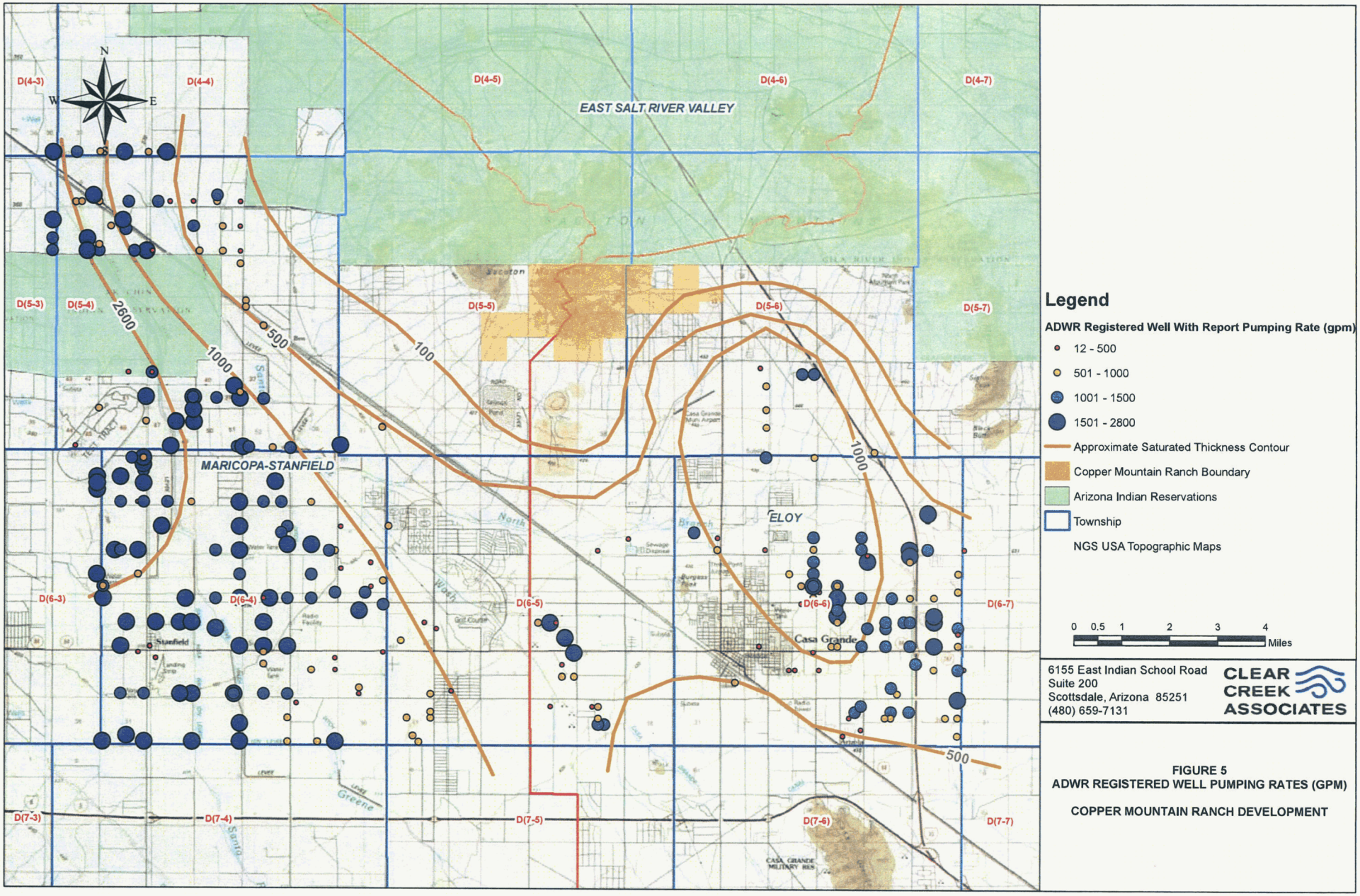
0 0.5 1 2 3 4 Miles

6155 East Indian School Road
Suite 200
Scottsdale, Arizona 85251
(480) 659-7131

CLEAR CREEK ASSOCIATES

FIGURE 4
APPROXIMATE AQUIFER SATURATED THICKNESS

COPPER MOUNTAIN RANCH DEVELOPMENT

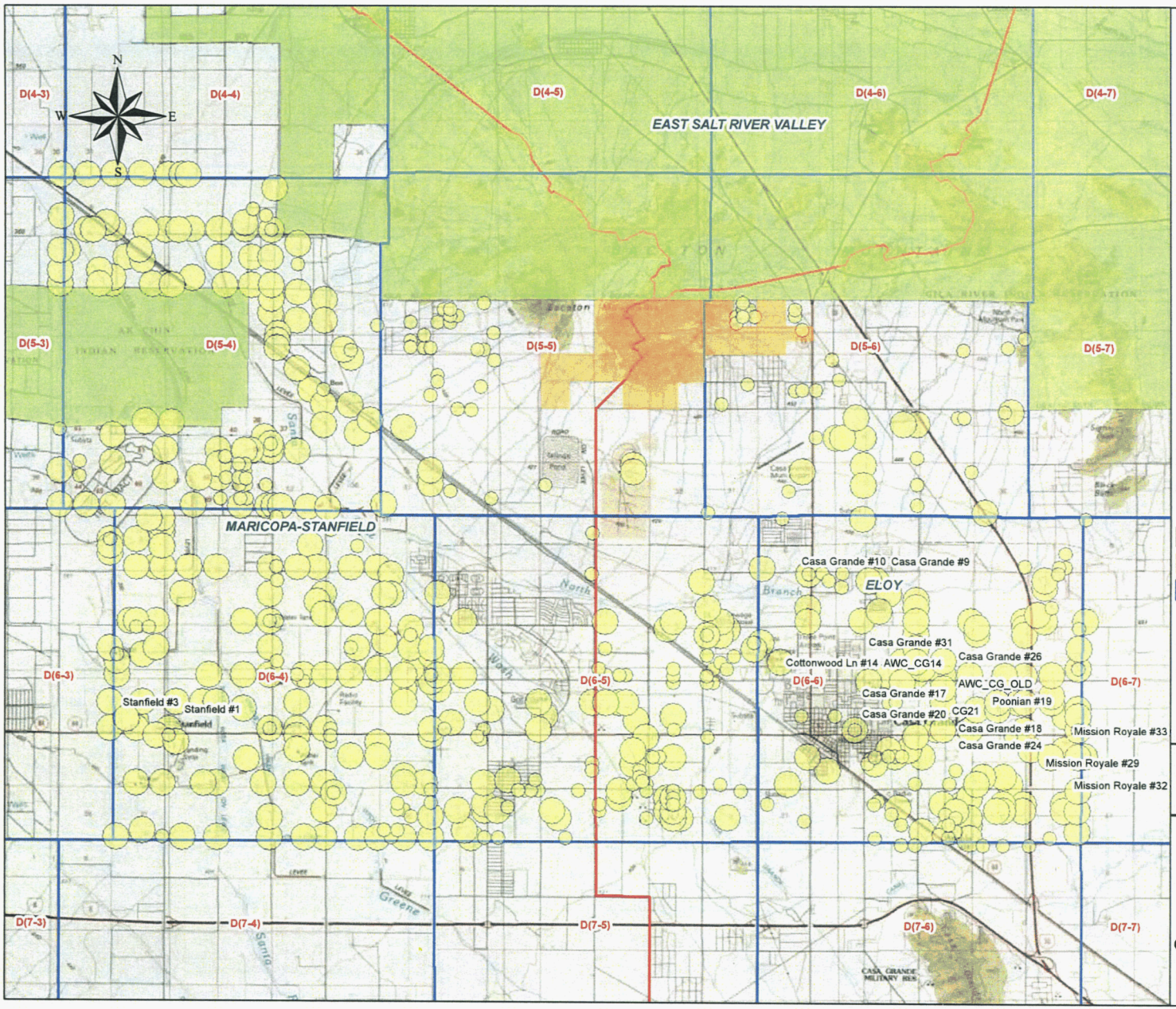


6155 East Indian School Road
Suite 200
Scottsdale, Arizona 85251
(480) 659-7131

CLEAR CREEK ASSOCIATES

FIGURE 5
ADWR REGISTERED WELL PUMPING RATES (GPM)

COPPER MOUNTAIN RANCH DEVELOPMENT



Legend

Approximate Impact Radius ADWR Registered Water Wells

- Feet
- Arizona Indian Reservations
- Copper Mountain Ranch Boundary
- Township
- NGS USA Topographic Maps

Note:
Exempt Wells - - Assumed Impact Radius = 660 feet
Non-Exempt Wells - - Assumed Impact Radius = 1320 feet

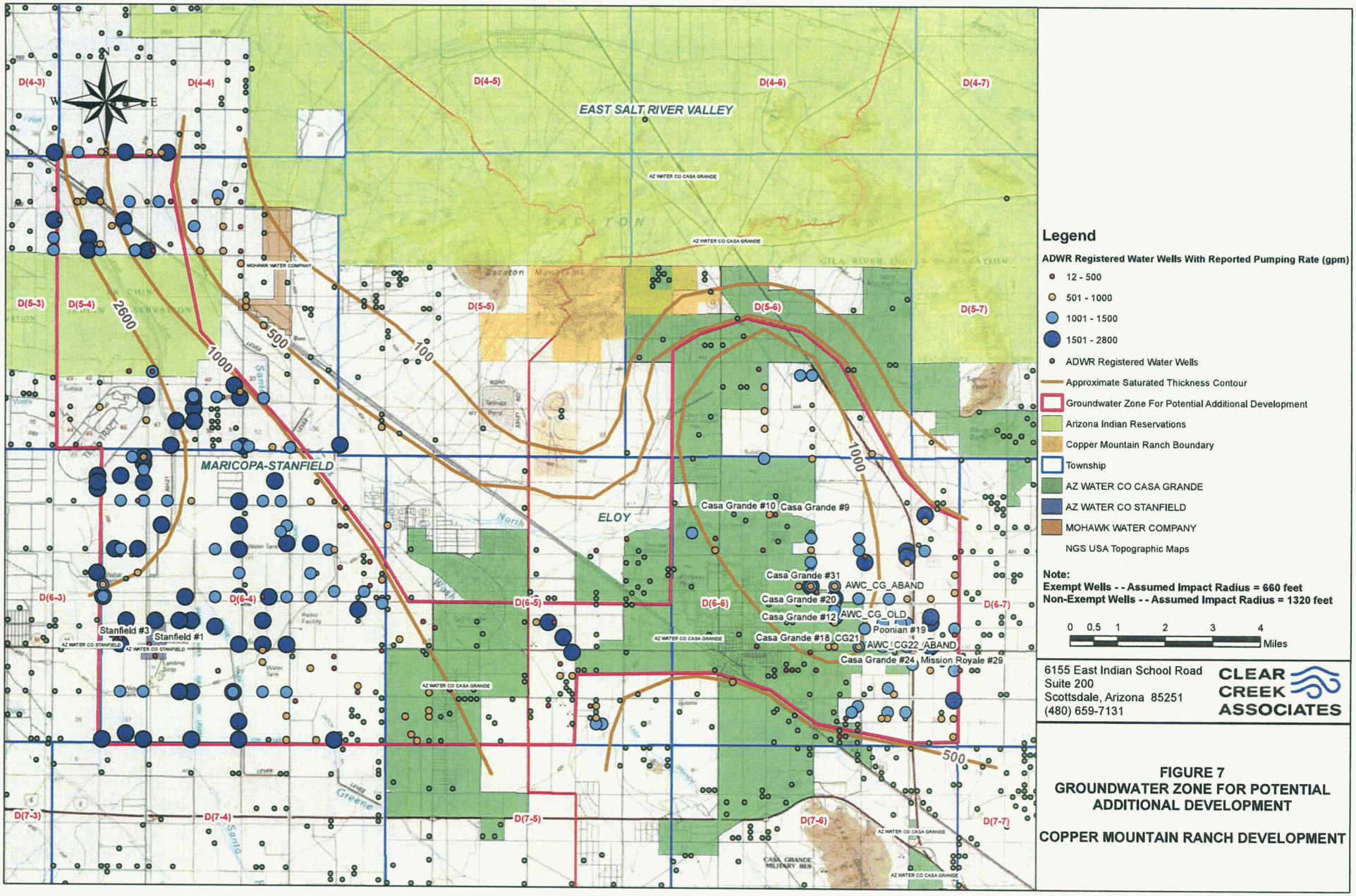
0 0.5 1 2 3 4 Miles

6155 East Indian School Road
Suite 200
Scottsdale, Arizona 85251
(480) 659-7131

CLEAR CREEK ASSOCIATES

FIGURE 6
ADWR REGISTERED WATER WELLS WITH APPROXIMATE IMPACT RADIUS

COPPER MOUNTAIN RANCH DEVELOPMENT



6155 East Indian School Road
Suite 200
Scottsdale, Arizona 85251
(480) 659-7131

CLEAR CREEK ASSOCIATES

FIGURE 7
GROUNDWATER ZONE FOR POTENTIAL ADDITIONAL DEVELOPMENT

COPPER MOUNTAIN RANCH DEVELOPMENT

TABLE 1. STUDY AREA ADWR WELL INVENTORY
COPPER MOUNTAIN RANCH DEVELOPMENT

REGISTRY_ID	OWNER_NAME	WELLTYPE	WELL_TYPE_	INSTALLED	WELL_DEPTH	WATER_LEVE	CASING_DEP	PUMPRATE	TESTEDRATE	DRAW_DOWN	CADASTRAL	LOCAL_NAME
085932	ELAINE FARMS,	REPLACEMENT WELL IN NEW LOCATION	NON-EXEMPT	1/1/1980 12:00:00 AM	675	300	300	0	1300	49	D06006009DAA	
086003	WAITS,A W	EXEMPT	EXEMPT	.	0	0	0	0	0	0	D06005027DDB	
086077	NORTHSIDE HAY CO INC	NON-EXEMPT	NON-EXEMPT	11/8/1980 12:00:00 AM	1018	540	1018	1600	1600	116	D05004008DDD	
086205	CLARK, JAMES,	EXEMPT	EXEMPT	2/20/1981 12:00:00 AM	600	372	600	0	0	0	D07006001BBB	
086509	CONN,R R	EXEMPT	EXEMPT	12/29/1980 12:00:00 AM	508	290	233	10	10	100	D05005018DDB	
087693	WEBER SR,H W	EXEMPT	EXEMPT	1/1/1981 12:00:00 AM	140	80	140	0	28	10	D06006028ACC	
087557	ARTHUR SEIDENSTRICKER	EXEMPT	EXEMPT	7/20/1981 12:00:00 AM	500	375	500	0	0	0	D05006021CBC	
087174	CITY OF CASA GRANDE	REPLACEMENT WELL IN NEW LOCATION	NON-EXEMPT	1/1/1981 12:00:00 AM	755	235	755	0	52	0	D06004004DDD	
086736	NISSAN TECHNICAL CENTER NORTH AMERICA INC	NON-EXEMPT	NON-EXEMPT	5/6/1981 12:00:00 AM	1252	510	1252	1500	1500	150	D06004006AAA	
087212	CORP PRES BISHOP LDS CHURCH	REPLACEMENT WELL IN NEW LOCATION	NON-EXEMPT	3/31/1981 12:00:00 AM	1555	560	1555	0	0	0	D06004016DDD	
087223	CIMARRON RANCH,	EXEMPT	EXEMPT	1/1/1981 12:00:00 AM	1000	0	1000	0	0	0	D06004003CCC	
087225	CIMARRON RANCH,	EXEMPT	EXEMPT	1/1/1981 12:00:00 AM	1040	150	750	0	0	0	D06004002DBB	
087270	JACK E & JANET LEA KORTSEN JR	REPLACEMENT WELL IN NEW LOCATION	NON-EXEMPT	4/7/1981 12:00:00 AM	1400	635	1400	0	1900	58	D06004018DBB	
201736	ABCDW LLC ET AL	NON-EXEMPT	NON-EXEMPT	2/13/2004 12:00:00 AM	1000	550	660	1600	0	138	D06004015DCC	
200631	GLEN KIRKPATRICK, ET AL	EXEMPT	EXEMPT	11/14/2003 12:00:00 AM	300	0	300	0	0	0	D05004034DAB	
202367	DANIEL & MARY A BOWEN	EXEMPT	EXEMPT	.	0	0	0	0	0	0	D06005032ABA	
202374	JOHN W STOUMBIS	EXEMPT	EXEMPT		160	57	160	0	0	0	D06005027DDB	
203291	ROCHELLE E PURCELLA	EXEMPT	EXEMPT		141	60	141	0	0	0	D06005015DCC	
205707	LEVERAGED LAND CO LLC	EXEMPT	EXEMPT		680	440	140	0	0	0	D05006017ACA	
204309	DANIEL N & MARTIE K SWANN	EXEMPT	EXEMPT	7/9/2008 12:00:00 AM	280	210	280	30	50	200	D05004034CAA	
204737	FRANK & SUSAN HOLMAN	EXEMPT	EXEMPT	9/24/2004 12:00:00 AM	520	351	520	5	5	52	D05005018DDC	
204501	KIZER LLC	EXEMPT	EXEMPT		300	215	300	0	0	0	D05004034CDA	
204560	KIZER LLC	EXEMPT	EXEMPT		260	208	260	0	0	0	D05004034BDD	
206158	JOHN M KLUVER	EXEMPT	EXEMPT		400	212	400	0	0	0	D07006002BBA	
208822	ARIZONA WATER COMPANY	SERVICE	NON-EXEMPT	4/10/2006 12:00:00 AM	1500	268	1000	650	706	352	D06006022DDD	Singh/Quaid #30
207965	OTHA & HEIDI SIDNEY/MARIS	EXEMPT	EXEMPT	8/3/2005 12:00:00 AM	680	358	680	0	0	0	D05005018DCB	
209420	GERARDO CORREA	EXEMPT	EXEMPT		500	350	500	0	0	0	D05005017BCC	
210349	LEVERAGED LAND CO LLC	EXEMPT	EXEMPT	2/20/2006 12:00:00 AM	670	400	140	0	0	0	D05006017ABD	
210290	EMERALD VALLEY DEVELOPMENT CORP	EXEMPT	EXEMPT		575	370	575	0	0	0	D05005018DDC	
210294	ARIZONA WATER COMPANY	SERVICE	NON-EXEMPT	5/7/2006 12:00:00 AM	1506	301	1500	1200	1300	130	D06006015CAD	Casa Grande #31
212523	ARIZONA WATER COMPANY	SERVICE	NON-EXEMPT	4/4/2007 12:00:00 AM	1005	270	1000	1800	1800	104	D06006025ACA	Mission Royale #33
212767	LLOYD MOORE	EXEMPT	EXEMPT	9/27/2006 12:00:00 AM	440	202	320	10	11	0	D05004034CAB	
211952	NICKLAS ARTHUR ACHTEN	EXEMPT	EXEMPT		0	0	0	0	0	0	D06005027DDD	
211079	NISSAN TECHNICAL CENTER NORTH AMERICA	EXEMPT	EXEMPT		1002	484	1002	0	0	0	D05004031BDC	
212028	MIKE BROEK	EXEMPT	EXEMPT	5/12/2006 12:00:00 AM	300	120	300	25	25	80	D05004034BBB	
214440	DANIEL PAUL JACKSON	EXEMPT	EXEMPT	2/19/2007 12:00:00 AM	540	280	540	0	0	0	D05005018DAC	
214195	STEPHEN CLARKE	EXEMPT	EXEMPT	8/1/2007 12:00:00 AM	555	0	553	10	13	15	D05004003DAC	
214248	ARIZONA WATER COMPANY	SERVICE	NON-EXEMPT	5/24/2007 12:00:00 AM	1210	276	1200	1500	1950	189	D06006036ACA	Mission Royale #32
216192	DANIEL SCHMITZ	EXEMPT	EXEMPT	9/16/2007 12:00:00 AM	320	55	320	18	18	105	D06005027DAC	
216213	LUIS ARIAS	EXEMPT	EXEMPT	10/8/2007 12:00:00 AM	540	320	540	0	0	0	D05005017BBD	
214963	JOHN CONOVER	EXEMPT	EXEMPT	4/11/2007 12:00:00 AM	545	265	545	18	18	115	D06006012CAD	
215858	NICKLAS ARTHUR ACHTEN	EXEMPT	EXEMPT	6/1/2007 12:00:00 AM	150	75	145	0	0	0	D05006027DDD	
216417	CHARLES WILLIAM YOUNG	EXEMPT	EXEMPT		0	0	0	0	0	0	D05005017BDC	
216889	GENFOUR HOLDINGS LLC	EXEMPT	EXEMPT	1/18/2008 12:00:00 AM	670	535	664	0	0	0	D06004026BBC	
218318	EMERALD VALLEY DEVELOPMENT CORP	EXEMPT	EXEMPT	7/9/2009 12:00:00 AM	680	326	680	0	0	0	D05005018DCC	
220663	STEVEN S. BRANDT	EXEMPT	EXEMPT		0	0	0	0	0	0	D06005013ADA	
501527	A R E CLINIC,	EXEMPT	EXEMPT	12/7/1981 12:00:00 AM	640	490	640	18	18	0	D05006015CC0	
502724	CIMARRON RANCH,	EXEMPT	EXEMPT	5/1/1982 12:00:00 AM	800	596	800	0	0	0	D06004002BCB	
502756	BRYAN & MARY HARTMAN	REPLACEMENT WELL IN NEW LOCATION	NON-EXEMPT	1/3/1983 12:00:00 AM	1025	400	1025	1500	1500	0	D05004034DDC	
502757	HARTMAN, BRYAN,M	REPLACEMENT WELL IN NEW LOCATION	NON-EXEMPT	10/11/1982 12:00:00 AM	870	250	865	600	600	0	D05004035DCC	
502442	VANDERSLICE,M	NON-EXEMPT	NON-EXEMPT	4/20/1982 12:00:00 AM	345	70	300	500	500	34	D06006028ACC	
501373	THE STEELE FOUNDATION, INC	NON-EXEMPT	NON-EXEMPT	12/14/1981 12:00:00 AM	1200	220	1200	0	0	0	D06006023CAA	
502158	CARLTON FARMS INC	EXEMPT	EXEMPT	3/20/1982 12:00:00 AM	165	83	165	10	10	0	D06006027DCC	
503460	ABCDW LLC	EXEMPT	EXEMPT	7/17/1982 12:00:00 AM	800	0	800	0	0	0	D06004015CBC	
504399	EXXON MINERALS CO,	EXEMPT	EXEMPT		0	0	0	0	0	0	D05006014DDC	
505870	EFREN RANIREZ	EXEMPT	EXEMPT	7/30/1983 12:00:00 AM	200	65	200	0	0	0	D06005035BAA	
504793	CARROLL,F	EXEMPT	EXEMPT	2/19/1983 12:00:00 AM	190	0	190	0	0	0	D06005022BBA	
504492	ROSS LABORATORIES	EXEMPT	EXEMPT	12/21/1982 12:00:00 AM	35	25	36	0	0	0	D06005013DBB	

TABLE 1. STUDY AREA ADWR WELL INVENTORY
COPPER MOUNTAIN RANCH DEVELOPMENT

REGISTRY_ID	OWNER_NAME	WELLTYPE	WELL_TYPE_	INSTALLED	WELL_DEPTH	WATER_LEVE	CASING_DEP	PUMPRATE	TESTEDRATE	DRAW_DOWN	CADASTRAL	LOCAL_NAME
504493	ROSS LABORATORIES,	EXEMPT	EXEMPT	12/21/1982 12:00:00 AM	50	25	50	0	0	0	D06005013CCA	
504494	ROSS LABORATORIES,	EXEMPT	EXEMPT	12/21/1982 12:00:00 AM	64	25	64	0	0	0	D06005013CAC	
504496	ROSS LABORATORIES,	EXEMPT	EXEMPT	12/21/1982 12:00:00 AM	36	0	30	0	0	0	D06005013CBB	
504497	ROSS LABORATORIES,	EXEMPT	EXEMPT	12/21/1982 12:00:00 AM	31	24	30	0	0	0	D06005013CDA	
504498	ROSS LABORATORIES,	EXEMPT	EXEMPT	12/21/1982 12:00:00 AM	36	25	35	0	0	0	D06005013CDA	
505339	PARSONS,W J	EXEMPT	EXEMPT	7/19/1983 12:00:00 AM	360	330	280	0	0	0	D05006018ACB	
507474	CHIBBARD, NORMA,	DOMESTIC STOCK EXEMPT	EXEMPT	3/30/1984 12:00:00 AM	420	360	50	13	13	0	D05005017DDD	
506661	DEREK JACOBS	EXEMPT	EXEMPT	12/9/1983 12:00:00 AM	515	290	440	0	0	0	D05006018ABA	
507074	ALEX MCMILLAN	DOMESTIC STOCK EXEMPT	EXEMPT	3/5/1984 12:00:00 AM	640	585	640	0	0	0	D05005029BAA	
506809	**ARIZONA WATER COMPANY**	**SERVICE**	**NON-EXEMPT**	**10/12/1983 12:00:00 AM**	**1238**	**306**	**696**	**800**	**910**	**431**	**D06006022CDC**	**CG21**
508139	FRAZEY,J	DOMESTIC STOCK EXEMPT	EXEMPT	5/29/1984 12:00:00 AM	350	90	350	0	0	0	D06005028DAA	
510405	HERDEGEN, RICHARD,W	DOMESTIC STOCK EXEMPT	EXEMPT	10/1/1985 12:00:00 AM	450	400	60	0	0	0	D05005029ABA	
511561	SOOD MD,R K	DOMESTIC STOCK EXEMPT	EXEMPT	8/30/1985 12:00:00 AM	350	235	0	18	25	10	D06006021BDD	
511222	ROBERTSON, PAT,J	DOMESTIC STOCK EXEMPT	EXEMPT	9/2/1985 12:00:00 AM	680	160	680	35	0	0	D06007006BBB	
511026	WADE,N J	DOMESTIC STOCK EXEMPT	EXEMPT	7/20/1985 12:00:00 AM	450	360	450	10	35	400	D06006001DBD	
511826	CIMARRON RANCH,	NON-DOMESTIC EXEMPT	EXEMPT	9/20/1985 12:00:00 AM	800	592	800	0	0	0	D06004010BBC	
511087	WILSON, SYBIL TRUST,	DOMESTIC STOCK EXEMPT	EXEMPT	5/31/1985 12:00:00 AM	410	302	410	0	0	0	D05005020BCC	
511099	GRANDE VALLEY SINGLE FAMILY, L.L.C.	DOMESTIC STOCK EXEMPT	EXEMPT	5/28/1985 12:00:00 AM	410	302	410	0	0	0	D05005020CBB	
511135	SYMMONDS,S	DOMESTIC STOCK EXEMPT	EXEMPT	5/14/1986 12:00:00 AM	167	0	0	0	0	0	D05005017BBD	
512552	NATIONWIDE REALTY INVESTORS LTD	DOMESTIC STOCK EXEMPT	EXEMPT	1/7/1986 12:00:00 AM	700	195	700	20	20	5	D06006006BAA	
513443	**ARIZONA WATER COMPANY**	**NON-EXEMPT**	**NON-EXEMPT**	**7/3/1986 12:00:00 AM**	**1230**	**220**	**1070**	**250**	**290**	**380**	**D06006021BBB**	**Cottonwood Ln #14**
516251	MURRI, DONALD,	DOMESTIC STOCK EXEMPT	EXEMPT	2/20/1987 12:00:00 AM	360	200	360	0	0	0	D06006008BBA	
516293	NISSAN TECHNICAL CENTER NORTH AMERICA INC	EXEMPT	EXEMPT	1/19/1987 12:00:00 AM	1063	512	1060	35	35	39	D05004031BAC	
515968	SCOTTS COMPANY	NON-SERVICE	NON-EXEMPT	12/2/1986 12:00:00 AM	600	245	600	32	32	8	D05004007BCB	
519252	SOLIS, ALEJANDRO,	DOMESTIC STOCK EXEMPT	EXEMPT	3/10/1988 12:00:00 AM	450	330	450	12	15	0	D05005017BDA	
519644	OLDCASTLE WESTILE, INC.	NON-SERVICE	NON-EXEMPT	2/4/1988 12:00:00 AM	450	60	450	200	250	65	D06005035BAC	
520897	M-P INVESTMENTS,	NON-SERVICE	NON-EXEMPT	7/6/1988 12:00:00 AM	745	375	745	100	100	365	D06007007CCC	
520149	SMITH, DONALD,J	DOMESTIC STOCK EXEMPT	EXEMPT	4/15/1988 12:00:00 AM	315	250	315	1	1	237	D05006020DBD	
522319	**ARIZONA WATER COMPANY**	**SERVICE**	**NON-EXEMPT**	**2/1/1989 12:00:00 AM**	**1005**	**358**	**1005**	**1250**	**1558**	**51**	**D06006022BAA**	**Casa Grande #23**
524497	POWELL, BILLY,W	DOMESTIC STOCK EXEMPT	EXEMPT	5/24/1989 12:00:00 AM	360	240	360	35	14	0	D05006020DBD	
523172	ASARCO SANTA CRUZ INC & FREEPORT COPPER CO	EXEMPT	EXEMPT	6/15/1989 12:00:00 AM	640	0	640	20	0	0	D06004013ABC	
526586	**ARIZONA WATER COMPANY**	**SERVICE**	**NON-EXEMPT**	**4/9/1990 12:00:00 AM**	**1002**	**270**	**1002**	**230**	**400**	**19**	**D06004019CDA**	**Stanfield #3**
528083	FRITO-LAY, INC.	NON-EXEMPT	NON-EXEMPT		0	0	0	0	0	0	D06005014BAB	
528249	LEGENDS PROPERTY, LLC	NON-EXEMPT	NON-EXEMPT	7/16/1990 12:00:00 AM	792	544	786	100	102	7	D06004013BCB	
530376	GALDES, VICTOR,J	DOMESTIC STOCK EXEMPT	EXEMPT	2/15/1991 12:00:00 AM	250	60	250	27	30	200	D06005033ABA	
530062	NISSAN TECHNICAL CENTER NORTH AMERICA INC	NON-EXEMPT	NON-EXEMPT	2/12/1991 12:00:00 AM	1100	480	1100	36	1000	128	D05004031CDD	
531294	MCCASLIN, ROBERT,	DOMESTIC STOCK EXEMPT	EXEMPT	4/12/1991 12:00:00 AM	310	120	310	12	30	0	D06005028DAA	
538570	VELDMAN, JOHN,	NON-EXEMPT	NON-EXEMPT	2/11/1994 12:00:00 AM	450	380	450	0	0	0	D06005021CBC	
537384	JOHN & GAYE WALKER	DOMESTIC STOCK EXEMPT	EXEMPT	12/28/1992 12:00:00 AM	500	260	500	30	0	0	D06006013DDA	
539435	MITCHELL, REX,	DOMESTIC STOCK EXEMPT	EXEMPT	6/28/1993 12:00:00 AM	452	320	452	12	12	380	D05006019CDC	
538739	IVY, RUTHANN,	DOMESTIC STOCK EXEMPT	EXEMPT	5/7/1993 12:00:00 AM	490	360	490	10	12	0	D05006018ACC	
540306	**ARIZONA WATER COMPANY**	**SERVICE**	**NON-EXEMPT**	**12/23/1993 12:00:00 AM**	**1000**	**390**	**1000**	**1000**	**1390**	**127**	**D06006022CDD**	**Casa Grande #24**
541732	FISHER, JOHN,	DOMESTIC STOCK EXEMPT	EXEMPT	12/17/1993 12:00:00 AM	160	40	160	20	12	60	D06005036ABA	
543902	NISSAN TECHNICAL CENTER NORTH AMERICA INC	DOMESTIC STOCK EXEMPT	EXEMPT	8/3/1994 12:00:00 AM	1005	380	1005	35	0	500	D05004031BDC	
545820	MORA, LAZARO,	EXEMPT	EXEMPT	11/6/1994 12:00:00 AM	200	40	200	18	100	60	D06005035BAD	
546719	**ARIZONA WATER COMPANY**	**SERVICE**	**NON-EXEMPT**	**2/17/1995 12:00:00 AM**	**1074**	**259**	**1062**	**1593**	**2000**	**73**	**D06006022BDA**	**Casa Grande #25**
549097	ACHEN, SANDERS,T	EXEMPT	EXEMPT	4/22/1995 12:00:00 AM	560	340	425	20	20	480	D05006018ABD	
550832	CLAYTON, RAYMOND,	DOMESTIC STOCK EXEMPT	EXEMPT	10/31/1995 12:00:00 AM	568	340	550	0	0	0	D06004022ABB	
551245	CHILDERS, LORNA,	EXEMPT	EXEMPT	10/11/1995 12:00:00 AM	680	375	680	10	5	285	D05006018AAC	
551631	ROMANO, PAUL,	EXEMPT	EXEMPT	5/31/1996 12:00:00 AM	610	471	600	27	27	1	D06004036AAA	
553306	UMBDENSTOCK, RICHARD,	EXEMPT	EXEMPT	1/21/1996 12:00:00 AM	260	35	260	0	0	0	D06005036ABA	
557442	ASARCO SANTA CRUZ,	WITHDRAWAL PERMIT	NON-EXEMPT		0	0	0	0	0	0	D06005019BBC	
557445	ASARCO SANTA CRUZ,	WITHDRAWAL PERMIT	NON-EXEMPT		0	0	0	0	0	0	D06004013DDC	
560044	ABNEY, IVON,M	EXEMPT	EXEMPT	12/21/1996 12:00:00 AM	610	500	594	18	14	10	D06004036AAA	
561439	WEST MOUNTAIN TANK THUDE LLC	NON-EXEMPT	NON-EXEMPT	4/28/1997 12:00:00 AM	1060	425	1040	2200	2200	140	D06004014ACC	
561519	KELLY & TRACEY MATTHEWS	EXEMPT	EXEMPT	6/10/1997 12:00:00 AM	300	40	300	0	0	0	D06005026BCC	
561600	STEVE J DELLY	EXEMPT	EXEMPT	6/25/1997 12:00:00 AM	610	480	550	10	12	1	D06004036BDD	
560803	**ARIZONA WATER COMPANY**	**SERVICE**	**NON-EXEMPT**	**2/18/1997 12:00:00 AM**	**1240**	**394**	**1240**	**1200**	**1500**	**67**	**D06006015CDD**	**Casa Grande #26**

TABLE 1. STUDY AREA ADWR WELL INVENTORY
COPPER MOUNTAIN RANCH DEVELOPMENT

REGISTRY_ID	OWNER_NAME	WELLTYPE	WELL_TYPE_	INSTALLED	WELL_DEPTH	WATER_LEVE	CASING_DEP	PUMPRATE	TESTEDRATE	DRAW_DOWN	CADASTRAL	LOCAL_NAME
560593	KUSH, DAVID,	EXEMPT	EXEMPT	1/27/1997 12:00:00 AM	500	0	500	0	0	0	D05006035AAD	
568338	VANESSA HESS	EXEMPT	EXEMPT	2/2/2000 12:00:00 AM	620	560	614	0	0	0	D06004036DBB	
566804	CITY OF CASA GRANDE	WITHDRAWAL PERMIT	NON-EXEMPT	5/26/1998 12:00:00 AM	1101	240	238	0	0	0	D05006032AAC	
569594	JAMES R & CINDY L COMPTON TRUSTS	NON-SERVICE	NON-EXEMPT	3/10/1999 12:00:00 AM	500	112	500	0	0	0	D06006024DBD	
570050	RANDALL HARTLEY	EXEMPT	EXEMPT	10/10/1998 12:00:00 AM	810	590	810	0	0	0	D06004026BBB	
571835	HENRY BOWDEN	EXEMPT	EXEMPT		580	400	580	0	0	0	D05006018ADA	
573788	NEC ANDERSON KORTSEN PARTNERSHIP	EXEMPT	EXEMPT	4/9/1999 12:00:00 AM	640	555	625	0	0	0	D06004010CCC	
572396	STEVE MATTESON	EXEMPT	EXEMPT	2/8/1999 12:00:00 AM	500	260	480	16	0	0	D05004033DDA	
573725	KENNETH R JONES	EXEMPT	EXEMPT	5/3/1999 12:00:00 AM	420	375	410	14	14	0	D05006034DDA	
575662	INEZ A GODFREY	EXEMPT	EXEMPT	10/8/1999 12:00:00 AM	430	190	415	20	20	20	D06005032AAA	
574552	ALAN SPENCER	EXEMPT	EXEMPT	7/3/1999 12:00:00 AM	650	560	650	5	4	570	D05005018DDD	
576574	SADDLEBACK VISTA DOMESTIC WATER IMPROVEMENT DIST	EXEMPT	EXEMPT		0	0	0	0	0	0	D05004003DDD	
576301	PINAL COUNTY	EXEMPT	EXEMPT	9/14/1999 12:00:00 AM	260	48	260	0	0	0	D06005034AAA	
576797	NESTER G BAKER	EXEMPT	EXEMPT	12/15/1999 12:00:00 AM	655	580	655	7	9	540	D05005017AAA	
578997	GREG FERGUSON	EXEMPT	EXEMPT	2/20/2000 12:00:00 AM	320	148	300	22	25	0	D06005034BCC	
578361	JACKIE GUTHRIE	EXEMPT	EXEMPT	6/1/2000 12:00:00 AM	485	400	485	5	3	0	D05006018ABA	
578428	PETTIGREW & GARDNER	EXEMPT	EXEMPT	3/10/2000 12:00:00 AM	150	60	150	25	25	20	D06005026BCD	
578504	SADDLEBACK VISTA DOMESTIC WATER IMPROVEMENT DIST	SERVICE	NON-EXEMPT	2/7/2000 12:00:00 AM	1036	368	693	35	0	0	D05004003DDD	
580421	DEAN AND LARRY ETHINGTON	EXEMPT	EXEMPT	6/2/2000 12:00:00 AM	670	550	670	0	0	0	D06004018BAA	
580835	LESLIE AND JOANNA ROBERTS	EXEMPT	EXEMPT	11/3/2000 12:00:00 AM	360	300	360	0	0	0	D05005033CBC	
580918	TIERRA OESTE II LLC	EXEMPT	EXEMPT	12/15/2000 12:00:00 AM	800	700	800	0	0	0	D05005018ACC	
580061	GERARDO CORREA	EXEMPT	EXEMPT	6/7/2000 12:00:00 AM	460	420	460	0	0	0	D05005017BBD	
580086	WILLIAM VANDER POEL FAMILY PROPERTIES, LP	NON-SERVICE	NON-EXEMPT	6/27/2000 12:00:00 AM	1020	0	1002	900	450	150	D06004025CDA	
590867	MARK REMM	EXEMPT	EXEMPT	2/1/2003 12:00:00 AM	300	56	300	0	0	0	D06005026BCC	
593969	JOHN MACAK	EXEMPT	EXEMPT		607	485	595	0	0	0	D06004036ADA	
592236	RED RIVER CATTLE LLP	NON-EXEMPT	NON-EXEMPT	12/28/2002 12:00:00 AM	1099	329	1099	0	674	97	D05004008BCD	
594934	ROGER OLSON	EXEMPT	EXEMPT	12/12/2002 12:00:00 AM	600	400	580	0	0	0	D05006020DAC	
590083	RONALD W WILLIAMS	EXEMPT	EXEMPT	1/2/2002 12:00:00 AM	900	276	900	0	0	0	D05006018ACA	
591879	WADE CARRIGAN & JIM OLSON	EXEMPT	EXEMPT		480	264	480	0	0	0	D06004018CBB	
593656	BLOOMER CONSTRUCTION	EXEMPT	EXEMPT		400	110	400	10	12	0	D06005034BCB	
581664	RICHARD FULLER	EXEMPT	EXEMPT	7/29/2000 12:00:00 AM	560	470	560	0	0	0	D06004036CCD	
583447	DAVID, C. FEENSTRA	NON-EXEMPT	NON-EXEMPT	11/22/2000 12:00:00 AM	960	528	960	500	600	31	D06004006DDC	
583903	R T MIDDLETON	EXEMPT	EXEMPT	11/30/2000 12:00:00 AM	720	600	720	10	11	40	D05005019DDA	
584374	UNITED LAND CORPORATION	EXEMPT	EXEMPT	11/10/2000 12:00:00 AM	240	120	240	0	0	0	D05006034ADD	
583600	MARTIN JUAREZ	EXEMPT	EXEMPT	3/20/2001 12:00:00 AM	300	221	300	10	10	1	D06005032AAB	
602703	DOUGLAS M. KEELING, TRUST	NON-EXEMPT	NON-EXEMPT	1/1/1975 12:00:00 AM	185	70	185	1000	1000	0	D06005027DAA	
605739	CHARLES & PENNY LYNN TRUST CARDINAL	NON-EXEMPT	NON-EXEMPT	8/28/1952 12:00:00 AM	350	175	350	550	550	0	D05006036CCD	
605740	CHARLES & PENNY LYNN TRUST CARDNIAL	NON-EXEMPT	NON-EXEMPT	5/17/1976 12:00:00 AM	600	175	589	550	550	0	D05006036CCD	
606856	MARACAY CG CROSSINGS, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1935 12:00:00 AM	800	150	800	900	900	0	D06006026DCD	
606857	KLONDIKE LAND PORTFOLIO LLC	NON-EXEMPT	NON-EXEMPT	1/1/1966 12:00:00 AM	1330	150	1330	1400	1400	0	D06006026DCB	
606858	CANYON OAKS-VAL VISTA, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1938 12:00:00 AM	0	0	0	0	0	0	D06006026CCA	
606859	SENDERO TRES INVESTMENTS, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1966 12:00:00 AM	1505	150	1505	1500	1500	0	D06006035ADA	
606860	SENDERO TRES INVESTMENTS, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1941 12:00:00 AM	0	0	0	0	0	0	D06006035ADD	
606861	SENDERO TRES INVESTMENTS, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1970 12:00:00 AM	1710	150	1710	1400	1400	0	D06006035ACB	
606862	SENDERO TRES INVESTMENTS, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1940 12:00:00 AM	800	150	620	1000	1000	0	D06006035ACC	
606863	SENDERO TRES INVESTMENTS, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1965 12:00:00 AM	800	450	800	600	600	0	D06006035BDD	
603936	SANTA CRUZ JOINT VNT,	NON-EXEMPT	NON-EXEMPT	7/21/1969 12:00:00 AM	1970	475	1913	550	550	0	D06005019CDB	
603937	LYNN,G E	NON-EXEMPT	NON-EXEMPT	1/1/1960 12:00:00 AM	925	320	485	150	150	0	D06005020CBB	
604674	STANFIELD-BARNES,	NON-EXEMPT	NON-EXEMPT	1/17/1957 12:00:00 AM	1207	225	1207	1250	1250	0	D06004006DDD	
604675	SANHU, JACTAR ET AL,	NON-EXEMPT	NON-EXEMPT	9/1/1976 12:00:00 AM	1100	248	1100	1250	1250	0	D06004006CDD	
604678	GUYLOTTA LTD PTRSHIP,	NON-EXEMPT	NON-EXEMPT	1/1/1945 12:00:00 AM	925	250	504	1000	1000	0	D06006016DAD	
604679	GUYLOTTA LTD PTRSHIP,	NON-EXEMPT	NON-EXEMPT	1/1/1968 12:00:00 AM	735	283	635	600	600	0	D06006016DBD	
604680	GUYLOTTA LTD PTRSHIP,	NON-EXEMPT	NON-EXEMPT	1/1/1974 12:00:00 AM	1100	320	595	1200	1200	0	D06006016AAD	
604681	GUYLOTTA LTD PTNSHIP,	NON-EXEMPT	NON-EXEMPT	1/1/1946 12:00:00 AM	610	255	302	625	625	0	D06006016CDD	
604682	GUYLOTTA LTD PTNSHIP,	NON-EXEMPT	NON-EXEMPT	1/1/1963 12:00:00 AM	1135	241	690	1300	1300	0	D06006016ADD	
604684	GUYLOTTA LTD PTNSHIP,	NON-EXEMPT	NON-EXEMPT	1/1/1940 12:00:00 AM	730	279	505	800	800	0	D06006016DDD	
606186	HARTMAN, BRYAN,M	NON-EXEMPT	NON-EXEMPT	1/1/1951 12:00:00 AM	875	560	875	2000	2000	0	D05004034DDD	
606187	HARTMAN, BRYAN,M	NON-EXEMPT	NON-EXEMPT		860	580	860	1500	1500	0	D05004035CCC	

TABLE 1. STUDY AREA ADWR WELL INVENTORY
COPPER MOUNTAIN RANCH DEVELOPMENT

REGISTRY_ID	OWNER_NAME	WELLTYPE	WELL_TYPE_	INSTALLED	WELL_DEPTH	WATER_LEVE	CASING_DEP	PUMPRATE	TESTEDRATE	DRAW_DOWN	CADASTRAL	LOCAL_NAME
606188	BRYAN & MARY HARTMAN	NON-EXEMPT	NON-EXEMPT		850	620	850	1400	1400	0	D05004035DDD	
602811	ELAINE FARMS,	NON-EXEMPT	NON-EXEMPT	1/1/1972 12:00:00 AM	600	180	500	1200	1200	0	D06006009DAD	
602812	ELAINE FARMS,	NON-EXEMPT	NON-EXEMPT	1/1/1957 12:00:00 AM	550	180	350	250	250	0	D06006008DDD	
602813	EVERGREEN-PYRAMID HIGHWAY CORNERS, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1951 12:00:00 AM	600	180	550	800	800	0	D06006009DDD	
603938	LYNN,G E	NON-EXEMPT	NON-EXEMPT	1/1/1951 12:00:00 AM	606	0	0	0	0	0	D06005020ADD	
603939	LYNN,G E	NON-EXEMPT	NON-EXEMPT	1/1/1950 12:00:00 AM	512	0	270	0	0	0	D06005020DDD	
603940	SANTA CRUZ VENTURE,	NON-EXEMPT	NON-EXEMPT	1/1/1950 12:00:00 AM	640	343	622	350	350	0	D06005019ADC	
605056	JOHN F. THUDE	NON-EXEMPT	NON-EXEMPT	1/1/1957 12:00:00 AM	1124	500	1124	1800	1800	0	D06004022BDD	
605057	JOHN F. THUDE	NON-EXEMPT	NON-EXEMPT	1/1/1946 12:00:00 AM	1000	500	0	1800	1800	0	D06004022CDD	
605058	MORIC, NICO,	NON-EXEMPT	NON-EXEMPT	1/1/1962 12:00:00 AM	1305	400	16	1400	1400	0	D05004008DCD	
606189	BRYAN & MARY HARTMAN	NON-EXEMPT	NON-EXEMPT		1000	600	1000	1200	1200	0	D05004026CDD	
606190	GRANDE VALLEY SINGLE FAMILY, L.L.C.	NON-EXEMPT	NON-EXEMPT	1/1/1965 12:00:00 AM	1100	640	1100	2500	2500	0	D05005031CCB	
606191	GRANDE VALLEY SINGLE FAMILY, L.L.C.	NON-EXEMPT	NON-EXEMPT		0	0	0	0	0	0	D05005031ADA	
606192	GRANDE VALLEY SINGLE FAMILY, L.L.C.	NON-EXEMPT	NON-EXEMPT		1000	700	1000	1000	1000	0	D05005031ADD	
606193	GRANDE VALLEY SINGLE FAMILY, L.L.C.	NON-EXEMPT	NON-EXEMPT		900	750	900	500	500	0	D05005031AAD	
606194	GRANDE VALLEY SINGLE FAMILY, L.L.C.	NON-EXEMPT	NON-EXEMPT		0	0	0	1200	1200	0	D05005030BDD	
608100	ASARCO INC,	NON-EXEMPT	NON-EXEMPT	1/1/1955 12:00:00 AM	892	368	892	950	950	0	D05006028DAA	
608101	AR SACATON LLC	NON-EXEMPT	NON-EXEMPT	5/25/1979 12:00:00 AM	2117	1077	2090	806	806	0	D05005035ABA	
608102	CASA GRANDE ACQUISITIONS LLC	NON-EXEMPT	NON-EXEMPT	1/1/1950 12:00:00 AM	390	0	390	0	0	0	D05006028CAA	
608103	CASA GRANDE ACQUISITIONS LLC	NON-EXEMPT	NON-EXEMPT	1/1/1971 12:00:00 AM	0	0	0	0	0	0	D05006028DBB	
608104	AR SACATON LLC	NON-EXEMPT	NON-EXEMPT	6/1/1952 12:00:00 AM	800	361	776	483	483	0	D05006028AAC	
608105	CASA AGRANDE ACQUISITIONS LLC	NON-EXEMPT	NON-EXEMPT	1/1/1952 12:00:00 AM	700	348	700	930	0	0	D05006033AAA	
608106	CITY OF CASA GRANDE	NON-EXEMPT	NON-EXEMPT	1/1/1952 12:00:00 AM	764	291	764	925	925	0	D05006033ADD	
608107	AR SACATON LLC	NON-EXEMPT	NON-EXEMPT	2/1/1975 12:00:00 AM	1798	666	1798	90	90	0	D05005035ABD	
608108	AR SACATON LLC	EXEMPT	EXEMPT	1/1/1973 12:00:00 AM	400	104	400	15	15	0	D05005034BCC	
608109	CASA GRANDE ACQUISITIONS LLC	EXEMPT	EXEMPT	1/1/1975 12:00:00 AM	200	0	0	0	0	0	D05006028CBB	
603965	CASA GRANDE AZ 761, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1960 12:00:00 AM	1000	115	1000	1000	1000	0	D06006024DDD	
603966	CARLTON RANCH, L.L.C.	NON-EXEMPT	NON-EXEMPT	1/1/1962 12:00:00 AM	600	90	600	1200	1200	0	D06006034ADB	
603967	CARLTON RANCH, L.L.C.	NON-EXEMPT	NON-EXEMPT	1/1/1954 12:00:00 AM	760	90	760	1400	1400	0	D06006034AAD	
603968	CASA GRANDE AZ 761, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1977 12:00:00 AM	1100	115	1100	1850	1850	0	D06006024BDD	
605838	KORTSEN, JACK,E	EXEMPT	EXEMPT		500	0	500	0	0	0	D06004018ABA	
605839	MAINSPRING STANFIELD, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1946 12:00:00 AM	1150	650	1150	800	800	0	D06004018ADC	
605840	CABALLERO ACRES, LLLP	NON-EXEMPT	NON-EXEMPT	1/1/1946 12:00:00 AM	1100	650	1100	1200	1200	0	D06004018CCC	
605841	CABALLERO ACRES, LLLP	NON-EXEMPT	NON-EXEMPT	1/1/1975 12:00:00 AM	1100	650	1100	1800	1800	0	D06004018CCC	
605496	LEGENDS PROPERTY, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1977 12:00:00 AM	1500	474	1300	1200	1200	0	D06004024AAA	
605497	WEST MOUNTAIN TANK THUDE LLC	NON-EXEMPT	NON-EXEMPT	7/24/1964 12:00:00 AM	1200	697	1200	1325	1325	0	D06004014DDA	
605498	LEGENDS PROPERTY, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1979 12:00:00 AM	1222	530	1222	1100	1100	0	D06004013DCB	
605499	LEGENDS PROPERTY, LLC	NON-EXEMPT	NON-EXEMPT	1/26/1980 12:00:00 AM	1200	643	1200	825	825	0	D06004013DAA	
605500	ANDERSON & MILLER 694 LLP	NON-EXEMPT	NON-EXEMPT	3/31/1954 12:00:00 AM	1159	600	1151	1700	1700	0	D06004003DBA	
605501	ANDERSON & MILLER 694 LLP	NON-EXEMPT	NON-EXEMPT	2/28/1946 12:00:00 AM	1160	561	1134	1500	0	0	D06004003DDC	
605502	JACOR LLC AN AZ LIMITED LIABILITY COMPANY	NON-EXEMPT	NON-EXEMPT	1/1/1946 12:00:00 AM	1000	583	1000	750	750	0	D06004011DDD	
605503	JACOR LLC AN AZ LIMITED LIABILITY COMPANY	NON-EXEMPT	NON-EXEMPT		1000	0	1000	2025	2025	0	D06004011CDA	
606251	NISSAN TECHNICAL CENTER NORTH AMERICA INC	NON-EXEMPT	NON-EXEMPT		1180	600	1100	1500	1500	0	D06004006ADA	
606252	NISSAN TECHNICAL CENTER NORTH AMERICA INC	NON-EXEMPT	NON-EXEMPT	4/1/1964 12:00:00 AM	1200	650	1200	2000	0	0	D06004006AAD	
606253	NISSAN TECHNICAL CENTER NORTH AMERICA INC	NON-EXEMPT	NON-EXEMPT	5/28/1975 12:00:00 AM	1100	560	845	1800	0	0	D06004006DAA	
606254	NISSAN TECHNICAL CENTER NORTH AMERICA INC	NON-EXEMPT	NON-EXEMPT		1280	660	1200	1800	1800	0	D06004006BDD	
606255	NISSAN TECHNICAL CENTER NORTH AMERICA INC	NON-EXEMPT	NON-EXEMPT		1200	660	1200	2400	0	0	D06003001ADD	
606256	NISSAN TECHNICAL CENTER NORTH AMERICA INC	NON-EXEMPT	NON-EXEMPT		1000	0	1000	1000	0	0	D05004031AAD	
605128	TANNER CO	EXEMPT	EXEMPT	11/1/1972 12:00:00 AM	160	60	146	35	35	0	D06005034DAA	
605504	ANDERSON & BARNES 580 LLP	NON-EXEMPT	NON-EXEMPT	1/1/1950 12:00:00 AM	0	551	1100	1500	1500	0	D06004010ADD	
605505	ANDERSON & BARNES 580 LLP	NON-EXEMPT	NON-EXEMPT	1/1/1973 12:00:00 AM	800	0	800	1050	1050	0	D06004010DAB	
605506	ANDERSON & BARNES 580 LLP	NON-EXEMPT	NON-EXEMPT	1/1/1954 12:00:00 AM	1250	0	1250	1550	1550	0	D06004010DDA	
605507	ABCDW LLC ET AL	EXEMPT	EXEMPT	1/1/1957 12:00:00 AM	1000	0	1000	35	35	0	D06004015CDD	
605508	ABCDW LLC ET AL	NON-EXEMPT	NON-EXEMPT	8/15/2008 12:00:00 AM	1100	0	760	1150	1150	0	D06004015DDD	
605509	VANDERBUILT FARMS LLC	NON-EXEMPT	NON-EXEMPT	10/1/1979 12:00:00 AM	905	587	905	1100	1100	0	D06004014CDD	
605510	VANDERBUILT FARMS LLC	EXEMPT	EXEMPT		1050	0	1050	1500	1500	0	D06004014BDD	
605511	LEGENDS PROPERTY, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1955 12:00:00 AM	1075	0	968	375	375	0	D06004026AAD	
605512	LEGENDS PROPERTY, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1944 12:00:00 AM	845	0	825	400	400	0	D06004026ADD	

TABLE 1. STUDY AREA ADWR WELL INVENTORY
COPPER MOUNTAIN RANCH DEVELOPMENT

REGISTRY_ID	OWNER_NAME	WELLTYPE	WELL_TYPE_	INSTALLED	WELL_DEPTH	WATER_LEVE	CASING_DEP	PUMPRATE	TESTEDRATE	DRAW_DOWN	CADASTRAL	LOCAL_NAME
605513	LEGENDS PROPERTY, LLC	NON-EXEMPT	NON-EXEMPT	6/20/1974 12:00:00 AM	1050	0	1050	675	675	0	D06004026BDD	
605514	ANDERSON & MILLER 694 LLP	NON-EXEMPT	NON-EXEMPT	2/1/1945 12:00:00 AM	860	410	660	1125	1125	0	D06004003CDD	
608204	DOUGLAS M. KEELING, TRUST	NON-EXEMPT	NON-EXEMPT	1/1/1918 12:00:00 AM	150	50	150	0	0	0	D06005026BDD	
608205	DOUGLAS M. KEELING, TRUST	NON-EXEMPT	NON-EXEMPT	1/1/1923 12:00:00 AM	150	50	150	0	0	0	D06005026BDD	
608206	DOUGLAS M. KEELING, TRUST	NON-EXEMPT	NON-EXEMPT	1/1/1952 12:00:00 AM	150	50	150	1500	1500	0	D06005026BDD	
604456	UNITED METRO MATERIALS INC	NON-EXEMPT	NON-EXEMPT	1/1/1964 12:00:00 AM	0	35	53	80	80	0	D06005035BDC	
604457	UNITED METRO MATERIALS INC	NON-EXEMPT	NON-EXEMPT	1/1/1974 12:00:00 AM	0	2	38	950	950	0	D06005035BDC	
604458	UNITED METRO MATERIALS INC	NON-EXEMPT	NON-EXEMPT	5/16/1980 12:00:00 AM	475	35	280	1500	1500	0	D06005035DBB	
604459	UNITED METRO MATERIALS INC	NON-EXEMPT	NON-EXEMPT	1/1/1973 12:00:00 AM	0	35	120	1200	1200	0	D06005035CAA	
604460	UNITED METRO MATERIALS INC	NON-EXEMPT	NON-EXEMPT	1/1/1952 12:00:00 AM	0	35	128	1000	1000	0	D06005035BDD	
607841	RUGG,M S	NON-EXEMPT	NON-EXEMPT	1/1/1950 12:00:00 AM	320	300	320	29	29	0	D06006027BCC	
605593	MARYLAND LLC, TRUSTEE OF THE JAMES A. RAE FAMILY TRUST	NON-EXEMPT	NON-EXEMPT		0	0	0	0	0	0	D06006018CAD	
605960	BBF INVESTORS LIMITED PARTNERSHIP	NON-EXEMPT	NON-EXEMPT	1/1/1980 12:00:00 AM	1200	590	1200	2000	2000	0	D06004007CDC	
605961	VSB INVESTORS LLC	NON-EXEMPT	NON-EXEMPT	5/2/1945 12:00:00 AM	1200	590	1200	2000	2300	55	D06004007DDC	
605962	BBF INVESTORS LIMITED PARTNERSHIP	NON-EXEMPT	NON-EXEMPT	1/1/1940 12:00:00 AM	700	590	700	1200	2200	660	D06004007CDD	
602969	DR HORTON INC - DIETZ CRANE	NON-EXEMPT	NON-EXEMPT	6/21/1978 12:00:00 AM	625	70	525	1300	1300	0	D06006010DDD	
604879	JOHN W FOUNTAIN REVOCABLE LIVING TRST	NON-EXEMPT	NON-EXEMPT	1/1/1974 12:00:00 AM	640	0	640	0	0	0	D06005013BAA	
604880	JOHN W FOUNTAIN REVOCABLE LIVING TRST	NON-EXEMPT	NON-EXEMPT	1/1/1973 12:00:00 AM	200	0	200	0	0	0	D06005013BAC	
605229	AGUIRRE & CLARK,	EXEMPT	EXEMPT		230	135	230	20	20	0	D06006033DBD	
605233	COOK/EL DORADO LLC ET AL	NON-EXEMPT	NON-EXEMPT	1/1/1949 12:00:00 AM	1000	250	500	1300	1300	0	D04004031CDD	
605234	COOK/EL DORADO LLC ET AL	NON-EXEMPT	NON-EXEMPT	1/1/1948 12:00:00 AM	500	250	500	1000	1000	0	D04004031DDD	
605619	BIG BIRD RIANCH & INCUBATORS INC	NON-EXEMPT	NON-EXEMPT		1000	600	1000	50	50	0	D06004025DDC	
604529	KEELING, DOUGLAS,M	NON-EXEMPT	NON-EXEMPT	1/1/1955 12:00:00 AM	1000	365	0	0	0	0	D06003024ADD	
604530	KEELING, DOUGLAS,M	NON-EXEMPT	NON-EXEMPT	1/1/1944 12:00:00 AM	1200	600	0	0	0	0	D06003024DDD	
605249	SYMPHONY BUILDERS, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1948 12:00:00 AM	1000	400	800	800	800	0	D06006026CCC	
605629	STOREY & HACIENDA, L.L.C.	NON-EXEMPT	NON-EXEMPT	1/1/1942 12:00:00 AM	1085	320	700	1200	1200	0	D06006024DAA	
605630	STOREY & HACIENDA, L.L.C.	NON-EXEMPT	NON-EXEMPT	1/1/1977 12:00:00 AM	1100	265	1100	1800	1800	0	D06006024BDA	
604167	DALEY RANCH JOINT,	NON-EXEMPT	NON-EXEMPT	1/1/1951 12:00:00 AM	750	0	16	1400	1400	0	D05006027ADA	
604169	DALEY RANCH JOINT,	NON-EXEMPT	NON-EXEMPT	1/1/1973 12:00:00 AM	810	0	810	1150	1150	0	D05006027ACA	
604532	KEELING, DOUGLAS,M	NON-EXEMPT	NON-EXEMPT	6/26/1976 12:00:00 AM	1200	610	1200	0	0	0	D06003024DDD	
605650	STELLAR HOMES FINANCIAL GROUP, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1971 12:00:00 AM	959	600	959	1800	1800	0	D06004020ACD	
605651	STELLAR HOMES FINANCIAL GROUP, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1978 12:00:00 AM	1315	600	1315	2000	2000	0	D06004020BCD	
605652	STELLAR HOMES FINANCIAL GROUP, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1961 12:00:00 AM	1210	600	1210	2200	2200	0	D06004020ADD	
605666	LANGLEY NZ RANCHES LLC	NON-EXEMPT	NON-EXEMPT	1/1/1978 12:00:00 AM	713	157	713	800	800	0	D06006036DDA	
604192	GARDNER TURFGRASS, INC	NON-EXEMPT	NON-EXEMPT		1200	640	1200	2000	2000	0	D06004019CDD	
604193	LLF STANMAR ESTATES, LLC	NON-EXEMPT	NON-EXEMPT		1150	650	1150	2000	2000	0	D06004019ACC	
604194	KEELING, DOUGLAS,M	EXEMPT	EXEMPT		200	40	200	35	35	0	D06005023BAA	
606052	AZ OPERATNG ENGINEER,	NON-EXEMPT	NON-EXEMPT	4/25/1960 12:00:00 AM	507	135	507	1000	1000	0	D06006012BDB	
606053	AZ OPERATNG ENGINEER,	NON-EXEMPT	NON-EXEMPT		172	40	135	1000	1000	0	D06006012CDC	
606054	AZ OPERATNG ENGINEER,	NON-EXEMPT	NON-EXEMPT	12/31/1978 12:00:00 AM	1200	135	1197	2700	2700	0	D06006012BAC	
607958	MANTEROLA SHEEP CO,	EXEMPT	EXEMPT	1/1/1940 12:00:00 AM	90	75	80	25	25	0	D06005024BBA	
602700	SUN GRANDE, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1950 12:00:00 AM	338	60	338	1000	1000	0	D06005027DBA	
602701	REYNOLDS,R S	EXEMPT	EXEMPT	1/1/1940 12:00:00 AM	200	40	200	35	35	0	D06005027DCD	
602702	DOUGLAS M. KEELING, TRUST	NON-EXEMPT	NON-EXEMPT	1/1/1964 12:00:00 AM	140	90	140	1000	1000	0	D06005035BAD	
604207	JONES,R G	EXEMPT	EXEMPT	1/1/1947 12:00:00 AM	150	0	0	0	900	70	D06006007AAA	
604208	CASA GRANDE LAND,	NON-EXEMPT	NON-EXEMPT	10/1/1947 12:00:00 AM	158	0	148	1100	200	55	D06006007AAA	
604209	CASA GRANDE LAND,	NON-EXEMPT	NON-EXEMPT	7/6/1959 12:00:00 AM	620	200	620	0	500	7	D06006007AAA	
602346	WELLS,C	EXEMPT	EXEMPT	3/15/1945 12:00:00 AM	127	60	127	8	8	0	D06006031BCA	
602347	HALL, CLAY,	EXEMPT	EXEMPT		0	0	0	35	0	0	D06005014CDD	
602348	HALL,C	EXEMPT	EXEMPT		0	0	0	35	35	0	D06005013BBC	
602364	HALL, CLAY,	EXEMPT	EXEMPT		0	0	0	35	35	0	D06005014CDA	
597450	THE CATALYST PRODUCT GROUP, INC.	EXEMPT	EXEMPT		740	550	640	0	0	0	D06004003BBB	
599262	GEORGE M PLUMB	EXEMPT	EXEMPT		200	53	200	0	0	0	D06005027DDB	
595284	ARIZONA WATER COMPANY	SERVICE	NON-EXEMPT	3/6/2004 12:00:00 AM	1100	143	1100	1500	2000	63	D06006025BCB	Mission Royale #29
597097	JANE CALLAWAY	EXEMPT	EXEMPT		600	480	600	15	12	0	D06004036BDC	
599814	ROBERT L BARNES	EXEMPT	EXEMPT		465	250	425	0	0	0	D06006001DCD	
599823	RICHARD HALLIBURTON	EXEMPT	EXEMPT		500	145	500	0	0	0	D06006001DCC	
599416	LISA RADEBACH	EXEMPT	EXEMPT	10/18/2003 12:00:00 AM	440	350	440	10	10	6	D06006013AAA	

TABLE 1. STUDY AREA ADWR WELL INVENTORY
COPPER MOUNTAIN RANCH DEVELOPMENT

REGISTRY_ID	OWNER_NAME	WELLTYPE	WELL_TYPE_	INSTALLED	WELL_DEPTH	WATER_LEVE	CASING_DEP	PUMPRATE	TESTEDRATE	DRAW_DOWN	CADASTRAL	LOCAL_NAME
601446	MATHER,R H	EXEMPT	EXEMPT	10/15/1978 12:00:00 AM	450	350	430	10	10	0	D06006012ABB	
601820	JOHN M KLUVER	EXEMPT	EXEMPT		250	0	0	20	20	0	D07006002BBA	
599936	DAVID R & LINDA D HALL	EXEMPT	EXEMPT	8/10/2004 12:00:00 AM	280	84	280	34	35	6	D06006028CBB	
599053	HIGHWAY 84 WELL ASSOCIATION	EXEMPT	EXEMPT	2/2/2004 12:00:00 AM	665	584	665	0	0	0	D06004023CCC	
599551	JOE AUZA	EXEMPT	EXEMPT		145	50	145	0	0	0	D06005025CDC	
601127	AK-CHIN INDIAN COMMUNITY	NON-EXEMPT	NON-EXEMPT		1100	500	650	0	0	0	D05004015ADD	
601128	AK-CHIN INDIAN COMMUNITY	NON-EXEMPT	NON-EXEMPT		1155	0	1155	1000	1000	0	D05004015AAD	
601893	JOSEPH A & FLORENCE OLADOKUN	NON-EXEMPT	NON-EXEMPT		0	0	0	0	0	0	D06006028ADB	
601913	WELLS,R C	NON-EXEMPT	NON-EXEMPT	5/1/1951 12:00:00 AM	174	84	167	900	900	0	D06006029CAC	
601914	PARKS,R N	NON-EXEMPT	NON-EXEMPT	1/1/1943 12:00:00 AM	168	100	168	110	110	0	D06006034DCB	
619747	CORP PRES BISHOP LDS CHURCH	NON-EXEMPT	NON-EXEMPT		1000	560	1000	1500	1500	0	D06004016CDD	
619748	CORP PRES BISHOP LDS CHURCH	NON-EXEMPT	NON-EXEMPT		900	560	900	1500	1500	0	D06004016ADD	
619749	CORP PRES BISHOP LDS CHURCH	NON-EXEMPT	NON-EXEMPT		923	560	923	1800	1800	0	D06004009DDD	
619750	CORP PRES BISHOP LDS CHURCH	NON-EXEMPT	NON-EXEMPT		925	557	925	1500	1500	0	D06004009CDD	
619751	CORP PRES BISHOP LDS CHURCH	NON-EXEMPT	NON-EXEMPT		900	557	900	1600	1600	0	D06004009ADD	
619752	DART PROPERTIES LLC	NON-EXEMPT	NON-EXEMPT		1000	553	1000	2400	2400	0	D06004004DDD	
619753	DART PROPERTIES LLC	NON-EXEMPT	NON-EXEMPT		900	553	900	1000	1000	0	D06004005DDD	
619754	DESERT CROSS HOLDINGS, LLC	NON-EXEMPT	NON-EXEMPT		1400	550	1400	1500	1500	0	D06004005CDD	
619755	DAVID FEENSTRA	NON-EXEMPT	NON-EXEMPT		780	550	0	2600	2600	0	D06004008BDC	
619756	CORP PRES BISHOP LDS CHURCH	NON-EXEMPT	NON-EXEMPT	3/31/1981 12:00:00 AM	1555	560	1527	2000	2000	0	D06004016DDD	
618261	CASA GRANDA 761 LLC / REGENCY PLACE LLC	NON-EXEMPT	NON-EXEMPT	3/14/1961 12:00:00 AM	778	107	761	800	800	0	D06006013CDD	
619766	CORP PRES BISHOP LDS CHURCH	EXEMPT	EXEMPT		870	560	870	0	0	0	D06004016DDD	
619767	CORP PRES BISHOP LDS CHURCH	EXEMPT	EXEMPT		0	0	0	26	26	0	D06004009DDD	
618262	ELOY GRANDE INC,	NON-EXEMPT	NON-EXEMPT	4/1/1951 12:00:00 AM	325	65	325	0	0	0	D06006018CAD	
618265	DENNIS DUGAN	NON-EXEMPT	NON-EXEMPT	10/28/1954 12:00:00 AM	787	110	787	800	800	0	D06006013DDA	
618266	CASA GRANDE 761, LLC	NON-EXEMPT	NON-EXEMPT	1/12/1955 12:00:00 AM	704	108	704	700	700	0	D06006013ADD	
618678	SMITH,G A	NON-EXEMPT	NON-EXEMPT	7/28/1960 12:00:00 AM	160	110	84	0	0	0	D06006006CCC	
618679	SMITH,G A	NON-EXEMPT	NON-EXEMPT	12/9/1960 12:00:00 AM	438	338	438	0	0	0	D06006006CCC	
617590	EL DORADO RANCHES,	NON-EXEMPT	NON-EXEMPT	1/1/1980 12:00:00 AM	1080	620	1075	2200	2200	0	D06004029DDD	
617591	EL DORADO RANCHES,	NON-EXEMPT	NON-EXEMPT	1/1/1951 12:00:00 AM	1000	620	1000	0	0	0	D06004029DDD	
617592	EL DORADO RANCHES	NON-EXEMPT	NON-EXEMPT	1/1/1958 12:00:00 AM	1215	620	817	1700	1700	0	D06004029DCD	
617593	EL DORADO RANCHES,	NON-EXEMPT	NON-EXEMPT	1/1/1960 12:00:00 AM	1400	680	1400	1800	1800	0	D06004031CCC	
617239	RED RIVER L.L.C.	NON-EXEMPT	NON-EXEMPT	1/1/1980 12:00:00 AM	1055	570	1055	2000	0	0	D06004032DDD	
617240	RED RIVER L.L.C.	NON-EXEMPT	NON-EXEMPT	1/1/1943 12:00:00 AM	1045	0	1045	5	5	0	D06004032CDC	
617241	CJ & L FARMS INC,	EXEMPT	EXEMPT	1/1/1951 12:00:00 AM	1100	570	1100	1700	1700	0	D06004031DDD	
617242	CJ & L FARMS INC,	NON-EXEMPT	NON-EXEMPT	1/1/1971 12:00:00 AM	1085	580	1080	2000	2000	0	D06004031DCB	
615367	AZ STATE LAND DEPT,	NON-EXEMPT	NON-EXEMPT	1/1/1950 12:00:00 AM	960	470	960	1600	1600	0	D05004028DDD	
615368	AZ STATE LAND DEPT,	EXEMPT	EXEMPT	1/1/1961 12:00:00 AM	180	140	150	5	5	0	D05006032DBB	
615409	AZ STATE LAND DEPT,	NON-EXEMPT	NON-EXEMPT	1/1/1944 12:00:00 AM	1000	530	903	1150	1150	0	D06004002DDD	
615410	AZ STATE LAND DEPT,	NON-EXEMPT	NON-EXEMPT	9/1/1951 12:00:00 AM	1294	420	470	2300	2300	0	D06004017DDC	
615411	AZ STATE LAND DEPT,	NON-EXEMPT	NON-EXEMPT	9/1/1945 12:00:00 AM	446	500	446	2200	2200	0	D06004021CAA	
615412	AZ STATE LAND DEPT,	NON-EXEMPT	NON-EXEMPT	9/1/1945 12:00:00 AM	1200	540	970	2800	2800	0	D06004021DDD	
615413	AZ STATE LAND DEPT,	NON-EXEMPT	NON-EXEMPT	9/1/1968 12:00:00 AM	1237	560	450	0	0	0	D06004021DDD	
615414	BENEDICT FEEDING CO,	NON-EXEMPT	NON-EXEMPT		560	0	560	0	0	0	D06004027BAA	
615415	RED RIVER CATTLE LLP	NON-EXEMPT	NON-EXEMPT	7/11/2005 12:00:00 AM	900	551	837	850	850	0	D06004027BAA	
615416	RED RIVER CATTLE LLP	NON-EXEMPT	NON-EXEMPT	1/1/1964 12:00:00 AM	714	575	714	800	800	0	D06004027BDA	
615417	AZ STATE LAND DEPT,	NON-EXEMPT	NON-EXEMPT	12/31/1965 12:00:00 AM	1200	570	880	1500	0	0	D06004027CDD	
615418	AZ STATE LAND DEPT,	NON-EXEMPT	NON-EXEMPT		955	740	955	1400	0	0	D06004027DDD	
615419	C.J. & L FARMS INC,	NON-EXEMPT	NON-EXEMPT	4/15/1980 12:00:00 AM	1055	105	1055	2000	2000	0	D06004032DDD	
616594	**ARIZONA WATER COMPANY**	**SERVICE**	**NON-EXEMPT**	**1/1/1958 12:00:00 AM**	**1055**	**347**	**1055**	**400**	**400**	**0**	**D060060098BD**	**Casa Grande #9**
616595	**ARIZONA WATER COMPANY**	**SERVICE**	**NON-EXEMPT**	**1/1/1960 12:00:00 AM**	**1260**	**257**	**1025**	**1000**	**1000**	**0**	**D060060098BC**	**Casa Grande #10**
616596	A RIZONA WATER COMPANY	SERVICE	NON-EXEMPT	1/1/1965 12:00:00 AM	1100	300	1100	0	0	0	D06006009BDD	
618086	CASA GRANDE 62, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1974 12:00:00 AM	360	160	360	85	85	0	D06006034DAD	
615421	AZ STATE LAND DEPT,	NON-EXEMPT	NON-EXEMPT	11/5/1955 12:00:00 AM	1420	0	1160	900	900	0	D06004034ADD	
615422	AZ STATE LAND DEPT,	NON-EXEMPT	NON-EXEMPT	1/1/1944 12:00:00 AM	1232	0	400	1000	1000	0	D06004034DDD	
615423	AZ STATE LAND DEPT,	NON-EXEMPT	NON-EXEMPT	2/16/1980 12:00:00 AM	1015	605	1015	0	0	0	D06004034DCC	
615424	AZ STATE LAND DEPT,	NON-EXEMPT	NON-EXEMPT	12/31/1975 12:00:00 AM	800	0	800	1000	1000	0	D06004035DCC	
615425	AZ STATE LAND DEPT,	NON-EXEMPT	NON-EXEMPT	12/31/1965 12:00:00 AM	940	0	940	1800	0	0	D06004035DDD	

TABLE 1. STUDY AREA ADWR WELL INVENTORY
COPPER MOUNTAIN RANCH DEVELOPMENT

REGISTRY_ID	OWNER_NAME	WELLTYPE	WELL_TYPE_	INSTALLED	WELL_DEPTH	WATER_LEVE	CASING_DEP	PUMPRATE	TESTEDRATE	DRAW_DOWN	CADASTRAL	LOCAL_NAME
615427	AZ STATE LAND DEPT,	NON-EXEMPT	NON-EXEMPT	1/1/1957 12:00:00 AM	1098	330	519	1450	1450	0	D06006015DDD	
616597	ARIZONA WATER COMPANY	SERVICE	NON-EXEMPT	8/29/1970 12:00:00 AM	1203	322	1180	425	425	0	D06006021ABA	Casa Grande #12
616598	ARIZONA WATER COMPANY	SERVICE	NON-EXEMPT		600	0	600	0	0	0	D06006021BBB	AWC_CG14
616600	ARIZONA WATER COMPANY	SERVICE	NON-EXEMPT		806	0	0	1000	1000	0	D06006022BDD	AWC_CG_OLD
616601	ARIZONA WATER COMPANY	SERVICE	NON-EXEMPT	4/28/1975 12:00:00 AM	805	0	739	450	450	0	D06006015CCB	Casa Grande #17
616602	ARIZONA WATER COMPANY	SERVICE	NON-EXEMPT		1000	248	900	680	680	0	D06006022CDD	Casa Grande #18
616603	ARIZONA WATER COMPANY	SERVICE	NON-EXEMPT	8/8/1980 12:00:00 AM	1000	393	1000	1400	1400	25	D06006023CBB	Poonian #19
616604	ARIZONA WATER COMPANY	SERVICE	NON-EXEMPT	11/2/1977 12:00:00 AM	1000	417	1000	1200	1200	0	D06006022BAD	Casa Grande #20
616605	ARIZONA WATER COMPANY	SERVICE	NON-EXEMPT		0	0	0	0	0	0	D05006025ABA	
618145	PATE,W C	EXEMPT	EXEMPT	1/1/1945 12:00:00 AM	250	150	250	35	35	0	D06006033000	
618147	PATE,W C	EXEMPT	EXEMPT	1/1/1940 12:00:00 AM	150	100	150	35	35	0	D06005015BCD	
618921	JOHARRA DAIRY FARMS, LLC	NON-EXEMPT	NON-EXEMPT		0	0	0	0	0	0	D06006034BDA	
616684	ARIZONA WATER COMPANY	NON-EXEMPT	NON-EXEMPT		811	625	811	350	35000	0	D06004020CCC	Stanfield #1
616685	ARIZONA WATER COMPANY	NON-EXEMPT	NON-EXEMPT		0	0	0	0	0	0	D06004019C00	
618176	EAGLE SHADOW, LLC.	NON-EXEMPT	NON-EXEMPT		0	0	0	600	600	0	D05004006CDD	
618177	EAGLE SHADOW, LLC.	NON-EXEMPT	NON-EXEMPT		0	0	0	350	350	0	D05003001DAD	
613335	PRODUCERS COTTON OIL,	EXEMPT	EXEMPT		0	0	0	0	0	0	D06004029BBB	
609899	MARICOPA CASA GRANDE	NON-EXEMPT	NON-EXEMPT	1/1/1950 12:00:00 AM	834	450	834	1000	1000	0	D05004005DDD	
609900	MARICOPA CASA GRANDE	NON-EXEMPT	NON-EXEMPT	1/1/1950 12:00:00 AM	900	476	900	1200	1200	0	D05004008000	
609901	MARICOPA CASA GRANDE	NON-EXEMPT	NON-EXEMPT	1/1/1955 12:00:00 AM	905	500	905	1200	1200	0	D05004005DCC	
609902	MARICOPA CASA GRANDE	NON-EXEMPT	NON-EXEMPT	2/1/1969 12:00:00 AM	1050	483	1038	1750	1750	0	D05004008BDA	
609195	CASA VERDE MOB EST,	NON-EXEMPT	NON-EXEMPT		0	0	0	0	0	0	D06006009C00	
609591	SORRENTO COMMUNITY MASTER ASSOCIATION	NON-EXEMPT	NON-EXEMPT	4/21/1976 12:00:00 AM	805	472	805	1000	1000	0	D04004032DDD	
609593	SORRENTO COMMUNITY MASTER ASSOCIATION	NON-EXEMPT	NON-EXEMPT	1/1/1958 12:00:00 AM	954	462	954	2500	2500	0	D04004032CDD	
609594	WESTERN PINAL INDUS,P K	NON-EXEMPT	NON-EXEMPT	1/1/1948 12:00:00 AM	400	385	400	600	600	0	D05004006DDD	
609595	WESTERN PINAL INDUS,P K	NON-EXEMPT	NON-EXEMPT	1/1/1968 12:00:00 AM	1452	483	1452	2000	2000	0	D05004006DDB	
611108	BOBFIGLIO, ELBA,O	NON-EXEMPT	NON-EXEMPT		200	200	200	500	500	0	D06006033AC0	
612677	C & L INVESTMENTS	NON-EXEMPT	NON-EXEMPT	1/1/1940 12:00:00 AM	134	50	134	1800	1800	0	D06005022D00	
609607	MERRELL,M D	NON-EXEMPT	NON-EXEMPT		100	0	900	400	400	0	D06006024DAD	
609613	PATE, ANN & W.C.,	EXEMPT	EXEMPT	12/31/1945 12:00:00 AM	250	150	250	35	0	0	D06006033000	
609614	D'AMBROSIO, THOMAS,	NON-EXEMPT	NON-EXEMPT		600	400	600	0	0	0	D06005033CAB	
609617	D'AMBROSIO, THOMAS,	NON-EXEMPT	NON-EXEMPT		650	400	650	0	0	0	D06005033BCD	
611156	CITY OF CASA GRANDE	NON-EXEMPT	NON-EXEMPT		285	120	285	500	500	0	D06006020DDC	
611157	CITY OF CASA GRANDE	NON-EXEMPT	NON-EXEMPT		230	160	230	35	35	0	D06005012CDC	
612721	ANDERSON & VAL VISTA 6 LLC	NON-EXEMPT	NON-EXEMPT	1/1/1971 12:00:00 AM	946	540	946	1800	1800	0	D05004027DDD	
612722	ANDERSON & VAL VISTA 6 LLC	NON-EXEMPT	NON-EXEMPT	4/23/1958 12:00:00 AM	895	235	895	1600	1600	0	D05004027DAC	
612723	DUNN FARMS,	NON-EXEMPT	NON-EXEMPT	1/1/1950 12:00:00 AM	800	540	800	1000	1000	0	D05004027DDA	
612725	ANDERSON & VAL VISTA 6 LLC	EXEMPT	EXEMPT	1/1/1940 12:00:00 AM	400	320	400	15	15	0	D05004027DDA	
608900	SCOTT & SCOTT TRAILERS, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1920 12:00:00 AM	150	50	150	100	100	0	D06005011AAD	
608901	SCOTT & SCOTT TRAILERS, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1950 12:00:00 AM	500	50	250	300	300	0	D06005011AAD	
608902	COPPER MOUNTAIN RANCH CFD WATER UTILITY	EXEMPT	EXEMPT	1/1/1950 12:00:00 AM	600	300	600	35	35	0	D05004024BAA	
608903	COPPER MOUNTAIN RANCH CFD WATER UTILITY	NON-EXEMPT	NON-EXEMPT	1/1/1950 12:00:00 AM	600	300	600	200	200	0	D05004024BAD	
608904	COPPER MOUNTAIN RANCH CFD WATER UTILITY	NON-EXEMPT	NON-EXEMPT	1/1/1950 12:00:00 AM	700	400	700	200	200	0	D05004024BAB	
609655	LEGENDS PROPERTY, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1945 12:00:00 AM	900	500	900	700	700	0	D06004013ABB	
609656	LEGENDS PROPERTY, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1945 12:00:00 AM	1000	500	900	1000	1000	0	D06004013ACC	
609657	LEGENDS PROPERTY, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1953 12:00:00 AM	608	450	608	300	300	0	D06004024BAD	
609658	LEGENDS PROPERTY, LLC	NON-EXEMPT	NON-EXEMPT	2/1/1958 12:00:00 AM	1000	500	1000	1000	1000	0	D06004024BDD	
609659	LEGENDS PROPERTY, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1943 12:00:00 AM	1470	500	1470	1000	1000	0	D06004013CDD	
609660	LEGENDS PROPERTY, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1940 12:00:00 AM	0	0	0	0	0	0	D06004013ADD	
609661	LEGENDS PROPERTY, LLC	NON-EXEMPT	NON-EXEMPT	2/1/1947 12:00:00 AM	610	500	607	300	300	0	D06005018CCC	
609662	GRANDE VALLEY SINGLE FAMILY, LLC	NON-EXEMPT	NON-EXEMPT	6/12/1976 12:00:00 AM	1033	580	1030	300	300	0	D06004012BBA	
609663	GRANDE VALLEY SINGLE FAMILY, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1976 12:00:00 AM	950	580	950	300	300	0	D06004012BCC	
609664	MILLETT FARMS LLC	NON-EXEMPT	NON-EXEMPT	4/30/1968 12:00:00 AM	950	580	950	650	650	0	D06004002CDD	
609665	GRANDE VALLEY SINGLE FAMILY, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1947 12:00:00 AM	850	580	850	650	650	0	D06004012BCD	
609693	GRANDE VALLEY SINGLE FAMILY, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1951 12:00:00 AM	883	580	883	225	225	0	D06004012BCC	
612766	GEORGIA AND GARY SCHAEFFER	EXEMPT	EXEMPT	1/1/1945 12:00:00 AM	330	200	330	20	20	0	D07006004AAA	
612767	WILLIAM VANDER POEL FAMILY PROPERTIES, LP	NON-EXEMPT	NON-EXEMPT	1/1/1941 12:00:00 AM	984	543	980	500	500	0	D06004025CDD	
610095	PARKS, RONALD,	NON-EXEMPT	NON-EXEMPT	1/1/1943 12:00:00 AM	1200	320	1200	400	400	0	D06006030ADD	

TABLE 1. STUDY AREA ADWR WELL INVENTORY
COPPER MOUNTAIN RANCH DEVELOPMENT

REGISTRY_ID	OWNER_NAME	WELLTYPE	WELL_TYPE_	INSTALLED	WELL_DEPTH	WATER_LEVE	CASING_DEP	PUMPRATE	TESTEDRATE	DRAW_DOWN	CADASTRAL	LOCAL_NAME
612777	CASA GRANDE LAKES,	NON-EXEMPT	NON-EXEMPT	1/1/1965 12:00:00 AM	800	0	800	500	500	0	D06006007DAD	
612778	CASA GRANDE LAKES,	NON-EXEMPT	NON-EXEMPT	1/1/1960 12:00:00 AM	800	0	800	1000	1000	0	D06006007DDD	
612780	KEELING FAMILY PARTNERSHIP	NON-EXEMPT	NON-EXEMPT	1/1/1940 12:00:00 AM	100	0	100	300	300	0	D06005012CBC	
610146	GEM ENTERPRISES INC,	NON-EXEMPT	NON-EXEMPT	1/1/1962 12:00:00 AM	900	840	0	20	20	0	D06004028000	
610514	OLIVER C & HERMINA O ANDERSON FAMILY TRUST	NON-EXEMPT	NON-EXEMPT	1/1/1950 12:00:00 AM	686	555	686	1000	1000	0	D04004033CCD	
610515	OLIVER C ANDERSON & HERMINA O ANDERSON FAMILY TRUST	NON-EXEMPT	NON-EXEMPT	12/20/1967 12:00:00 AM	885	620	885	2000	2000	0	D04004033CDC	
610536	BANK OF ARIZONA, AS TRUSTEE FOR ROBERT W. JONES III	NON-EXEMPT	NON-EXEMPT		0	75	0	180	180	0	D06005034BAD	
610578	BANK OF ARIZONA, AS TRUSTEE FOR ROBERT W. JONES III	NON-EXEMPT	NON-EXEMPT	1/1/1973 12:00:00 AM	160	68	160	200	200	0	D06005034BAA	
612881	AUZA, JOE,	NON-EXEMPT	NON-EXEMPT		0	146	0	600	600	0	D06005021ADD	
612882	SANTA CRUZ JOINT VNT,	NON-EXEMPT	NON-EXEMPT		0	447	0	800	800	0	D06005007BCC	
612883	SANTA CRUZ JOINT VNT,	NON-EXEMPT	NON-EXEMPT		0	192	673	0	0	0	D06005007DCC	
612884	GETTY MINING CO,	NON-EXEMPT	NON-EXEMPT		0	722	730	980	980	0	D06005018DCC	
610588	I-10 & KORTSON, LLLP	NON-EXEMPT	NON-EXEMPT	1/1/1965 12:00:00 AM	1000	80	600	2000	2000	0	D06006011DDD	
610589	CG KORTSEN I-10, 320, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1955 12:00:00 AM	1000	80	650	2000	2000	0	D06006014AAA	
610590	CG KORTSEN I-10, 320, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1940 12:00:00 AM	1000	80	500	800	800	0	D06006014AAD	
610591	CG KORTSEN I-10, 320, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1978 12:00:00 AM	1000	80	1000	1800	1800	0	D06006014BBC	
610592	JOE & CARMEN AUZA	NON-EXEMPT	NON-EXEMPT	1/1/1978 12:00:00 AM	600	80	600	400	400	0	D06006014BBB	
612521	ROBINSON FAMILY FARMS, L.L.C.	NON-EXEMPT	NON-EXEMPT	1/1/1962 12:00:00 AM	1000	480	1000	1200	1200	0	D05004028BCC	
612522	ROBINSON FAMILY FARMS, L.L.C.	NON-EXEMPT	NON-EXEMPT	1/1/1962 12:00:00 AM	370	480	370	250	250	0	D05004028BCC	
612523	ROBINSON FAMILY FARMS, L.L.C.	NON-EXEMPT	NON-EXEMPT	1/1/1956 12:00:00 AM	690	480	690	500	500	0	D05004029ACC	
609868	VANCE SR,J D	NON-EXEMPT	NON-EXEMPT	5/18/1958 12:00:00 AM	750	400	750	0	0	0	D05004003AAD	
632028	BRADY,J D	EXEMPT	EXEMPT	1/1/1971 12:00:00 AM	70	55	70	30	30	0	D06005013CCC	
632814	WARCHOL, VIRGINIA,	EXEMPT	EXEMPT		600	452	600	30	30	0	D05006021BAO	
629800	SADDLEBACK VISTA DOMESTIC WATER IMPROVEMENT DIST	EXEMPT	EXEMPT	12/6/1976 12:00:00 AM	705	515	697	30	30	0	D05004003DBB	
630581	A C CURCIO ENTERPR,	NON-EXEMPT	NON-EXEMPT		100	56	65	500	500	0	D06005013BBC	
626795	ANDERSON-CLAYTON CO,	NON-EXEMPT	NON-EXEMPT		0	0	0	100	100	0	D06007030BCC	
626802	ANDERSON-CLAYTON CO,	NON-EXEMPT	NON-EXEMPT		0	0	0	100	0	0	D06004030AAB	
626803	HALL, W.E. CO.,	NON-EXEMPT	NON-EXEMPT	1/1/1963 12:00:00 AM	800	0	800	100	100	0	D06004025AAA	
629476	WOLFCOR, LLC,	NON-EXEMPT	NON-EXEMPT		400	0	0	300	300	0	D06004036CDD	
629477	LYNDON C WEBERG	NON-EXEMPT	NON-EXEMPT		1280	700	0	1000	0	0	D06004036DDD	
632582	RIVAS,S	EXEMPT	EXEMPT		225	0	225	35	0	0	D06006008ACB	
631483	RICHARDS, MORRIS,C	NON-EXEMPT	NON-EXEMPT		0	0	0	0	0	0	D06006028BDA	
630357	AVERILL,G E	EXEMPT	EXEMPT	4/1/1955 12:00:00 AM	0	0	0	4	4	0	D05006025ABB	
630363	JERRY WARREN	NON-EXEMPT	NON-EXEMPT	1/1/1951 12:00:00 AM	610	166	610	500	500	0	D06006028AAA	
630423	CARLTON,K T	EXEMPT	EXEMPT	1/1/1960 12:00:00 AM	600	120	600	35	35	0	D06006024DDD	
629675	CARLTON,K T	EXEMPT	EXEMPT	1/1/1930 12:00:00 AM	350	100	350	35	35	0	D06006027DBD	
625521	JOHNSON SR,L	NON-EXEMPT	NON-EXEMPT	1/1/1951 12:00:00 AM	850	232	0	50	50	0	D05003036DDD	
625526	JOHARRA DAIRY FARMS, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1944 12:00:00 AM	1100	550	0	1700	1700	0	D06004033DDD	
625529	JOHARRA DAIRY FARMS, L.L.C.	NON-EXEMPT	NON-EXEMPT	1/1/1944 12:00:00 AM	0	550	0	1700	1700	0	D06004033DAA	
622440	BYC LIMITED PARTNERSHIP	NON-EXEMPT	NON-EXEMPT	1/1/1950 12:00:00 AM	1063	600	960	900	900	0	D06004036DAA	
622441	BYC LIMITED PARTNERSHIP	NON-EXEMPT	NON-EXEMPT	1/1/1950 12:00:00 AM	1205	600	1205	900	900	0	D06005031DCD	
622442	BYC LIMITED PARTNERSHIP	NON-EXEMPT	NON-EXEMPT	1/1/1955 12:00:00 AM	963	600	963	900	900	0	D06005031DCB	
622443	PETER MIDWAY, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1955 12:00:00 AM	710	600	710	900	900	0	D06005031BDD	
622444	BYC LIMITED PARTNERSHIP	NON-EXEMPT	NON-EXEMPT	1/1/1950 12:00:00 AM	580	600	580	900	900	0	D06005031ADD	
622445	BYC LIMITED PARTNERSHIP	NON-EXEMPT	NON-EXEMPT	1/1/1970 12:00:00 AM	871	600	871	900	900	0	D06005031ADA	
622446	BYC LIMITED PARTNERSHIP	NON-EXEMPT	NON-EXEMPT	1/1/1950 12:00:00 AM	928	600	928	900	900	0	D06005030DDD	
622447	CASA GRANDE FARMS,	EXEMPT	EXEMPT		1202	300	0	15	0	0	D06005031DDD	
622449	JAMES A. OLSON	NON-EXEMPT	NON-EXEMPT	1/1/1960 12:00:00 AM	1000	630	1000	1000	1000	0	D06004018CBC	
625556	VALBROS, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1948 12:00:00 AM	450	0	0	0	0	0	D05003036ADA	
624039	GARY & SHIRLEY HALL	NON-EXEMPT	NON-EXEMPT	1/1/1961 12:00:00 AM	724	0	0	410	410	0	D05004004DDD	
624040	CENTRAL AZ PARTNERS,V	NON-EXEMPT	NON-EXEMPT	1/1/1961 12:00:00 AM	852	0	852	500	500	0	D05004004CDD	
624041	CENTRAL AZ PARTNERS,V	NON-EXEMPT	NON-EXEMPT	2/1/1976 12:00:00 AM	1190	0	1190	1210	1210	0	D05004004CCD	
622118	HARTMAN,J	NON-EXEMPT	NON-EXEMPT	1/1/1950 12:00:00 AM	0	400	0	0	0	0	D05004009CDA	
622119	DAWN RIDER, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1976 12:00:00 AM	963	440	963	1500	1500	0	D05004009ADD	
622120	DAWN RIDER, LLC	NON-EXEMPT	NON-EXEMPT	9/5/1965 12:00:00 AM	1005	480	950	1000	1000	0	D05004010CCC	
622121	HARTMAN,P M	NON-EXEMPT	NON-EXEMPT	1/1/1961 12:00:00 AM	720	580	694	600	600	0	D05004010ACC	
622122	HARTMAN,P M	NON-EXEMPT	NON-EXEMPT	1/1/1957 12:00:00 AM	1000	500	1000	800	800	0	D05004010DCC	
622123	HARTMAN,P M	NON-EXEMPT	NON-EXEMPT	1/1/1970 12:00:00 AM	1010	540	963	140	140	0	D05004010ADD	

TABLE 1. STUDY AREA ADWR WELL INVENTORY
COPPER MOUNTAIN RANCH DEVELOPMENT

REGISTRY_ID	OWNER_NAME	WELLTYPE	WELL_TYPE_	INSTALLED	WELL_DEPTH	WATER_LEVE	CASING_DEP	PUMPRATE	TESTEDRATE	DRAW_DOWN	CADASTRAL	LOCAL_NAME
622124	HARTMAN,P M	NON-EXEMPT	NON-EXEMPT	1/1/1941 12:00:00 AM	720	400	650	160	160	0	D05004010DDD	
622125	HARTMAN,P M	EXEMPT	EXEMPT	1/1/1956 12:00:00 AM	550	400	550	28	28	0	D05004011CAA	
625197	CASA GRANDE W WTR CO,	NON-EXEMPT	NON-EXEMPT		0	0	0	125	125	0	D06005029CD0	
625198	CASA GRANDE W WTR CO,	EXEMPT	EXEMPT		0	0	0	0	0	0	D06005029DD0	
625199	CASA GRANDE W WTR CO,	EXEMPT	EXEMPT		0	0	0	0	0	0	D06005032BD0	
622126	HARTMAN,P M	NON-EXEMPT	NON-EXEMPT	1/1/1942 12:00:00 AM	500	400	450	400	400	0	D05004011BAD	
620620	CITY OF CASA GRANDE	NON-EXEMPT	NON-EXEMPT	1/1/1949 12:00:00 AM	500	400	500	500	500	0	D05004014AAD	
622158	NISSAN TECHNICAL CENTER NORTH AMERICA INC	NON-EXEMPT	NON-EXEMPT	6/10/1979 12:00:00 AM	1155	540	1155	1700	0	0	D05004029DDD	
622159	NISSAN TECHNICAL CENTER NORTH AMERICA INC	NON-EXEMPT	NON-EXEMPT	12/31/1940 12:00:00 AM	800	540	800	1000	0	0	D05004032ADD	
622160	NISSAN TECHNICAL CENTER NORTH AMERICA INC	NON-EXEMPT	NON-EXEMPT	1/1/1981 12:00:00 AM	1250	540	1250	1700	0	0	D06004006AAA	
622161	NISSAN TECHNICAL CENTER NORTH AMERICA INC	NON-EXEMPT	NON-EXEMPT	12/31/1960 12:00:00 AM	1000	540	1000	1000	0	0	D06004006AAA	
622162	NISSAN TECHNICAL CENTER NORTH AMERICA INC	NON-EXEMPT	NON-EXEMPT	12/31/1950 12:00:00 AM	1000	540	1000	1200	0	0	D06004006ABA	
622168	SINGH,I	EXEMPT	EXEMPT	1/1/1935 12:00:00 AM	200	120	200	20	20	0	D07006002ABB	
624096	PETERS & BURRIS, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1930 12:00:00 AM	94	55	94	600	600	0	D06005036CAA	
620621	CITY OF CASA GRANDE	NON-EXEMPT	NON-EXEMPT	1/1/1949 12:00:00 AM	500	400	500	0	0	0	D05004014DAA	
620622	CITY OF CASA GRANDE	NON-EXEMPT	NON-EXEMPT	1/1/1950 12:00:00 AM	500	400	500	0	0	0	D05004014BAA	
620623	CITY OF CASA GRANDE	NON-EXEMPT	NON-EXEMPT	1/1/1955 12:00:00 AM	500	400	500	0	0	0	D05004014CAA	
620624	CITY OF CASA GRANDE	NON-EXEMPT	NON-EXEMPT	1/1/1958 12:00:00 AM	900	350	900	500	500	0	D05004014CCB	
620625	CITY OF CASA GRANDE	NON-EXEMPT	NON-EXEMPT	1/1/1961 12:00:00 AM	1300	350	1300	700	700	0	D05004014CCC	
620626	CITY OF CASA GRANDE	NON-EXEMPT	NON-EXEMPT	1/1/1960 12:00:00 AM	908	400	908	1000	1000	0	D05004023BBB	
622181	GRANDE VALLEY SINGLE FAMILY, L.L.C.	NON-EXEMPT	NON-EXEMPT	1/1/1963 12:00:00 AM	560	0	0	1200	1200	0	D05004025DBB	
622182	TRUST 6088-T,	NON-EXEMPT	NON-EXEMPT	1/1/1963 12:00:00 AM	500	0	0	0	0	0	D05004025BAA	
622183	GRANDE VALLEY SINGLE FAMILY, L.L.C.	NON-EXEMPT	NON-EXEMPT		500	0	0	0	0	0	D05004025ADB	
622185	BIG TRAIL, LLC	NON-EXEMPT	NON-EXEMPT		1300	628	0	2400	2400	0	D06004028DDC	
622186	BIG TRAIL, LLC	NON-EXEMPT	NON-EXEMPT	4/5/1944 12:00:00 AM	900	0	0	1200	1200	0	D06004028DDC	
621412	FULLAM,R J	NON-EXEMPT	NON-EXEMPT	1/21/1981 12:00:00 AM	700	320	700	25	25	0	D06004035BB0	
621413	FULLAM,R J	EXEMPT	EXEMPT		500	320	500	25	25	0	D06004035BB0	
621806	FLORENCE BLVD & I-10,	NON-EXEMPT	NON-EXEMPT	1/1/1950 12:00:00 AM	749	143	580	978	978	0	D06006036ACD	
621807	MTH GOLF LLC	NON-EXEMPT	NON-EXEMPT	1/1/1976 12:00:00 AM	1170	310	680	1250	1250	0	D06006025ADD	
621813	MTH GOLF LLC	NON-EXEMPT	NON-EXEMPT	1/1/1938 12:00:00 AM	599	111	599	745	745	0	D06006025BDD	
621814	FLORENCE BLVD & I-10,	NON-EXEMPT	NON-EXEMPT	1/1/1948 12:00:00 AM	707	250	640	858	858	0	D06006036ADD	
621815	FLORENCE BLVD & I-10,	NON-EXEMPT	NON-EXEMPT	1/1/1976 12:00:00 AM	1005	310	600	1550	1550	0	D06006036AAA	
621830	TAMERON, LLC	NON-EXEMPT	NON-EXEMPT		402	311	402	837	837	0	D06006015CAD	
623810	ANDERSON RUSSELL, L.L.C.	NON-EXEMPT	NON-EXEMPT		900	660	900	800	800	0	D05004023DCA	
623811	ANDERSON RUSSELL, L.L.C.	NON-EXEMPT	NON-EXEMPT	10/1/1956 12:00:00 AM	1100	660	1100	800	800	0	D05004023BDD	
623812	ANDERSON RUSSELL, L.L.C.	NON-EXEMPT	NON-EXEMPT		1100	660	1100	800	800	0	D05004026AAA	
623813	ANDERSON RUSSELL, L.L.C.	NON-EXEMPT	NON-EXEMPT		1100	660	1100	800	800	0	D05004026ADD	
623814	SANTA ROSA RANCH CO,	EXEMPT	EXEMPT		700	660	700	35	0	0	D05004023DDA	
623815	SAN TRAVASA LLC	NON-EXEMPT	NON-EXEMPT	9/1/1949 12:00:00 AM	1205	380	1205	1800	1800	0	D04003036DDD	
623824	MORIC, NICO,	NON-EXEMPT	NON-EXEMPT	1/1/1941 12:00:00 AM	800	300	800	1100	1100	0	D05003012DDD	
623426	MOSS, ALVIN,	NON-EXEMPT	NON-EXEMPT	1/1/1953 12:00:00 AM	650	550	0	900	900	0	D05004027DCC	
623427	MOSS, ALVIN,	NON-EXEMPT	NON-EXEMPT	2/1/1963 12:00:00 AM	1050	580	0	1500	1500	0	D05004027CDD	
623825	MARACAY HOMES ARIZONA I, L.L.C.	NON-EXEMPT	NON-EXEMPT	9/1/1962 12:00:00 AM	1810	300	1810	1100	1100	0	D05003012DAD	
623826	MARACAY HOMES ARIZONA I, L.L.C.	NON-EXEMPT	NON-EXEMPT	1/1/1958 12:00:00 AM	1400	400	1400	1800	1800	0	D05003012ADA	
623828	PINAL FEEDING CO	NON-EXEMPT	NON-EXEMPT	1/1/1962 12:00:00 AM	1150	400	1150	1100	1100	0	D05004007DDD	
623829	PINAL FEEDING CO	NON-EXEMPT	NON-EXEMPT	9/1/1945 12:00:00 AM	985	400	985	1000	1000	0	D05004007DDA	
623830	JOHN & TRACEY BOUCHER	NON-EXEMPT	NON-EXEMPT	9/1/1980 12:00:00 AM	1600	450	1600	1800	1800	0	D05004007DBD	
623831	MORIC, NICO,	NON-EXEMPT	NON-EXEMPT	1/1/1961 12:00:00 AM	1600	450	1600	1800	1800	0	D05004007DCD	
623832	LARRY D. & CYNTHIA PEARSON	NON-EXEMPT	NON-EXEMPT	1/1/1953 12:00:00 AM	900	450	900	900	900	0	D05004006DCC	
623835	VICENCIA FARMS, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1951 12:00:00 AM	1300	590	1300	1800	1800	0	D05004033ADD	
623836	VICENCIA FARMS, LLC	NON-EXEMPT	NON-EXEMPT	10/30/1978 12:00:00 AM	1093	590	1093	2000	2000	0	D05004033AAD	
623837	VICENCIA FARMS, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1975 12:00:00 AM	1070	590	1070	2000	2000	0	D05004033ACC	
623838	CHARLES FEENSTRA	NON-EXEMPT	NON-EXEMPT	1/1/1948 12:00:00 AM	1050	590	1050	1600	1600	0	D05004033CDD	
623841	NISSAN TECHNICAL CENTER NORTH AMERICA INC	NON-EXEMPT	NON-EXEMPT	1/1/1963 12:00:00 AM	1200	400	1200	2000	2000	0	D06003001DAD	
623842	NISSAN TECHNICAL CENTER NORTH AMERICA INC	NON-EXEMPT	NON-EXEMPT	1/1/1980 12:00:00 AM	1200	400	1200	2000	2000	0	D06003001DAA	
621908	SAN CARLOS IRRIG,	NON-EXEMPT	NON-EXEMPT	1/1/1947 12:00:00 AM	725	0	725	800	800	0	D06006034DAA	
621914	SAN CARLOS IRRIG,	NON-EXEMPT	NON-EXEMPT		100	62	100	1000	1000	0	D06005023CAD	
621915	SAN CARLOS IRRIG,	NON-EXEMPT	NON-EXEMPT	1/1/1939 12:00:00 AM	490	180	490	800	800	0	D06006034CCB	

TABLE 1. STUDY AREA ADWR WELL INVENTORY
COPPER MOUNTAIN RANCH DEVELOPMENT

REGISTRY_ID	OWNER_NAME	WELLTYPE	WELL_TYPE_	INSTALLED	WELL_DEPTH	WATER_LEVE	CASING_DEP	PUMPRATE	TESTEDRATE	DRAW_DOWN	CADASTRAL	LOCAL_NAME
621917	SAN CARLOS IRRIG,	NON-EXEMPT	NON-EXEMPT	5/16/1960 12:00:00 AM	535	240	535	650	650	0	D06006028CBA	
621920	SAN CARLOS IRRIG,	NON-EXEMPT	NON-EXEMPT		120	0	118	1000	1000	0	D06006030DCC	
623471	J P HOLDINGS, LP	NON-EXEMPT	NON-EXEMPT	1/1/1956 12:00:00 AM	770	590	770	2100	2100	0	D06004022DDD	
621966	T & T FARMS LLC	NON-EXEMPT	NON-EXEMPT		1100	500	1100	1500	1500	0	D06004030CDD	
621969	TOM-T LLC	NON-EXEMPT	NON-EXEMPT		1025	500	1025	1200	1200	0	D06004030DDD	
623917	PARKER ESTATES, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1975 12:00:00 AM	1200	620	1200	2000	2000	0	D06003013ADD	
621197	NEW CASTLE DOME LMT PSHIP LLP	NON-EXEMPT	NON-EXEMPT	1/1/1973 12:00:00 AM	1000	720	1000	1100	1100	0	D06006023ADC	
621198	ONE P INVESTMENTS, LLC	NON-EXEMPT	NON-EXEMPT	1/1/1961 12:00:00 AM	1000	155	1000	1200	1200	0	D06006023DDD	
621199	ONE P INVESTMENTS LLC	NON-EXEMPT	NON-EXEMPT	1/1/1945 12:00:00 AM	1000	155	1000	0	0	0	D06006023DDD	
621200	NEW CASTLE DOME LMT PSHIP LLP	NON-EXEMPT	NON-EXEMPT	1/1/1955 12:00:00 AM	1000	200	1000	1200	1200	0	D06006023ADD	
621201	NEW CASTLE DOME LMT PSHIP LLP	NON-EXEMPT	NON-EXEMPT	1/1/1980 12:00:00 AM	1215	250	1215	1000	1000	0	D06006014DDD	
621202	NEW CASTLE DOME LMT PSHIP LLP	NON-EXEMPT	NON-EXEMPT	1/1/1946 12:00:00 AM	980	250	980	1100	1100	0	D06006014DDD	
621203	NEW CASTLE DOME LMT PSHIP LLP	NON-EXEMPT	NON-EXEMPT	1/1/1951 12:00:00 AM	977	250	977	1200	1200	0	D06006014DCC	
621208	LONESOME VALLEY FARMS LP	NON-EXEMPT	NON-EXEMPT	1/1/1950 12:00:00 AM	0	0	0	0	0	0	D06006012CDC	
621209	LONESOME VALLEY FARMS LP	NON-EXEMPT	NON-EXEMPT	1/1/1971 12:00:00 AM	800	320	800	1100	1100	0	D06006012CDC	
621210	LONESOME VALLEY FARMS LP	NON-EXEMPT	NON-EXEMPT	1/1/1973 12:00:00 AM	1020	250	1020	1100	1100	0	D06006012CCA	
621212	VANDERBILT FARMS, L.L.C.	NON-EXEMPT	NON-EXEMPT	1/1/1948 12:00:00 AM	1200	250	1200	1420	1420	0	D06006023CAA	
621213	VANDERBILT FARMS, L.L.C.	NON-EXEMPT	NON-EXEMPT	1/1/1978 12:00:00 AM	1273	250	0	1375	1375	0	D06006023BDD	
621231	RUDOLPH ECHEVERRIA	NON-EXEMPT	NON-EXEMPT		730	500	0	800	0	0	D05004003CDD	
621232	RUDOLPH ECHEVERRIA	NON-EXEMPT	NON-EXEMPT		750	550	0	1200	1200	0	D05004003CDA	
622028	AUZA RANCHES LLC	NON-EXEMPT	NON-EXEMPT	1/1/1945 12:00:00 AM	200	100	200	2000	2000	0	D06006016DAD	
622029	AUZA RANCHES LLC	NON-EXEMPT	NON-EXEMPT	1/1/1945 12:00:00 AM	300	100	300	1500	1500	0	D06006016DAD	
622030	AUZA RANCHES LLC	NON-EXEMPT	NON-EXEMPT	1/1/1945 12:00:00 AM	600	50	590	600	600	0	D06005010CCD	
622031	AUZA, JOE,	EXEMPT	EXEMPT	1/1/1945 12:00:00 AM	100	50	100	35	35	0	D06005023CDD	
642845	WISEMAN,R R	EXEMPT	EXEMPT	1/1/1947 12:00:00 AM	125	0	225	0	0	0	D06006020DDC	
639698	NISSAN TECHNICAL CENTER NORTH AMERICA INC	EXEMPT	EXEMPT		600	500	600	35	35	0	D06003001ADD	
639382	BURCH,L	EXEMPT	EXEMPT	1/1/1951 12:00:00 AM	300	64	0	10	10	0	D06006004CCA	
639383	BURCH,L	EXEMPT	EXEMPT	1/1/1955 12:00:00 AM	300	100	0	15	15	0	D06006004CCA	
639391	GONZALEZ,E G	EXEMPT	EXEMPT		0	0	0	0	0	0	D06006034CD0	
640339	SCHNEIDER-GARRAIZEN,	EXEMPT	EXEMPT	3/1/1974 12:00:00 AM	680	540	200	10	10	0	D05006013DC0	
638423	ROGERS,L H	EXEMPT	EXEMPT		200	0	200	15	15	0	D06006034DCA	
638438	LEDEZMA,J	EXEMPT	EXEMPT		85	40	85	14	14	0	D06005024BBB	
638441	HOWELL,H L	EXEMPT	EXEMPT		450	305	450	35	35	0	D05006017DAB	
638442	STEVEN S. BRANDT	EXEMPT	EXEMPT	1/1/1930 12:00:00 AM	345	250	0	34	34	0	D06005013ADA	
638444	WINANS,V	EXEMPT	EXEMPT	1/1/1949 12:00:00 AM	250	0	0	0	0	0	D06006034000	
638445	WINANS,B	EXEMPT	EXEMPT	3/15/1953 12:00:00 AM	300	0	0	0	0	0	D06006034000	
638453	MENCHACA ET AL,F R	EXEMPT	EXEMPT	10/1/1951 12:00:00 AM	105	0	700	0	0	0	D06006028DDD	
638456	SMITH,E T	EXEMPT	EXEMPT	1/1/1960 12:00:00 AM	210	0	210	34	34	0	D06006034000	
638614	SHEPARD,F M	EXEMPT	EXEMPT	1/1/1959 12:00:00 AM	306	225	225	35	35	0	D06006033B00	
636221	GEM ENTERPRISES INC,	NON-EXEMPT	NON-EXEMPT		0	0	0	0	0	0	D06004028000	
635821	GRANDE VALLEY SINGLE FAMILY, L.L.C.	EXEMPT	EXEMPT		380	284	190	15	15	0	D05005020DA0	
635822	GRANDE VALLEY SINGLE FAMILY, L.L.C.	EXEMPT	EXEMPT		380	284	310	15	15	0	D05005020DA0	
635823	FLICKINGER, DWIGHT,	EXEMPT	EXEMPT		380	284	100	15	15	0	D05005016CB0	
635824	FLICKINGER, DWIGHT,	EXEMPT	EXEMPT		380	284	100	15	15	0	D05005021BB0	
633039	SCHLANKER,B C	EXEMPT	EXEMPT	2/26/1978 12:00:00 AM	335	266	335	5	5	0	D05005017BDB	
635854	DAUGHERTY,F W	EXEMPT	EXEMPT	1/1/1945 12:00:00 AM	400	200	400	34	34	0	D06006008BAC	
639086	STEELE,F L	EXEMPT	EXEMPT	2/12/1962 12:00:00 AM	800	460	0	0	0	0	D06005030AA0	
638705	WHITTEN,G R	EXEMPT	EXEMPT	7/15/1952 12:00:00 AM	600	150	560	30	30	0	D06005004ADA	
639135	POOR JR,A T	EXEMPT	EXEMPT	1/1/1924 12:00:00 AM	82	50	0	30	30	0	D06006031DA0	
633917	MEHRINGER,D E	EXEMPT	EXEMPT	1/1/1940 12:00:00 AM	275	100	275	30	30	0	D06006034DBA	
633918	WHITFIELD,E	EXEMPT	EXEMPT	5/1/1977 12:00:00 AM	575	480	575	20	20	0	D07006001BBB	
635943	VESTAR ARIZONA LIX LLC	EXEMPT	EXEMPT		0	0	0	0	0	0	D06005019DDD	
633547	GRETCHEN SLAUGHTER	EXEMPT	EXEMPT	1/1/1950 12:00:00 AM	220	150	220	15	15	0	D07006004ABA	
638405	SHANNON, GWENDOLYN,	EXEMPT	EXEMPT	1/1/1979 12:00:00 AM	300	87	300	12	12	0	D06005028DAD	
638415	TRIAD ENERGY LLC	EXEMPT	EXEMPT	1/1/1954 12:00:00 AM	700	0	630	30	30	0	D06004026BBB	
633978	KADING,K	EXEMPT	EXEMPT		200	150	200	20	20	0	D06006034DCC	
635179	TREKELL,D D	EXEMPT	EXEMPT	1/1/1945 12:00:00 AM	260	200	260	35	35	0	D06006033BCA	
804456	ANGELA J BOLT	EXEMPT	EXEMPT	1/1/1952 12:00:00 AM	320	80	320	35	0	0	D06006021ACC	

TABLE 1. STUDY AREA ADWR WELL INVENTORY
COPPER MOUNTAIN RANCH DEVELOPMENT

REGISTRY_ID	OWNER_NAME	WELLTYPE	WELL_TYPE_	INSTALLED	WELL_DEPTH	WATER_LEVE	CASING_DEP	PUMPRATE	TESTEDRATE	DRAW_DOWN	CADASTRAL	LOCAL_NAME
804457	NICHOLS, MAX,	EXEMPT	EXEMPT	1/1/1940 12:00:00 AM	70	60	70	35	0	0	D06006036CDD	
800542	HORNE & ASSOCIATES,H	NON-EXEMPT	NON-EXEMPT		200	60	200	200	200	0	D06005011CDD	
803672	MARTINEZ, DANIEL,	EXEMPT	EXEMPT	1/1/1960 12:00:00 AM	300	0	300	35	0	0	D06006027DCC	
800188	BRAKER, IRA LEE,	EXEMPT	EXEMPT	2/26/1977 12:00:00 AM	200	180	200	20	20	0	D06006028BCD	
800595	TREJO,R C	EXEMPT	EXEMPT	.	0	0	0	0	0	0	D06005035AAA	
800617	LEWALLEN,E E	EXEMPT	EXEMPT	1/1/1960 12:00:00 AM	470	0	470	11	11	0	D06004013DDD	
800618	FOOTHILLS WEST INC.	EXEMPT	EXEMPT	1/1/1975 12:00:00 AM	120	80	100	35	35	0	D06006028BDD	
800619	JACOBSON, DEAN,L	NON-EXEMPT	NON-EXEMPT		0	0	0	35	0	0	D06006034DDD	
801424	PUDWELL, MILES,	EXEMPT	EXEMPT		0	0	0	0	35	0	D05006020DAC	
803764	ALEJANDRO, VICTOR SR,	EXEMPT	EXEMPT		400	0	0	35	0	0	D06005032CCD	
803776	HOMMEL, WILLSON,	EXEMPT	EXEMPT		200	145	0	5	0	0	D06006034DBC	
800676	BARNES,D J	EXEMPT	EXEMPT		150	0	150	35	35	0	D06006033CCD	
804199	AZ STATE LAND DEPT,	EXEMPT	EXEMPT		224	0	224	0	0	0	D06006002DDD	
801109	FIRST AM TITLE INS,	NON-EXEMPT	NON-EXEMPT	4/1/1957 12:00:00 AM	1110	300	1110	0	0	0	D05004034CDC	
801487	RENNA,L	EXEMPT	EXEMPT		0	0	0	0	0	0	D05006013DAD	
803037	STURGILL PHILLIP,	NON-EXEMPT	NON-EXEMPT	1/1/1946 12:00:00 AM	160	40	160	1650	0	0	D06005022BDD	
800720	HAROLD EICHELBERGER	NON-EXEMPT	NON-EXEMPT	12/9/1971 12:00:00 AM	288	120	288	90	90	0	D06006034ACD	
804255	DALEY, STEVEN,	EXEMPT	EXEMPT	12/31/1975 12:00:00 AM	350	35	320	0	0	0	D06005036ABA	
805054	WALKER, DON,D	EXEMPT	EXEMPT	.	405	350	375	14	0	0	D05006021000	
800744	GOSWICK ET ALS,M M	EXEMPT	EXEMPT	1/7/1960 12:00:00 AM	230	0	230	35	35	0	D06006012CAD	
801143	J & D INVESTMENTS,	NON-EXEMPT	NON-EXEMPT	1/1/1935 12:00:00 AM	112	38	112	1900	1900	0	D06005027AAA	
801144	J & D INVESTMENTS,	NON-EXEMPT	NON-EXEMPT	1/1/1935 12:00:00 AM	112	38	112	500	500	0	D06005027ACA	
801146	ETHINGTON,A T	EXEMPT	EXEMPT	1/1/1936 12:00:00 AM	100	100	100	35	35	0	D06005025BBB	
803484	ACHTEN, ROBERT,E	EXEMPT	EXEMPT		120	40	200	33	0	0	D06005027DDD	
800822	CHICKASHA COTTON OIL,	NON-EXEMPT	NON-EXEMPT		0	0	0	300	300	0	D05004009CCC	
801235	SERRANO, ANTHONY,	NON-EXEMPT	NON-EXEMPT	1/1/1938 12:00:00 AM	150	60	150	500	500	0	D06005022ACC	
801236	SERRANO, ANTHONY,	NON-EXEMPT	NON-EXEMPT	1/1/1970 12:00:00 AM	131	60	131	600	600	0	D06005022BCD	
801248	STANFIELD ELEMTARY,	NON-EXEMPT	NON-EXEMPT		1000	582	1000	150	0	0	D06004029BBD	
803590	CASA GRANDE/I-10,	EXEMPT	EXEMPT		0	0	0	0	0	0	D06006026ABA	
800870	KOENIG,J	EXEMPT	EXEMPT	1/1/1954 12:00:00 AM	400	300	400	35	35	0	D05006026ABD	
801284	DAVIS,R	NON-EXEMPT	NON-EXEMPT		0	0	0	0	0	0	D06006018BCB	
800897	KOEING,J	EXEMPT	EXEMPT	1/1/1960 12:00:00 AM	510	400	510	35	35	0	D05006026AAC	
801285	DAVIS,R	NON-EXEMPT	NON-EXEMPT		0	0	0	0	0	0	D06005013ADD	
800519	VANDERBILT FARMS, L.L.C.	NON-EXEMPT	NON-EXEMPT		600	250	600	1200	1200	0	D06006005AAA	
801730	VALENCIA,J F	EXEMPT	EXEMPT	1/7/1960 12:00:00 AM	230	0	230	0	0	0	D06006012CAD	
650928	BANKS,F C	EXEMPT	EXEMPT	1/1/1934 12:00:00 AM	400	267	400	12	12	0	D05003025DAA	
905889	JOSEPH GODOY	EXEMPT	EXEMPT		323	0	323	18	18	84	D05004034BDA	
907205	LARRY MORRIS	EXEMPT	EXEMPT	6/13/2007 12:00:00 AM	300	186	300	0	13	62	D05004034BDC	
905013	STEPHEN & WENDY YATES	EXEMPT	EXEMPT	9/15/2006 12:00:00 AM	360	56	360	0	0	0	D06005015CCD	
904165	MARK & MURRIE FICHTNER	EXEMPT	EXEMPT	8/18/2006 12:00:00 AM	272	178	260	0	0	0	D05004034BCC	
908164	JOE AUZA SHEEP CO.	EXEMPT	EXEMPT	11/29/2007 12:00:00 AM	1880	50	180	0	0	0	D06005036ABA	
907820	TERRY COPE	EXEMPT	EXEMPT	9/28/2007 12:00:00 AM	455	317	446	0	0	0	D05006019DAB	
904316	DANIEL BOWEN	EXEMPT	EXEMPT		400	224	400	0	0	0	D06005032ABB	
906179	ARNOLD C. HUSO	EXEMPT	EXEMPT	2/3/2007 12:00:00 AM	243	72	220	0	0	0	D06005009AAA	
906621	TRAVIS SHUMAN	EXEMPT	EXEMPT	3/13/2007 12:00:00 AM	300	184	300	20	18	56	D05004034CDB	
910114	GERALDO CORREA	EXEMPT	EXEMPT	12/31/2008 12:00:00 AM	468	302	450	12	12	8	D05005017BAC	
902218	MATT MORFORD	EXEMPT	EXEMPT		300	190	300	0	0	0	D05004034BDC	
809109	KEVIN & VICKI TETERSON	EXEMPT	EXEMPT	12/31/1970 12:00:00 AM	300	210	5	0	0	0	D05004034BAD	
902710	DANIEL R, & RICHARD C. SWANSON	EXEMPT	EXEMPT		553	428	553	0	0	0	D06005019CCD	
902264	DENNIS & VICKI WIGGS	EXEMPT	EXEMPT	8/15/2005 12:00:00 AM	300	190	300	13	13	90	D05004034BDD	
806496	LEHTO, LARRY ETAL,	EXEMPT	EXEMPT	12/31/1964 12:00:00 AM	565	366	540	35	0	0	D06005030AAB	
900052	MAC HOLMES	EXEMPT	EXEMPT	3/18/2004 12:00:00 AM	132	52	132	10	0	4	D06005035BDA	
900562	WAYNE SIMSER	EXEMPT	EXEMPT		600	504	600	0	0	0	D06004036BDB	
807411	PUZISS, BRIAN,R	EXEMPT	EXEMPT	12/31/1926 12:00:00 AM	0	0	0	0	0	0	D06005033CDD	
808861	RAMIRO MARTINEZ SR	EXEMPT	EXEMPT		500	200	0	0	0	0	D06006028ACD	
809358	LEGENDS PROPERTY LLC	NON-EXEMPT	NON-EXEMPT		0	463	0	0	0	0	D06004024DDD	
806277	NISSAN TECHNICAL CENTER NORTH AMERICA INC	NON-EXEMPT	NON-EXEMPT	12/31/1979 12:00:00 AM	0	0	0	0	0	0	D05004031DDD	
806278	NISSAN TECHNICAL CENTER NORTH AMERICA INC	NON-EXEMPT	NON-EXEMPT	12/31/1979 12:00:00 AM	0	0	0	0	0	0	D05004030DAD	

TABLE 1. STUDY AREA ADWR WELL INVENTORY
COPPER MOUNTAIN RANCH DEVELOPMENT

REGISTRY_ID	OWNER_NAME	WELLTYPE	WELL_TYPE_	INSTALLED	WELL_DEPTH	WATER_LEVE	CASING_DEP	PUMPRATE	TESTEDRATE	DRAW_DOWN	CADASTRAL	LOCAL_NAME
806657	GRANDE VALLEY SINGLE FAMILY, L.L.C.	EXEMPT	EXEMPT	12/31/1950 12:00:00 AM	0	0	0	0	0	0	D05005032CAB	
809404	JUAN MANUEL LOPEZ VALENZUELA	EXEMPT	EXEMPT		0	0	0	0	0	0	D05004034BAC	
901152	ROBERT RICE	EXEMPT	EXEMPT		400	60	400	0	0	0	D06005015CDD	
903002	PAUL CATALDO	EXEMPT	EXEMPT		720	520	720	0	0	0	D06004036CCB	
808502	ROBERT CUMMINS JR	EXEMPT	EXEMPT		0	0	0	0	0	0	D06006019DAC	
901219	PERRY & SAMANTHA EDINGER	EXEMPT	EXEMPT		400	60	400	0	0	0	D06005015CCB	
805961	AZ STATE LAND DEPT,	EXEMPT	EXEMPT		0	0	0	0	0	0	D06004021DDD	
808051	ERNEST E BRADY	EXEMPT	EXEMPT		50	20	0	0	0	0	D06005013CCC	
808508	NATHANIEL SMITH	EXEMPT	EXEMPT	1/1/1950 12:00:00 AM	200	85	0	0	0	0	D06006020CAD	
901234	PERRY EDINGER	EXEMPT	EXEMPT		400	60	400	0	0	0	D06005015CCB	
902617	CYNTHIA KAY HERNANDEZ	EXEMPT	EXEMPT		740	520	740	0	0	0	D06004036CDB	
808071	JOHNATHAN HOUSEHOLDER	EXEMPT	EXEMPT	3/1/1952 12:00:00 AM	300	80	30	0	0	0	D06006008ABB	
808538	BPR FARMS LLC	EXEMPT	EXEMPT	1/1/1960 12:00:00 AM	1000	260	1000	0	0	0	D05006031CCC	
805994	AZ STATE LAND DEPT,	EXEMPT	EXEMPT	12/31/1979 12:00:00 AM	300	0	130	0	0	0	D05004013DAA	
808096		NON-EXEMPT	NON-EXEMPT		0	0	0	0	0	0	D06005032BCD	
913447	VICTOR AND MARY MEEK	EXEMPT	EXEMPT		480	380	480	0	0	0	D05005017DDC	

ATTACHMENT C

DISTRIBUTION PIPE AND SERVICES

PHASE I (YEARS 1-5) WATER MAINS, SERVICES AND FIRE HYDRANTS

YEAR 1

Diameter	LF			
6"	7,600		PRIMARY UNITS	140
8"	5,000		AGE QUALIFIED	460
12"			COMMERCIAL	
16"			RECREATIONAL	4
20"				
24"	3,600			
36"	12,800		FIRE HYDRANTS	25

YEAR 2

Diameter	LF			
6"	7,600		PRIMARY UNITS	140
8"	5,000		AGE QUALIFIED	460
12"			COMMERCIAL	
16"	2,150		RECREATIONAL	
20"				
24"				
36"			FIRE HYDRANTS	25

YEAR 3

Diameter	LF			
6"	7,600		PRIMARY UNITS	140
8"	5,000		AGE QUALIFIED	460
12"	4,500		COMMERCIAL	5
16"	2,150		RECREATIONAL	
20"	3,500			
24"				
36"			FIRE HYDRANTS	25

YEAR 4

Diameter	LF			
6"	7,600		PRIMARY UNITS	140
8"	5,000		AGE QUALIFIED	460
12"	2,800		COMMERCIAL	
16"	2,150		RECREATIONAL	
20"				
24"				
36"			FIRE HYDRANTS	25

YEAR 5

Diameter	LF			
6"	7,600		PRIMARY UNITS	140
8"	5,000		AGE QUALIFIED	460
12"			COMMERCIAL	5
16"	2,150		RECREATIONAL	
20"				
24"				
36"			FIRE HYDRANTS	25

BUILD-OUT (YEARS 6-15) WATER MAINS, SERVICES AND FIRE HYDRANTS

Diameter	LF			
6"	170,259		PRIMARY UNITS	5129
8"	113,506		MULTI FAMILY UNITS	534
12"	12,876		AGE QUALIFIED UNITS	4033
16"	78,505		CUSTOM LOTS	292
20"			COMMERCIAL	15
24"			SCHOOL	1
36"				
			FIRE HYDRANTS	570

NOTE:

Lengths of 6" and 8" distribution main were calculated by using an average of distribution pipe per acre from similar developments. The ratio of 6" to 8" pipe is 60% to 40% respectively.

Fire hydrant calculation is based on one hydrant per 500 feet of distribution piping.

EXHIBIT 6

WestLand Resources, Inc.
Engineering and Environmental Consultants

PRELIMINARY FOR CLIENT REVIEW
OPINION OF PROBABLE CONSTRUCTION COST

Project Name: Copper Mountain Ranch Development
Project No. 247.07
Location:
Description: Phase 1 Year 1 Revised

Prepared by: Craig Cannizzaro 9/10/12
Checked by:
Client:

Item No.	Item Description	Unit	Quantity	Unit Price	Amount	Remarks
1	Furnish and install 6-inch DIP Pipe including appurtenances.	LF	7,600	$55	$418,000	Piping cost assumes available right of way and does not include any property acquisition. Valves are included within cost and contingency.
2	Furnish and install 8-inch Pipe DIP including appurtenances.	LF	5,000	$75	$375,000	Piping cost assumes available right of way and does not include any property acquisition. Valves are included within cost and contingency.
3	Furnish and install 24-inch DIP Pipe including appurtenances.	LF	3,600	$200	$720,000	Piping cost assumes available right of way and does not include any property acquisition. Valves are included within cost and contingency.
4	Furnish and install 36-inch DIP Pipe including appurtenances.	LF	12,800	$275	$3,520,000	Piping cost assumes available right of way and does not include any property acquisition. Valves are included within cost and contingency.
5	Furnish and install well sites 1,250 gpm.	EA	1	$1,500,000	$1,500,000	Wells are assumed to be between 800-1,200' below land surface. Includes drilling, equipping, site work, electrical and controls.
6	2,500 gpm Booster Station	GPM	2,900	$400	$1,160,000	
7	¾-inch Services	EA	600	$1,200	$720,000	
8	Fire Hydrants	EA	25	$6,500	$162,500	
9	2-inch Services	EA	4	$3,000	$12,000	
10	Arsenic WTP	GPM	1250	1,750	$2,187,500	Assumes treatment for the first well put online (1,250 gpm). Cost includes coagulation-filtration type treatment.
	Subtotal				$10,775,000	
	20% Contingency				$2,155.00	
	Total				**$12,930.000**	

Notes: Costs are based on current construction cost and must be adjusted to match industry fluctuations

WestLand Resources, Inc.
Engineering and Environmental Consultants

PRELIMINARY FOR CLIENT REVIEW
OPINION OF PROBABLE CONSTRUCTION COST

Project Name: Copper Mountain Ranch Development
Project No. 247.07
Location:
Description: Phase 1 Year 2 Revised

Prepared by: Craig Cannizzaro 9/10/12
Checked by:
Client:

Item No.	Item Description	Unit	Quantity	Unit Price	Amount	Remarks
1	Furnish and install 6-inch DIP Pipe including appurtenances.	LF	7,600	$55	$418,000	Piping cost assumes available right of way and does not include any property acquisition. Valves are included within cost and contingency.
2	Furnish and install 8-inch Pipe DIP including appurtenances.	LF	5,000	$75	$375,000	Piping cost assumes available right of way and does not include any property acquisition. Valves are included within cost and contingency.
3	Furnish and install 16-inch DIP Pipe including appurtenances.	LF	2,150	$120	$258,000	Piping cost assumes available right of way and does not include any property acquisition. Valves are included within cost and contingency.
4	Booster Station	GPM	300	$400	$120,000	
5	¾-inch Services	EA	600	$1,200	$720,000	
6	Fire Hydrants	EA	25	$6,500	$162,500	
	Subtotal				$2,053,500	
	20% Contingency				$410,700	
	Total				**2,464,200**	

Notes: Costs are based on current construction cost and must be adjusted to match industry fluctuations

WestLand Resources, Inc.
Engineering and Environmental Consultants

PRELIMINARY FOR CLIENT REVIEW
OPINION OF PROBABLE CONSTRUCTION COST

Project Name: Copper Mountain Ranch Development
Project No. 247.07
Location:
Description: Phase 1 Year 3 Revised

Prepared by: Craig Cannizzaro 9/10/12
Checked by:
Client:

Item No.	Item Description	Unit	Quantity	Unit Price	Amount	Remarks
1	Furnish and install 6-inch DIP Pipe including appurtenances.	LF	7,600	$55	$418,000	Piping cost assumes available right of way and does not include any property acquisition. Valves are included within cost and contingency.
3	Furnish and install 8-inch Pipe DIP including appurtenances.	LF	5,000	$75	$375,000	Piping cost assumes available right of way and does not include any property acquisition. Valves are included within cost and contingency.
3	Furnish and install 12-inch DIP Pipe including appurtenances.	LF	4,500	$100	$450,000	Piping cost assumes available right of way and does not include any property acquisition. Valves are included within cost and contingency.
4	Furnish and install 16-inch DIP Pipe including appurtenances.	LF	$2,150	$120	$258,000	Piping cost assumes available right of way and does not include any property acquisition. Valves are included within cost and contingency.
5	¾-inch Services	EA	600	$1,200	$720,000	
6	Fire Hydrants	EA	25	$6,500	$162,500	
	Booster Station	gpm	400	$400	$160,000	
	Subtotal				$3,103,500	
	20% Contingency				$620,700	
	Total				**$3,724,200**	

Notes: Costs are based on current construction cost and must be adjusted to match industry fluctuations

WestLand Resources, Inc.
Engineering and Environmental Consultants

PRELIMINARY FOR CLIENT REVIEW
OPINION OF PROBABLE CONSTRUCTION COST

Project Name: Copper Mountain Ranch Development
Project No. 247.07
Location:
Description: Phase 1 Year 4 Revised

Prepared by: Craig Cannizzaro 9/10/12
Checked by:
Client:

Item No.	Item Description	Unit	Quantity	Unit Price	Amount	Remarks
1	Furnish and install 6-inch DIP Pipe including appurtenances.	LF	7,600	$55	$418,000	Piping cost assumes available right of way and does not include any property acquisition. Valves are included within cost and contingency.
2	Furnish and install 8-inch DIP Pipe including appurtenances.	LF	5,000	$75	$375,000	Piping cost assumes available right of way and does not include any property acquisition. Valves are included within cost and contingency.
3	Furnish and install 12-inch Pipe DIP including appurtenances.	LF	2,800	$100	$280,000	Piping cost assumes available right of way and does not include any property acquisition. Valves are included within cost and contingency.
4	Furnish and install 16-inch DIP Pipe including appurtenances.	LF	2,150	$120	$258,000	Piping cost assumes available right of way and does not include any property acquisition. Valves are included within cost and contingency.
5	Well sites 1,250 gpm	LS	1	$1,500,000	$1,500,000	
6	Booster Station	GPM	400	$400	$160,000	
7	¾-inch Services	EA	600	$1,200	$720,000	
8	Fire Hydrants	EA	25	$6,500	$162,500	
9	Arsenic WTP	GPM	1,250	$1,250	$1,562,500	Assumes treatment for the second well put online (1,250 gpm). Cost includes coagulation-filtration type treatment.
	Subtotal				$5,436,000	
	20% Contingency				$1,087,200	
	Total				**$6,523,200**	

Notes: Costs are based on current construction cost and must be adjusted to match industry fluctuations

PRELIMINARY FOR CLIENT REVIEW
OPINION OF PROBABLE CONSTRUCTION COST

Project Name: Copper Mountain Ranch Development
Project No. 247.07
Location:
Description: Phase 1 Year 5 Revised

Prepared by: Craig Cannizzaro 9/10/12
Checked by:
Client:

Item No.	Item Description	Unit	Quantity	Unit Price	Amount	Remarks
1	Furnish and install 6-inch DIP Pipe including appurtenances.	LF	7,600	$55	$418,000	Piping cost assumes available right of way and does not include any property acquisition. Valves are included within cost and contingency.
2	Furnish and install 8-inch DIP Pipe including appurtenances.	LF	5,000	$75	$375,000	Piping cost assumes available right of way and does not include any property acquisition. Valves are included within cost and contingency.
3	Furnish and install 16-inch Pipe DIP including appurtenances.	LF	2,150	$120	$258,000	Piping cost assumes available right of way and does not include any property acquisition. Valves are included within cost and contingency.
4	300 gpm Booster Station upgrade	Gpm	300	$400	$120,000	
5	¾-inch Services	EA	600	$1,200	$720,000	
6	Fire Hydrants	EA	25	$6,500	$162,500	
7	2-inch Services	EA	5	$3,000	$15,000	
	Subtotal				$2,068,500	
	20% Contingency				$413,700	
	Total				**$2,482,200**	

Notes: Costs are based on current construction cost and must be adjusted to match industry fluctuations

PRELIMINARY FOR CLIENT REVIEW
OPINION OF PROBABLE CONSTRUCTION COST

Project Name: Copper Mountain Ranch Development
Project No. 247.07
Location:
Description: Build-Out Years 6-15 Revised

Prepared by: Craig Cannizzaro 9/10/12
Checked by:
Client:

Item No.	Item Description	Unit	Quantity	Unit Price	Amount	Remarks
1	Furnish and install 6-inch DIP Pipe including appurtenances.	LF	170,259	$55	$9,364,245	Piping cost assumes available right of way and does not include any property acquisition. Valves are included within cost and contingency.
2	Furnish and install 8-inch Pipe DIP including appurtenances.	LF	113,506	$75	$8,512,950	Piping cost assumes available right of way and does not include any property acquisition. Valves are included within cost and contingency.
3	Furnish and install 12-inch DIP Pipe including appurtenances.	LF	6,910	$100	$691,000	Piping cost assumes available right of way and does not include any property acquisition. Valves are included within cost and contingency.
4	Furnish and install 16-inch DIP Pipe including appurtenances.	LF	76,950	$120	$9,234,000	Piping cost assumes available right of way and does not include any property acquisition. Valves are included within cost and contingency.
5	Furnish and Install Welded Steel Storage Reservoir	MG	5.4	$1.00	$5,400,000	Reservoirs will be built in phases and sized approriately
6	Furnish and install well sites 1,250 gpm.	EA	4	$1,500,000	$6,000,000	Wells are assumed to be between 800-1,200' below land surface. Includes drilling, equipping, site work, electrical and controls.
7	6,000 gpm Booster Station Capacity	GPM	6,000	$400	$2,400,000	Assumes booster station capacity needed for all zones and FF to be supplied in the Reservoirs
8	¾-inch Services	EA	9988	$1,200	$11,985,600	
9	Fire Hydrants	EA	570	$6,500	$3,705,000	
10	2-inch Services	EA	16	$3,000	$48,000	
11	Arsenic WTP	GPM	5,000	1,750	$6,250,000	Assumes the remainder of the water from the wells at peak day demand (5,000 gpm) needs to be treated. Cost includes coagulation-filtration type treatment.

PRELIMINARY FOR CLIENT REVIEW

OPINION OF PROBABLE CONSTRUCTION COST

Item No.	Item Description	Unit	Quantity	Unit Price	Amount	Remarks
	Subtotal				$63,590,795	
	20% Contingency				$12,718,159	
	Total				**$76,308,954**	

Notes: Costs are based on current construction cost and must be adjusted to match industry fluctuations

EXHIBIT 7

ARIZONA WATER COMPANY
Docket No. W-01445A-12-XXXX
Balance Sheet at December 31, 2011

ASSETS	This Year
UTILITY PLANT:	
Plant in service	$ 405,990,002
Construction work in progress	2,796,573
Total	408,786,575
Accumulated depreciation and amortization	(104,225,823)
Utility plant-net	304,560,752
CURRENT AND ACCRUED ASSETS:	
Cash	11,899,209
Investments and Special Deposits	2,703
Accounts receivable:	
Customers	3,239,190
Other	160,129
Allowance for doubtful accounts	(28,423)
Materials and supplies	298,828
Prepaid expenses	597,664
Total current and accrued assets	16,169,300
DEFERRED DEBITS:	
Deferred debt expense	75,228
Other	7,237,696
Total deferred debits	7,312,924
TOTAL	$ 328,042,976

LIABILITIES	This Year
STOCKHOLDERS' EQUITY:	
Common stock-stated value $10 per share; 500,000 shares authorized, 270,000 shares outstanding	$ 2,700,000
Capital surplus	19,309,347
Retained earnings	56,211,846
Total stockholders' equity	78,221,193
LONG-TERM DEBT:	
Mortgage bonds and other	75,000,000
CURRENT AND ACCRUED LIABILITIES:	
Accounts payable	6,148,895
Customer service deposits	849,437
Accrued taxes	497,119
Accrued interest	1,735,917
Total current and accrued liabilities	9,231,368
DEFERRED CREDITS AND RESERVES:	
Refundable advances for construction	76,041,295
Deferred income tax	29,186,404
Other	5,209,515
Total deferred credits and reserves	110,437,214
CONTRIBUTIONS IN AID OF CONSTRUCTION-NET	55,153,201
TOTAL	$ 328,042,976

ARIZONA WATER COMPANY
Docket No. W-01445A-12-XXXX
Income Statement - Twelve Months Ended December 31, 2011

OPERATING REVENUE	$ 55,869,593
OPERATING EXPENSES:	
Operations	22,262,513
Maintenance	3,673,943
Provision for depreciation and amortization	8,913,571
Taxes:	
Federal and State income	3,701,397
Property	2,112,526
Other	5,807,144
Total operating expenses	46,471,094
OPERATING INCOME	9,968,557
OTHER INCOME & DEDUCTIONS-NET	259,254
INCOME BEFORE INTEREST EXPENSE	10,227,811
INTEREST EXPENSE:	
Mortgage bonds	5,115,500
Bank loans	3,748
Parent Company	0
Other	(376,064)
Amortization of debt expense	3,114
Total interest expense	4,746,298
NET INCOME	4,911,455

ARIZONA WATER COMPANY
Docket No. W-01445A-12-XXXX
Estimated Revenue, Expenses and Utility Plant in Service
Including Copper Mountain CCN Extension

	Year 1	Year 2	Year 3	Year 4	Year 5
OPERATING REVENUE	$ 56,040,000	$ 56,357,000	$ 56,718,000	$ 57,002,000	$ 57,202,000
OPERATING EXPENSES:					
Operations and Maintenance	26,009,000	26,125,000	26,266,000	26,370,000	26,441,000
Provision for depreciation and amortization	9,086,000	9,285,000	9,345,000	9,466,000	9,579,000
Taxes:					
Federal and State income	3,701,000	3,701,000	3,701,000	3,701,000	3,701,000
Property	2,116,000	2,124,000	2,138,000	2,154,000	2,168,000
Other	5,825,000	5,858,000	5,895,000	5,924,000	5,945,000
Total operating expenses	46,737,000	47,093,000	47,345,000	47,615,000	47,834,000
UTILITY PLANT IN SERVICE					
Plant in Service	$ 418,920,000	$ 421,384,000	$ 424,548,000	$ 431,071,000	$ 433,553,000

EXHIBIT 8

ARIZONA WATER COMPANY

WATER RATES - GENERAL SERVICE

Filed by: William M. Garfield
Title: President
Date of Original Filing: April 1, 1955
System(s): **PINAL VALLEY (INCLUDES CASA GRANDE, COOLIDGE, STANFIELD)**

A.C.C. No. 517
Cancelling A.C.C. No. 501; 502
Tariff or Schedule No. WG-284
Filed: May 3, 2012
Effective: May 1, 2012

AVAILABILITY: In Casa Grande, Coolidge, Stanfield and environs at all points where facilities of adequate capacity and pressure are adjacent to the premises served.

APPLICATION: To all water service required when such service is supplied at one premise through one point of delivery and measured through one meter. Not applicable to temporary, standby, or supplementary service.

RESIDENTIAL:

Meter Size	Minimum Charge	Commodity Rate per 1,000 Gallons Consumed					
⅝" x ¾"	$16.00	0 - 3,000 gallons -	$1.1879;	3,001 - 10,000 gallons -	$2.1026;	gallons over 10,000 -	$3.2590
1"	$40.00	0 - 25,000 gallons -	$2.1026;	gallons over 25,000 -	$3.2590		
1½"	$80.00	0 - 55,000 gallons -	$2.1026;	gallons over 55,000 -	$3.2590		
2"	$128.00	0 - 95,000 gallons -	$2.1026;	gallons over 95,000 -	$3.2590		
3"	$256.00	0 - 195,000 gallons -	$2.1026;	gallons over 195,000 -	$3.2590		
4"	$400.00	0 - 315,000 gallons -	$2.1026;	gallons over 315,000 -	$3.2590		
6"	$800.00	0 - 650,000 gallons -	$2.1026;	gallons over 650,000 -	$3.2590		
8"	$1,280.00	0 - 1,000,000 gallons -	$2.1026;	gallons over 1,000,000 -	$3.2590		
10"	$1,840.00	0 - 1,475,000 gallons -	$2.1026;	gallons over 1,475,000 -	$3.2590		

COMMERCIAL:

Meter Size	Minimum Charge	Commodity Rate per 1,000 Gallons Consumed			
⅝" x ¾"	$16.00	0 - 10,000 gallons -	$2.1026;	gallons over 10,000 -	$3.2590
1"	$40.00	0 - 25,000 gallons -	$2.1026;	gallons over 25,000 -	$3.2590
1½"	$80.00	0 - 55,000 gallons -	$2.1026;	gallons over 55,000 -	$3.2590
2"	$128.00	0 - 95,000 gallons -	$2.1026;	gallons over 95,000 -	$3.2590
3"	$256.00	0 - 195,000 gallons -	$2.1026;	gallons over 195,000 -	$3.2590
4"	$400.00	0 - 315,000 gallons -	$2.1026;	gallons over 315,000 -	$3.2590
6"	$800.00	0 - 650,000 gallons -	$2.1026;	gallons over 650,000 -	$3.2590
8"	$1,280.00	0 - 1,000,000 gallons -	$2.1026;	gallons over 1,000,000 -	$3.2590
10"	$1,840.00	0 - 1,475,000 gallons -	$2.1026;	gallons over 1,475,000 -	$3.2590

INDUSTRIAL:

Meter Size	Minimum Charge	Commodity Rate per 1,000 Gallons Consumed			
⅝" x ¾"	$16.00	0 - 10,000 gallons -	$1.5500;	gallons over 10,000 -	$2.4800
1"	$40.00	0 - 25,000 gallons -	$1.5500;	gallons over 25,000 -	$2.4800
1½"	$80.00	0 - 55,000 gallons -	$1.5500;	gallons over 55,000 -	$2.4800
2"	$128.00	0 - 95,000 gallons -	$1.5500;	gallons over 95,000 -	$2.4800
3"	$256.00	0 - 195,000 gallons -	$1.5500;	gallons over 195,000 -	$2.4800
4"	$400.00	0 - 315,000 gallons -	$1.5500;	gallons over 315,000 -	$2.4800
6"	$800.00	all gallons -	$1.5500		
8"	$1,280.00	all gallons -	$1.5500		
10"	$1,840.00	all gallons -	$1.5500		

CONSTRUCTION:

Meter Size	Minimum Charge	Commodity Rate per 1,000 Gallons Consumed			
2"	$128.00	0 - 95,000 gallons -	$2.1026;	gallons over 95,000 -	$3.2590
3"	$256.00	0 - 195,000 gallons -	$2.1026;	gallons over 195,000 -	$3.2590
4"	$400.00	0 - 315,000 gallons -	$2.1026;	gallons over 315,000 -	$3.2590

SALES FOR RESALE:

Meter Size	Minimum Charge	Commodity Rate per 1,000 Gallons Consumed	
⅝" x ¾"	$16.00	all gallons -	$1.5500
1"	$40.00	all gallons -	$1.5500
1½"	$80.00	all gallons -	$1.5500
2"	$128.00	all gallons -	$1.5500
3"	$256.00	all gallons -	$1.5500
4"	$400.00	all gallons -	$1.5500
6"	$800.00	all gallons -	$1.5500
8"	$1,280.00	all gallons -	$1.5500
10"	$1,840.00	all gallons -	$1.5500

ADJUSTMENT: Plus the applicable proportionate part of any taxes or governmental impositions which are or may in the future be assessed on the basis of the gross revenues of the Company and/or the price or revenue from the water or service sold and/or the volume of water pumped or purchased for sale and/or sold hereunder and any tax or similar assessment based on the withdrawal, delivery or use of water. In the event of any increase or decrease in taxes or other governmental impositions, rates shall be adjusted to reflect such increase or decrease.

SPECIAL PROVISIONS: Subject to the Company's Tariff Schedule SC-265.

TERMS AND CONDITIONS: Subject to the Company's Tariff Schedule TC-243.

Proposed

EXHIBIT 9

ARIZONA WATER COMPANY

TARIFF SCHEDULE - SERVICE CHARGES

Filed by: William M. Garfield
Title: President
Date of Original Filing: April 27, 1983
System(s): **WESTERN GROUP (INCLUDES PINAL VALLEY, WHITE TANK, AJO)**

A.C.C. No. 522
Cancelling A.C.C. No. 507
Tariff or Schedule No. SC-265
Filed: May 3, 2012
Effective: May 1, 2012

AVAILABILITY: In the Pinal Valley (Casa Grande, Coolidge, Stanfield), White Tank and Ajo systems where the Company provides general water utility services.

1. *ESTABLISHMENT* - $32.00, each time an account is established for all customers in the above systems.
2. *GUARANTEE DEPOSIT* - Residential maximum: Two (2) times average customer class bill. Non-Residential maximum: Two and one-half (2 ½) times that customer's estimated maximum monthly bill.
3. *RECONNECTION FOR DELINQUENCY* - $32.00, each time customer is disconnected.
4. *RE-ESTABLISHMENT* - Eight (8) times the customer's monthly miniumum charge, or payment of the minimums since disconnection, whichever is less.
5. *AFTER HOURS SERVICE CHARGE* - $35.00, each service call-out after regular working hours, on Saturdays, Sundays, or holidays.
6. *RETURNED PAYMENT* - $25.00, each returned payment.
7. *METER RE-READ* - $25.00, each re-read.
8. *METER TEST* - No charge for the first test; for the second test for the same customer within any twelve (12) month period, $25.00, or actual time and material, whichever is greater.
9. *SERVICE LINE AND METER INSTALLATION* -

Meter Size	Service Line[1]	Meter	Total[1]
5/8-inch	$ 445.00	$ 155.00	$ 600.00
1-inch	495.00	315.00	810.00
2" turbine	830.00	1,045.00	1,875.00
2" compound	830.00	1,890.00	2,720.00
3" turbine	Actual Cost	Actual Cost	Actual Cost
3" compound	Actual Cost	Actual Cost	Actual Cost
4" turbine	Actual Cost	Actual Cost	Actual Cost
4" compound	Actual Cost	Actual Cost	Actual Cost
6" turbine	Actual Cost	Actual Cost	Actual Cost
6" compound	Actual Cost	Actual Cost	Actual Cost
8" turbine	Actual Cost	Actual Cost	Actual Cost
8" compound	Actual Cost	Actual Cost	Actual Cost
10" turbine	Actual Cost	Actual Cost	Actual Cost
10" compound	Actual Cost	Actual Cost	Actual Cost

[1]Actual cost of service line if boring under roadway is required.

10. *LATE CHARGE* - 1.5 percent after 15 days.

ADJUSTMENT: Plus the applicable proportionate part of any taxes or governmental impositions which are or may in the future be assessed on the basis of the gross revenues of the Company and/or the price or revenue from the water or service sold and/or the volumne of water pumped or purchased for sale and/or sold hereunder and any tax or similar assessment based on the withdrawal, delivery or use of water. In the event of any increase or decrease in taxes or other governmental impositions, rates shall be adjusted to reflect such increase or decrease.

TERMS AND CONDITIONS: Subject to the Company's Tariff Schedule TC-243.

Pending ACC Approval

ARIZONA WATER COMPANY

WATER RATES - PRIVATE FIRE SERVICE

Filed by: William M. Garfield
Title: President
Date of Original Filing: April 1, 1955
System(s): **ALL SERVICE AREAS LISTED BELOW**

A.C.C. No. 521
Cancelling A.C.C. No. 508
Tariff or Schedule No. PF-242
Filed: May 3, 2012
Effective: May 1, 2012

AVAILABILITY: In all cities, towns and unincorporated areas in which the Company provides general water utility services where facilities of adequate capacity and pressure are adjacent to the premises to be served.

APPLICATION: To all water service furnished for the specific purpose of providing private fire service. No water may be taken through private fire service systems for any purpose other than for the extinguishment of fires.

MONTHLY RATE:

System	All Meter Connection Sizes
Superstition (Includes Apache Junction, Superior, Miami)	$ 26.24
Bisbee	$ 23.85
Sierra Vista	$ 23.85
San Manuel	$ 23.91
Oracle	$ 23.61
Winkelman	$ 22.83
Pinal Valley (Includes Casa Grande, Coolidge, Stanfield)	$ 25.00
White Tank	$ 25.00
Ajo	$ 25.00
Navajo (Includes Lakeside, Overgaard)	$ 22.58
Sedona	$ 25.89
Verde Valley (Includes Pinewood, Rimrock)	$ 25.89

ADJUSTMENT: Plus the applicable proportionate part of any taxes or governmental impositions which are or may in the future be assessed on the basis of the gross revenues of the Company and/or the price or revenue from the water or service sold and/or the volumne of water pumped or purchased for sale and/or sold hereunder and any tax or similar assessment based on the withdrawal, delivery or use of water. In the event of any increase or decrease in taxes or other governmental impositions, rates shall be adjusted to reflect such increase or decrease.

SPECIAL PROVISIONS:

1. The Customer will pay, without refund, the entire cost of the private fire service.
2. The private fire service shall be installed by the Company or under the Company's direction and shall be the sole property and subject to the control of the Company, with the right to alter, repair, replace and remove upon discontinuance of service.
3. The minimum diameter for private fire service will be four (4) inches. The maximum diameter shall not be larger than the diameter of the water main to which the fire protection service is attached unless said main is circulating, in which case with the approval of the Company the maximum diameter may be larger than the diameter of said circulating main.
4. If a water main of adequate size is not available adjacent to the premises to be served, then a new main from the nearest existing main of adequate size will be installed by the Company at the cost of the customer. Such cost shall not be subject to refund.
5. The private fire service facilities will include a detector check valve, backflow prevention device, or other similar device acceptable to the Company which will indicate the use of water. The facilities may be located within the customer's premises or within public right-of-way adjacent thereto. Where located within the premises, the Company and its duly authorized agents shall have the right of ingress to and egress from the premises for all purposes related to said facilities.
6. The customer must notify the Company within 48 hours of private fire service activation, resulting in the use of water in any amount.
7. No structure shall be built over the private fire service and the customer shall maintain and safeguard the area occupied by the service from traffic and other hazardous conditions. The customer will be responsible for any damage to the private fire service facilities whether resulting from the use or operation of appliances and facilities on customer's premises or otherwise.
8. Subject to the approval of the Company, any change in the location or construction of the private fire service as may be requested by public authority or the customer will be made by the Company following payment to the Company of the entire cost of such change.
9. The customer's installation must be such as to separate effectively the private fire service from that of the customer's regular domestic water service. Any unauthorized use of water through the private fire service will be charged for at the applicable tariff rates and may be grounds for the Company's discontinuing private fire service without liability.
10. There shall be no cross connection between the systems supplied by water through the Company's private fire service and any other source of supply without the specific approval of the Company. The specific approval, if given, will at least require, at the customer's expense, a special double check valve installation or other device acceptable to the Company. Any unauthorized cross connection may be grounds for immediately discontinuing private fire service without liability.
11. The Company will supply only such water at such pressures as may be available from time to time as a result of the normal operation of its water system. The Company does not guarantee a specific water pressure or gallons-per-minute flow rate at any of the private fire service facilities installed. In the event service is interrupted or irregular or defective or fails from causes beyond the Company's control or through ordinary negligence of its employees, servants or agents, the Company will not be liable for any injuries or damages arising therefrom.
12. The customer shall make no claim against the Company for any loss or damage resulting from services provided under this schedule except for the Company's gross negligence.

TERMS AND CONDITIONS: Subject to the Company's Tariff Schedule TC-243

Interim ACC Approval

ARIZONA WATER COMPANY

TARIFF SCHEDULE – CENTRAL ARIZONA PROJECT M&I FEE

Filed by: William M. Garfield
Title: President
Date of Original Filing: November, 30, 2005
System(s): **PINAL VALLEY (CASA GRANDE)**

A.C.C. No. 524
Cancelling A.C.C. No. 479
Tariff or Schedule No. HU-279
Filed: May 3, 2012
Effective: May 1, 2012

I. PURPOSE AND APPLICABILITY

The purpose of the Central Arizona Project ("CAP") M&I Fee ("CAP M&I Fee") payable to **Arizona Water Company** ("the Company") pursuant to this tariff is to equitably apportion the costs of CAP water. These charges are applicable to all new service connections established after the effective date of the tariff. The charges are one-time charges and are payable as a condition to the Company's establishment of service, as more particularly provided below.

II. DEFINITIONS

Unless the context otherwise requires, the definitions set forth in R-14-2-401 of the Arizona Corporation Commission's ("Commission") rules and regulations governing water utilities shall apply in interpreting this tariff schedule.

"Applicant" means any party entering into an agreement with the Company for the installation of water facilities to serve new service connections.

"CAP costs" means Commission allowed on-going and deferred costs known as Municipal and Industrial ("M&I") capital charges incurred by the Company with regard to its CAP water allocations. These costs shall include allowance for funds used during construction which rate shall be the Company's annual cost of debt.

"Company" means Arizona Water Company, an Arizona corporation.

"Main Extension Agreement" means any agreement whereby an applicant agrees to advance the costs of the installation of water facilities to the Company to serve new service connections, or install water facilities to serve new service connections and transfer ownership of such water facilities to the Company, which agreement shall require the approval of the Commission's Utilities Division (same as line extension agreement).

"Service Connection" means and includes all service connections for residential, commercial, industrial, or other uses, regardless of meter size except for temporary services and separate fire protection services.

Pending Final Action

III. CAP M&I FEE CHARGES

Each new service connection shall pay the CAP M&I Fee derived from the following table:

I. Meter Size	II. Fee
5/8" x 3/4"	$208
3/4"	$208
1"	$208
1-1/2"	$733
2"	$1,173
3"	$2,347
4"	$3,667
6" or larger	$7,333

IV. TERMS AND CONDITIONS

(A) Assessment of One Time CAP M&I Fee: The CAP M&I Fee may be assessed only once per service connection, or lot within a platted subdivision (similar to service line and meter installation charges). However, this provision does not exempt from the CAP M&I Fee, any newly created parcel(s) which are the result of further subdivision of a lot or land parcel and which do not have a service connection.

(B) Use of CAP M&I Fee: CAP M&I Fees may only be used to pay for CAP costs as defined herein. CAP M&I Fees shall not be used for expenses, maintenance, or operational purposes.

(C) Time of Payment:

(1) In the event that the Applicant is required to enter into a main extension agreement, whereby the Applicant agrees to advance the costs of installing mains to which new direct service connections will be made, valves, fittings, hydrants and other on-site improvements in order to extend service in accordance with R-14-2-406(B), payment of the charges required hereunder for those service connections shall be made by the Applicant within 15 calendar days after receipt of notification from the Company that the Utilities Division of the Commission has approved the main extension agreement in accordance with R-14-2-406(M).

(2) In the event the Applicant is not required to enter into a main extension agreement, the charges hereunder shall be due and payable at the time the service is initially established.

(D) Failure to Pay Charges, Delinquent Payments: Under no circumstances will the Company set a meter or otherwise allow service to be established if the Applicant has not paid in full all charges as provided by this CAP M&I Fee tariff.

(E) CAP M&I Fee Non-refundable: The amounts collected by the Company pursuant to this CAP M&I Fee Tariff shall be non-refundable.

(F) Use of Charges Received: All funds collected by the Company as CAP M&I Fees shall be used solely for the purpose of paying for CAP costs as defined herein.

(G) CAP M&I Fee in Addition to Other Charges: The CAP M&I Fee shall be in addition to any costs associated with a main extension agreement for on-site facilities, and are in addition to the amounts to be advanced pursuant to charges authorized under other sections of this tariff.

(H) Termination of CAP M&I Fee: The CAP M&I Fee shall be terminated when all CAP costs (as defined herein) have been collected or when ordered by the Commission, whichever occurs first.

I. Purpose and Applicability

The purpose of the off-site facilities fees payable to Arizona Water Company ("the Company") pursuant to this tariff is to equitably apportion the costs of constructing additional off-site facilities necessary to provide water production, treatment, delivery, storage and pressure among all new service connections. These charges are applicable to all new service connections established after the effective date of this tariff undertaken via Main Extension Agreements or requests for service not requiring a Main Extension Agreement. The charges are one-time charges and are payable as a condition to Company's establishment of service, as more particularly provided below.

II. Definitions

Unless the context otherwise requires, the definitions set forth in R-14-2-401 of the Arizona Corporation Commission's ("Commission") rules and regulations governing water utilities shall apply in interpreting this tariff schedule.

"Applicant" means any party entering into an agreement with Company for the installation of water facilities to serve new service connections, including Developers and/or Builders of new residential subdivisions and/or commercial and industrial properties.

"CAP Water" means water from the Central Arizona Project provided directly or indirectly to the Company.

"Company" means Arizona Water Company.

"Main Extension Agreement" means any agreement whereby an Applicant agrees to advance the costs of the installation of water facilities necessary for the Company to serve new service connections within a development, or installs such water facilities necessary to serve new service connections and transfer ownership of such water facilities to the Company, which agreement shall require the approval of the Commission pursuant to A.A.C. R-14-2-406, and shall have the same meaning as "Water Facilities Agreement" or "Line Extension Agreement."

"Off-site Facilities" means water treatment facilities, including treatment of CAP Water and other available water supplies, storage tanks and related appurtenances and equipment necessary for proper operation of such water treatment facilities, including engineering and design costs. Off-site facilities may also include booster pumps, wells for recovery of stored CAP water or other groundwater supplies, pressure tanks, transmission mains and related appurtenances and equipment necessary for proper operation of such facilities if these facilities are not for the exclusive use of the applicant and will benefit the entire water system.

"Service Connection" means and includes all service connections for single-family residential or commercial, industrial other uses, regardless of meter size.

III. Off-Site Water Facilities Fee

For each new service connection, the Company shall collect an off-site facilities fee derived from the following table:

OFF-SITE FACILITIES FEE TABLE		
Meter Size	**Size Factor**	**Total Fee**
5/8" x 3/4 "	1	$3,500
3/4"	1.5	$5,250
1"	2.5	$8,750
1-1/2 "	5	$17,500
2"	8	$28,000
3"	16	$56,000
4"	25	$87,500
6" or larger	50	$175,000

IV. Terms and Conditions

(A) Assessment of One Time Off-Site Facilities Fee: The off-site facilities fee may be assessed only once per parcel, service connection, or lot within a subdivision (similar to meter and service line installation charge). These charges are not applicable to additional service connections that are established as back-up connections, under the condition that these service connections are not to be used at the same time.

(B) Use of Off-Site Facilities Fee: Off-site facilities fees may only be used to pay for capital items of off-site facilities or for repayment of loans obtained to fund the cost of installation of off-site facilities. Off-site facilities fees shall not be used to cover repairs, maintenance, or operational costs. The Company shall record amounts collected under tariff as Contributions in Aid of Construction ("CIAC"); however, such amounts shall not be deducted from rate base until such amounts have been expended for utility plant.

(C) Time of Payment:

1) For those requiring a Main Extension Agreement: In the event that the Applicant is required to enter into a Main Extension Agreement, whereby the Applicant agrees to advance the costs of installing mains, valves, fittings, hydrants and other on-site improvements or construct such improvements in order to extend service in accordance with R-14-2-406(B), payment of the off-site facilities fees required hereunder shall be made by the Applicant no

later than 15 calendar days after receipt of notification from the Company that the Utilities Division of the Arizona Corporation Commission has approved the Main Extension Agreement in accordance with R-14-2-406(M).

2) For those connecting to an existing main: In the event that the Applicant is not required to enter into a Main Extension Agreement, the off-site facilities fee charges hereunder shall be due and payable at the time the meter and service line installation fee is due and payable.

(D) Off-Site Facilities Construction By Developer: Company and Applicant may agree to construction of off-site facilities necessary to serve a particular development by Applicant, which facilities are then conveyed to Company. In that event, Company shall credit the total cost of such off-site facilities as an offset to off-site facilities fees due under this Tariff. If the total cost of the off-site facilities constructed by Applicant and conveyed to Company is less than the applicable off-site facilities fees under this Tariff, Applicant shall pay the remaining amount of off-site facilities fees owed hereunder. If the total cost of the off-site facilities contributed by Applicant and conveyed to Company is more than the applicable off-site facilities fees under this Tariff, Applicant shall be refunded the difference upon acceptance of the off-site facilities by the Company.

(E) Failure to Pay Charges; Delinquent Payments: The Company will not be obligated to make an advance commitment to provide or actually provide water service to any Applicant in the event that the Applicant has not paid in full all charges hereunder. Under no circumstances will the Company set a meter or otherwise allow service to be established if the entire amount of any payment due hereunder has not been paid.

(F) Large Subdivision and/or Development Projects: In the event that the Applicant is engaged in the development of a residential subdivision and/or development containing more than 150 lots, the Company may, in its discretion, agree to payment of off-site facilities fees in installments. Such installments may be based on the residential subdivision and/or development's phasing, and should attempt to equitably apportion the payment of charges hereunder based on the Applicant's construction schedule and water service requirements. In the alternative, the Applicant shall post an irrevocable letter of credit in favor of the Company in a commercially reasonable form, which may be drawn by the Company consistent with the actual or planned construction and hook up schedule for the subdivision and/or development.

(G) Off-Site Facilities Fees Non-refundable: The amounts collected by the Company as off-site facilities fees shall be non-refundable contributions in aid of construction.

(H) Use of Off-Site Facilities Fees Received: All funds collected by the Company as off-site facilities fees shall be deposited into a separate interest bearing bank account and used solely for the purposes of paying for the costs of installation of off-site facilities, including repayment of loans obtained for the installation of off-site facilities that will benefit the entire water system.

(I) Off-Site Facilities Fee in Addition to On-site Facilities: The off-site facilities fee shall be in addition to any costs associated with the construction of on-site facilities under a Main Extension Agreement.

(J) Disposition of Excess Funds: After all necessary and desirable off-site facilities are constructed utilizing funds collected pursuant to this tariff, or if the off-site facilities fee tariff has been terminated by order of the Arizona Corporation Commission, any funds remaining in the bank account shall be refunded. The manner of the refund shall be determined by the Commission at the time a refund becomes necessary.

(K) Fire Flow Requirements: In the event the Applicant for service has fire flow requirements that require additional facilities not covered by this tariff, such additional facilities shall be constructed under a separate Main Extension Agreement as a non- refundable contribution and shall be in addition to the off-site facilities fees.

(L) Status Reporting Requirements to the Commission: The Company shall submit a calendar year off-site facilities fee status report each January 31st to Docket Control for the prior twelve (12) month period, beginning January 31, 2013, until the off-site facilities fee tariff is no longer in effect. This status report shall contain a list of all customers that have paid the off-site facilities fee, the amount each has paid, the physical location/address of the property in respect of which such fee was paid, the amount of money spent from the account, the amount of interest earned on the funds within the tariff account, and a list of all facilities that have been installed with the tariff funds during the 12 month period.

Format Pending Approval

EXHIBIT 10

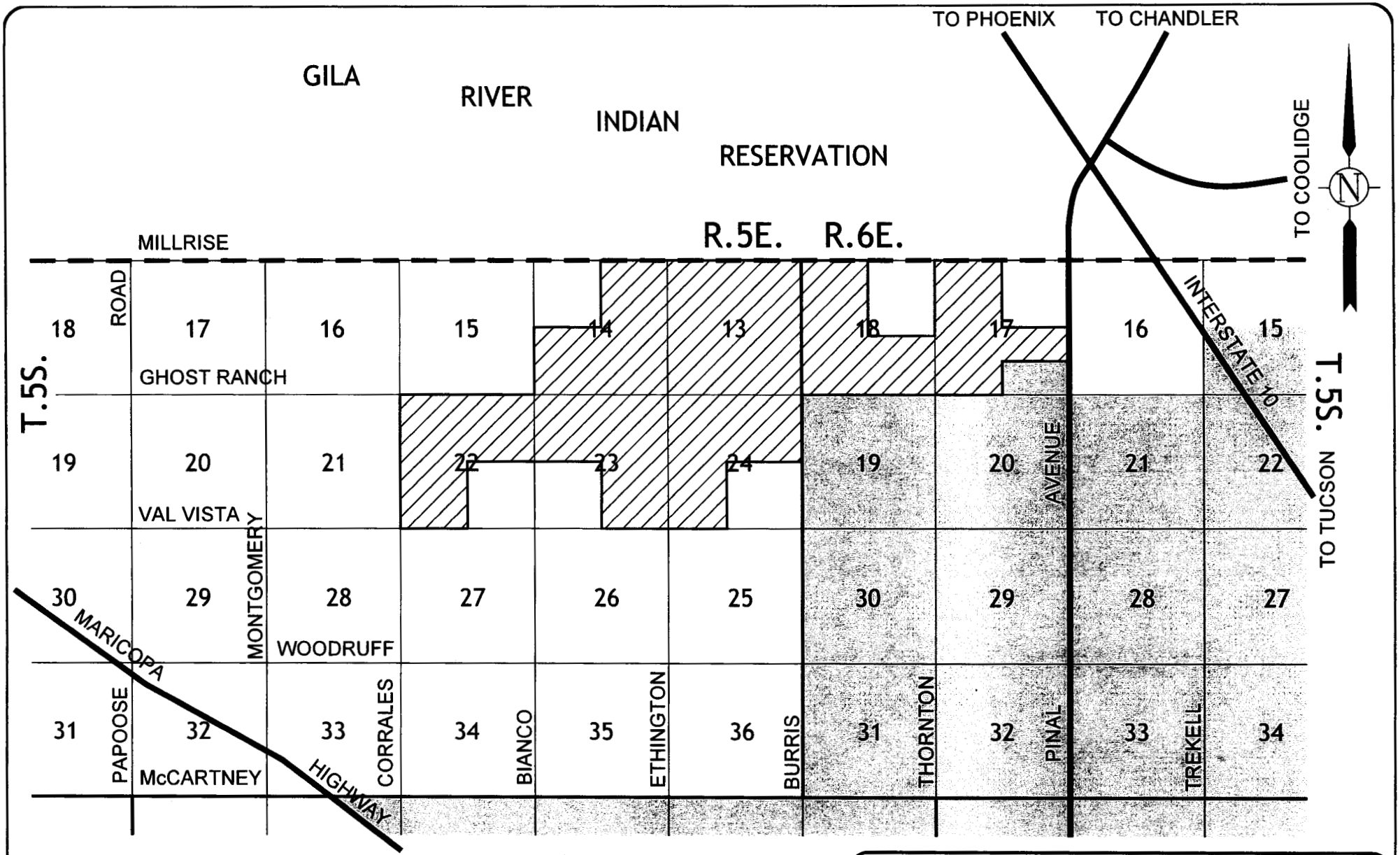
ARIZONA WATER COMPANY
Docket No. W-01445A-12-XXXX
Projected Annual Operating Revenues and Expenses
Copper Mountain CCN Extension

Line No.			[A] Year 1	[B] Year 2	[C] Year 3	[D] Year 4	[E] Year 5
1							
2							
3	Metered Water Revenues						
4	Residential	a	$ 143,000	$ 444,000	$ 805,000	$ 1,089,000	$ 1,246,000
5	Commercial	a	27,000	43,000	43,000	43,000	86,000
6	Fire Protection						
7	Total Estimated Revenues		$ 170,000	$ 487,000	$ 848,000	$ 1,132,000	$ 1,332,000
8							
9	Operating Expenses						
10	Source of Supply Expenses						
11	Purchased Water	n/a	$ 0	$ 0	$ 0	$ 0	$ 0
12	Other	b	0	1,000	2,000	3,000	4,000
13	Pumping Expenses						
14	Purchased Power	b	16,000	47,000	83,000	112,000	133,000
15	Other	b	4,000	13,000	24,000	33,000	39,000
16	Water Treatment Expenses	b	8,000	25,000	44,000	60,000	69,000
17	Transmission and Distribution Expenses	c	8,000	15,000	24,000	29,000	35,000
18	Customer Accounting Expenses	d	14,000	42,000	76,000	100,000	114,000
19	Administrative and General Expenses	d, e	23,000	45,520	76,061	96,624	110,209
20	Total Operations and Maintenance Expense		$ 73,000	$ 188,520	$ 329,061	$ 433,624	$ 504,209
21							
22	Other Expenses						
23	Depreciation, net of Amortization of CIAC	e	$ 172,000	$ 371,000	$ 431,000	$ 552,000	$ 665,000
24	Property Taxes	f	3,000	11,000	25,000	41,000	55,000
25	Other Taxes	g	18,000	51,000	88,000	117,000	138,000
26							
27	Total Other Expenses		$ 193,000	$ 433,000	$ 544,000	$ 710,000	$ 858,000
28							
29							
30							
31							
32							
33							
34							
35	a Based on average customer usage for Pinal Valley,						
36	tariffed rates and projected customer counts						
37	b Based on projected thousand gallons sold						
38	c Based on projected feet of main						
39	d Based on projected number of customers						
40	e Inflation rate: 4%						
41	f Based on projected plant in service						
42	g See Property Tax Calculation						
43							
44							
45							
46							
47							

ARIZONA WATER COMPANY
Docket No. W-01445A-12-XXXX
Property Tax Calculation - Copper Mountain CCN Extension

Line No.		[A] Year 1	[B] Year 2	[C] Year 3	[D] Year 4	[E] Year 5
1						
2						
3	Metered Water Revenues					
4	Residential	$ 143,000	$ 444,000	$ 805,000	$ 1,089,000	$ 1,246,000
5	Commercial	27,000	43,000	43,000	43,000	86,000
6	Fire Protection					
7	Total Estimated Revenues	$ 170,000	$ 487,000	$ 848,000	$ 1,132,000	$ 1,332,000
8						
9	Three Year Average of Revenues					
10	Year 1	$ 170,000	$ 487,000	$ 848,000	$ 1,132,000	$ 1,332,000
11	Year 2	0	$ 170,000	$ 487,000	$ 848,000	$ 1,132,000
12	Year 3	0	0	$ 170,000	$ 487,000	$ 848,000
13						
14	Average Revenue	$ 57,000	$ 219,000	$ 502,000	$ 822,000	$ 1,104,000
15						
16	Multiplied by 2	$ 114,000	$ 438,000	$ 1,004,000	$ 1,644,000	$ 2,208,000
17						
18	Full Cash Value	$ 114,000	$ 438,000	$ 1,004,000	$ 1,644,000	$ 2,208,000
19						
20	Assessment Ratio	21.0%	21.0%	21.0%	21.0%	21.0%
21						
22	Assessed Value	$ 24,000	$ 92,000	$ 211,000	$ 345,000	$ 464,000
23						
24	Property Tax Rate	11.9%	11.9%	11.9%	11.9%	11.9%
25						
26	Tax on Parcels	$ 3,000	$ 11,000	$ 25,000	$ 41,000	$ 55,000
27						
28	Total Property Taxes - Calculated	$ 3,000	$ 11,000	$ 25,000	$ 41,000	$ 55,000
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						

EXHIBIT 11

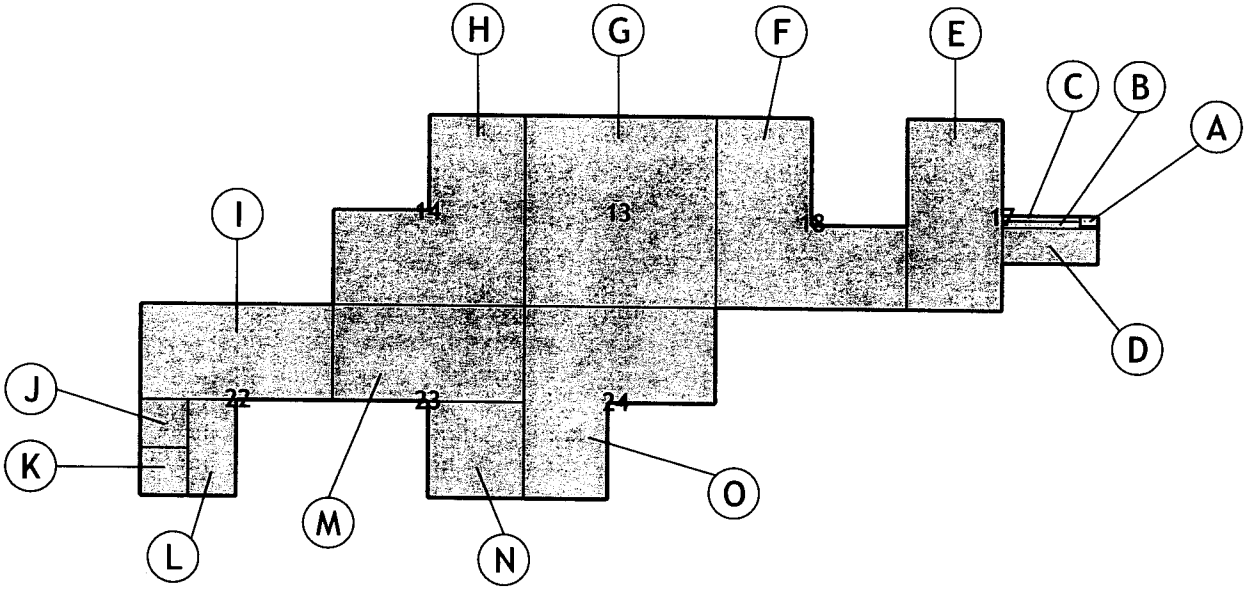


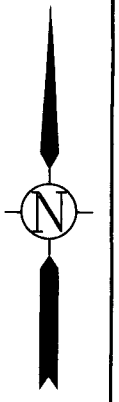
CCN Area Requested This Application (3,400 Acres)

A Portion of Arizona Water Company Existing CCN

ARIZONA WATER COMPANY

DESCRIPTION: Proposed CCN Extension Area Identifying the Boundary Plus Acreage		
LOCATION: Portions of Township 5 South, Range 5 East and Township 5 South, Range 6 East, G.&S.R.B.&M.		
DATE: 09.11.2012	SCALE: 1"= 1 Mile	DRAWN BY: CB





PARCEL	APN	OWNER	ACRES
A	509-85-003B	ANCCC, LLC	3
B	509-85-003F	ANCCC, LLC	10
C	509-85-003C	ANCCC, LLC	7
D	509-85-003K	ANCCC, LLC	60
E	509-24-012	ANCCC, LLC	320
F	509-24-013	ANCCC, LLC	460
G	502-25-017	ANCCC, LLC	640
H	502-25-018A	ANCCC, LLC	480
I	502-34-004	ANCCC, LLC	40
J	502-34-005	ANCCC, LLC	40
K	502-34-003	ANCCC, LLC	80
L	502-34-006	ANCCC, LLC	320
M	502-25-020	ANCCC, LLC	320
N	502-25-003	ANCCC, LLC	160
O	502-35-003	ANCCC, LLC	460

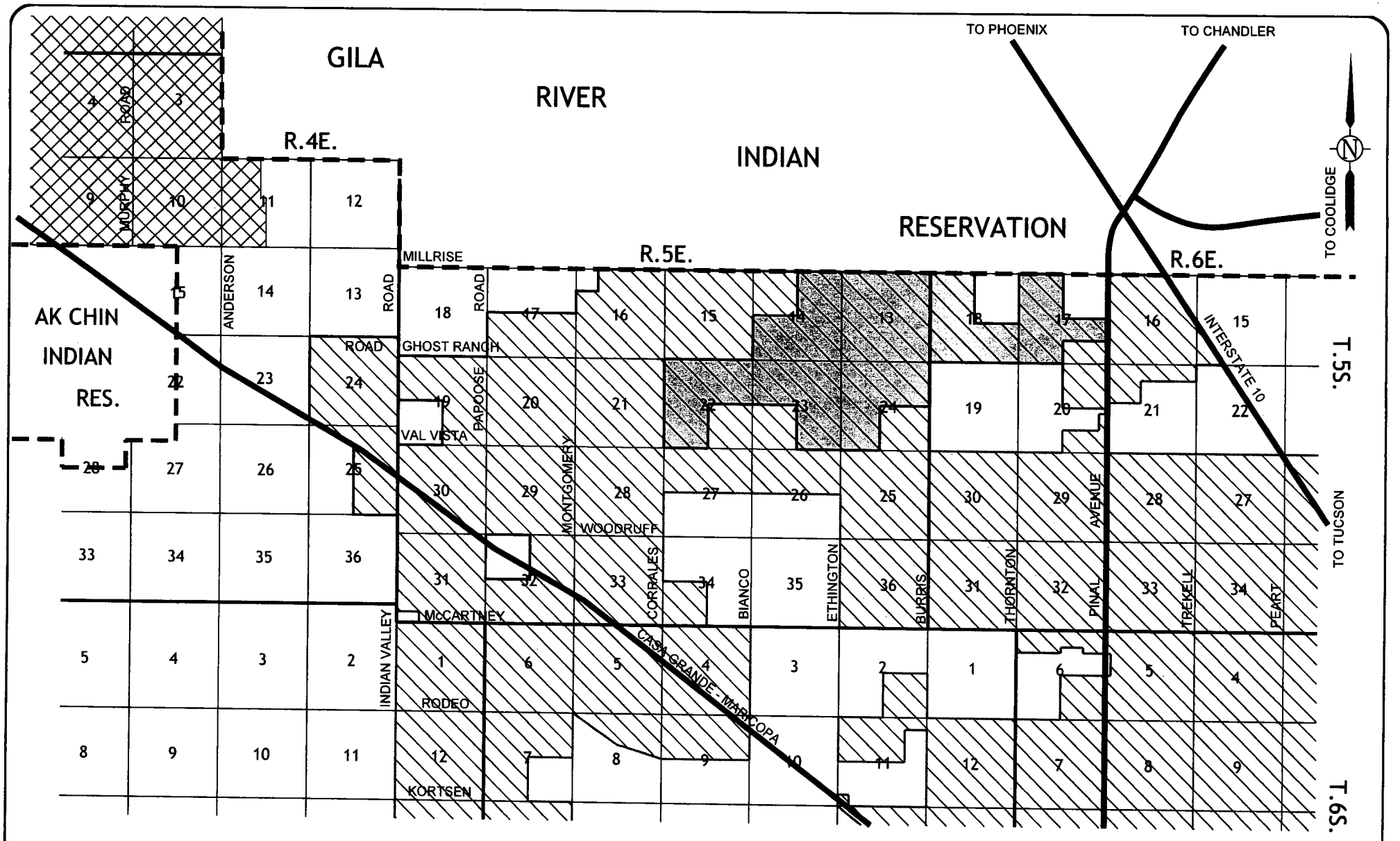
CCN Area Requested This Application (3,400 Acres)

ARIZONA WATER COMPANY

DESCRIPTION: Proposed CCN Extension Area Identifying the Land Ownership Boundaries with Acreage Noted

LOCATION: Portions of Township 5 South, Range 5 East and Township 5 South, Range 6 East, G.&S.R.B.&M.

DATE:	SCALE:	DRAWN BY:
09.11.2012	1"= 1 Mile	CB



A Portion of the City Limits of Casa Grande

A Portion of the City Limits of Maricopa

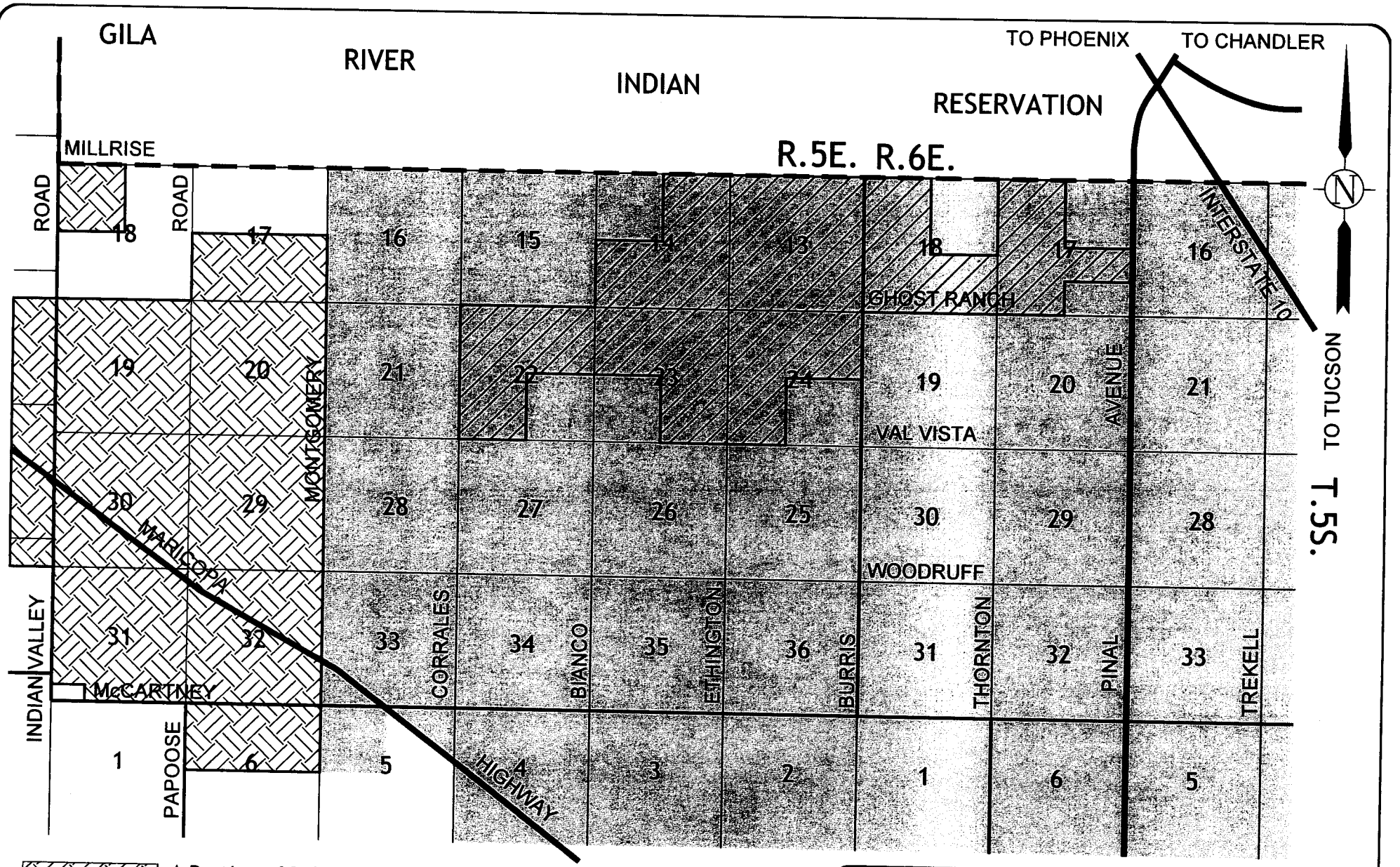
CCN Area Requested This Application

ARIZONA WATER COMPANY

DESCRIPTION: Proposed CCN Extension Area Identifying the Municipal Boundaries within 5 Miles

LOCATION: Portions of Township 5 South, Range 5 East and Township 5 South, Range 6 East, G.&S.R.B.&M.

DATE:	SCALE:	DRAWN BY:
09.11.2012	1"= 1½ Miles	CB



A Portion of Palo Verde Sewer and Santa Cruz Water (Global)

A Portion of the City of Casa Grande 208 Area

CCN Area Requested This Application

ARIZONA WATER COMPANY

DESCRIPTION: Proposed CCN Extension Area Identifying Other Water and Sewer Providers within 1 Mile of the Application Area

LOCATION: Portions of Township 5 South, Range 5 East and Township 5 South, Range 6 East, G.&S.R.B.&M.

DATE:	SCALE:	DRAWN BY:
09.11.2012	1"= 1 Mile	CB

EXHIBIT 12

ANCCC, LLC
901 North Green Valley Parkway, Suite 150
Henderson, NV 89074
(702) 990-5700

September 12, 2012

Mr. Fredrick Schneider
Vice President - Engineering
Arizona Water Company
P.O. Box 29006
Phoenix, Arizona 85038-9006

Re: Extension of Certificate of Convenience & Necessity for Copper Mountain Ranch, Casa Grande, Az.

Dear Mr. Schneider:

ANCCC, LLC requests that the property described in Exhibit "1", attached hereto, be brought into Arizona Water Company's Certificate of Convenience and Necessity.

Very truly yours,

Mr. Matt Lawson
ANCCC, LLC
901 N. Green Valley Parkway, Suite 150
Henderson, NV 89074

EXHIBIT 13

September 13, 2012

Mr. Jim Thompson
City Manager
City of Casa Grande
510 E. Florence Boulevard
Casa Grande, Arizona 85122

Re: Application for Extension of Certificated Area

Dear Mr. Thompson:

On _____, Arizona Water Company filed an application with the Arizona Corporation Commission for an extension of its certificate of convenience and necessity for the Pinal Valley system.

The application has been docketed by the Commission in Docket No. W-01445A-12-_____. If the Company's application is approved, it plans to provide water service in extension area for residential, commercial, and industrial purposes.

I have enclosed a copy of the application for your files.

Very truly yours,

Robert W. Geake
Vice President and General Counsel

hac
Enclosure
c: Ray Murrieta

EXHIBIT 14

City of Casa Grande

September 19, 2012

Mr. William. M. Garfield
President
Arizona Water Company
P. O. Box 29006
Phoenix, AZ 75038-9006

Re: Application for CCN Extension; Designation of City of Casa Grande as the approved Section 208 Management Agency for the provision of wastewater services in defined regions of Pinal County

Dear Mr. Garfield:

The City of Casa Grande is the Designated Management Agency by the Central Arizona Association of Governments (CAAG) for the provision of wastewater services in the area described on the attached map (generally east of Montgomery Road in the area south of Interstate 10). On August 6, 2007, the City Council adopted Resolution No. 4075, approving the Wastewater Master Plan Phase I Conceptual Plan, specifically Option 4 thereof, as a guideline for providing wastewater collection and treatment in the City. This option, developed for the City by Carollo Engineers in an August, 2006 report, provided a master plan for the provision of wastewater services in the region pursuant to the Clean Water Act, Section 208.

In 2009, the Environmental Planning Committee of CAAG, the designated Section 208 agency for this area of the State of Arizona, recommended approval of amendments to the CAAG Section 208 Areawide Water Quality Management Plan naming the City as the Designated Management Agency for this defined region. This designation was formally adopted by CAAG in Resolution No. 2009-5 on September 11, 2009.

Since that action, the City has been the designated wastewater provider east of Montgomery Road in this region, and will extend wastewater service to properties in this region pursuant to its obligations under Section 208 of the Clean Water Act.

If you have any additional questions, please feel free to contact me.

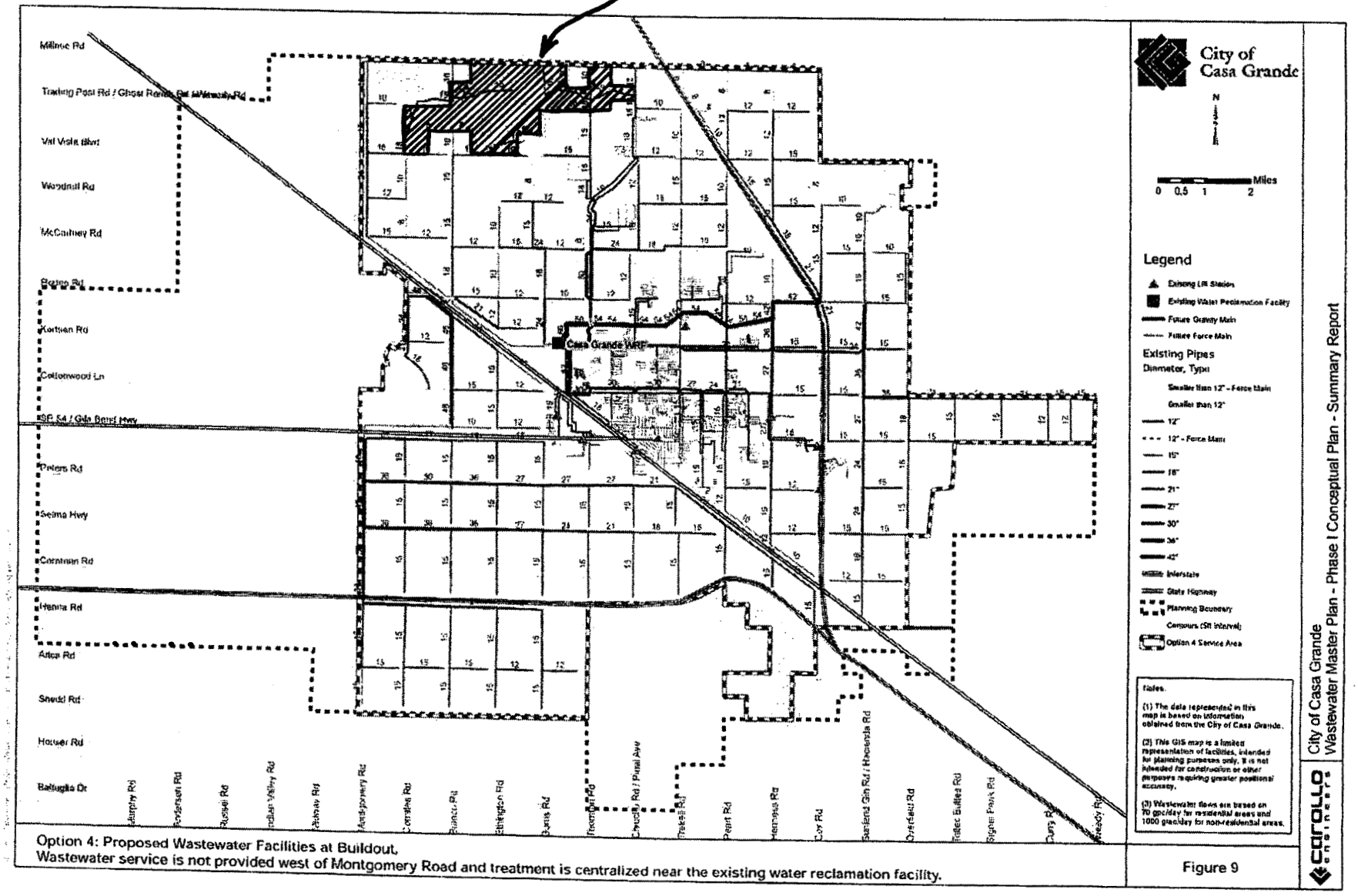
Sincerely,

Bob Jackson
Mayor

Telephone: 520/421-8600 - Telefacsimile: 520/421-8602 - TDD: 520/421-8623
City Hall: 510 East Florence Boulevard - Casa Grande, Arizona 85122

EXHIBIT 15

COPPER MOUNTAIN RANCH CCN APPLICATION



Option 4: Proposed Wastewater Facilities at Buildout.
Wastewater service is not provided west of Montgomery Road and treatment is centralized near the existing water reclamation facility.

Figure 9

City of Casa Grande
Wastewater Master Plan - Phase I Conceptual Plan - Summary Report

CAROLLO ENGINEERS

EXHIBIT 16

(99R

OFFICIAL RECORDS OF
PINAL COUNTY RECORDER
LAURA DEAN-LYTLE

DATE/TIME: 03/01/07 1608
FEE: $58.00
PAGES: 99
FEE NUMBER: 2007-026370

When recorded, return to
City of Casa Grande
510 E. Florence Boulevard
Casa Grande, AZ 85222
Attn: City Clerk

(The above space reserved for recording information)

CAPTION HEADING:

C.G. Contract No. 499-2.2 – Amended and Restated Development Agreement Copper Mountain Ranch

Originally recorded on 09/28/99, 1153 as document 1999-043635 C.G. Contract No. 499-2 – Copper Mountain Ranch Development Agreement

DO NOT DISCARD THIS PAGE. THIS COVER PAGE IS RECORDED AS PART OF YOUR DOCUMENT. THE CERTIFICATE OF RECORDATION WITH THE FEE NUMBER IN THE UPPER RIGHT CORNER IS THE PERMANENT REFERENCE NUMBER OF THIS DOCUMENT IN THE PINAL COUNTY RECORDER'S OFFICE.

When recorded, return to:
City Attorney
City of Casa Grande
510 East Florence Boulevard
Casa Grande, Arizona 85222

OFFICIAL COPY

C.G. CONTRACT NO. 499-2.2

AMENDED AND RESTATED DEVELOPMENT AGREEMENT
COPPER MOUNTAIN RANCH

THIS AMENDED AND RESTATED DEVELOPMENT AGREEMENT for Copper Mountain Ranch (this "Agreement") is entered into this 25th day of January 2007 ("Effective Date" by WHM Copper Mountain Investments, LLC, a Delaware limited liability company; 140 Val Vista/Burris Limited Partnership, an Arizona limited partnership ("Val Vista"); 100 Val Vista Montgomery, L.L.C., an Arizona limited liability company ("100 Val Vista"); Robin R. Yount, LTD., an Arizona corporation ("Yount"); RYG 120, L.L.C., and Arizona limited liability company ("RYG"); Richard & Dana, L.L.C., an Arizona limited liability company ("R&D"); Bruce & Karen, L.L.C., an Arizona limited liability company ("B&K"); RRY Real Estate, L.L.C., an Arizona limited liability company ("RRY"); and Val Vista/W Bianco, Limited Partnership, an Arizona limited partnership ("Bianco") (collectively "Owners") and the CITY OF CASA GRANDE, an Arizona municipal corporation (the "City").

RECITALS

WHEREAS, that document known as the Copper Mountain Ranch Development Agreement was entered into on March 15, 1999, between its then current owners and City (C.G. Contract No. 499-2), amended for a first time by its then current owners and City on February 16, 2000, (C.G. Contract No. 499-2.1), and amended for a second time by its then current owners and City on April 4, 2000 (C.G. Contract No. 499-2.2) (collectively, the "1999 Development Agreement);

WHEREAS, Owners comprise the current property owners and Owners and City desire to amend and restate the 1999 Development Agreement in its entirety to the terms contained herein;

WHEREAS, Owners own certain property located in the City, and in unincorporated portions of Pinal County, Arizona, consisting of approximately 8,711 acres legally described in Exhibits "A" and "B" attached hereto and incorporated herein by reference "Property");

WHEREAS, Owners have submitted to City for review and approval the documents known as the Copper Mountain Ranch Planned Area Development dated August 31, 2006 ("Development Plan") as set forth in Exhibit "C";

WHEREAS, Owners or their successor(s) and City desire to facilitate the development of the Property as a part of the City's on-going growth and development, and in furtherance of this aim, Owners and City have cooperated in the preparation of this Agreement;

WHEREAS, Owners and the City agree the development of the property pursuant to this Agreement and the Development Plan provides the City with an opportunity for beneficial high-quality and mixed-use development;

WHEREAS, it is understood and agreed that the Property as set forth in Exhibits "A" and "B" is included in this Agreement;

WHEREAS, pursuant to the provisions of Arizona Revised Statutes Annotated ("A.R.S.") 9-500.05, et seq., Owners and City are authorized to enter into this Agreement;

WHEREAS, this Agreement will facilitate proper municipal zoning and development of the Property by establishing (i) the permitted uses for the Property; (ii) the density and intensity of such uses; (iii) the phasing over time of construction and development of the Property; (iv) conditions and requirements for the design, construction and installation of the infrastructure; (v) City's assurances to Owners in order to develop the Property; and (vi) other matters related to the development of the Property;

WHEREAS, the City agrees that the Development Plan is an appropriate use for this Property and that the Development Plan is designed to establish proper and beneficial land use designations, regulations, procedures for administration and implementation of the Development Plan and other matters related to the development of the Property in accordance with the Development Plan. City and Owners acknowledge that the development of the Property pursuant to this Agreement is consistent with the General Plan and that City will facilitate the rezoning of the Property to Planned Area Development ("PAD") consistent with the Development Plan benefiting City and Owners;

WHEREAS, Owners and City acknowledge that the development of the Property requires development to be constructed in phases over a period of years. Therefore, Owners require assurances and protection of rights in order that Owners or their successors will be allowed to complete the development of the Property in accordance with this Agreement and the Development Plan over the period of years permitted by this Agreement. Likewise, City requires assurances from Owners that the development of the Property will comply with the Development Plan and the terms and conditions of this Agreement;

WHEREAS, City believes that the development of the Property pursuant to the Development Plan is in the best interest of the City and the health, safety and welfare of its residents and will result in significant benefits to City by, among other things, (i) providing for the acquisition, design, construction and installation of a system of roads and infrastructure as part of the development, (ii) increasing tax and other revenue to City as a result of the improvements constructed on the Property, and (iii) possible additional employment through the development of the Property; and

WHEREAS, the City recognizes the extent of the magnitude and cost of the services/infrastructure necessary properly to serve the development and that the City's

facilitation of various forms of Property based infrastructure financing, such as a community facilities district, is useful and required by Owner to help finance and construct such services and infrastructure.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual covenants, terms and conditions herein, Owners and City agree as follows:

1. **INCORPORATION OF DOCUMENTS AND RECITALS.** All documents and exhibits referred to in this Agreement are hereby incorporated by reference into this Agreement, and the Recitals stated above are hereby incorporated by reference into this Agreement.

2. **ANNEXATION.** As soon as reasonably possible after execution of this Agreement by the City and Owners, Owners shall deliver to the City a petition for annexation duly executed by all necessary property owners and satisfying the statutory requirements for approximately 2,631 acres of unincorporated land described in Exhibit "B" (the "Annexation Property"). Upon receipt of the annexation petition for the Annexation Property, the City agrees to comply with the provisions of A.R.S. § 9-471 et seq. and, unless reasonably shown not to be in the best interest of the City, adopt the final ordinance annexing Annexation Property into the corporate limits of the City, which ordinance shall contain a provision requiring, upon Owners timely written request, the immediate rescission of the annexation ordinance by the City if: (a) any party other than parties to this Agreement timely files any protest, appeal, referendum, litigation or other petition challenging this Agreement, the annexation, or any concurrently approved general plan amendment or zoning approval for the Property; (b) the City does not, at or before the same City meeting in which the annexation is adopted, approve a PAD designation establishing a density of 4.0 units per gross acre for the Annexation Property immediately following the annexation of the Annexation Property by the City; or (c) the City does not, at the same City meeting, approve as part of the final annexation ordinance a provision incorporating the Annexation Property under this Agreement. The City expressly acknowledges and agrees that it is the intent of the parties to this Agreement that the annexation of the unincorporated portion of the Property into the City be effective only after the passage of any referendum periods relating to any initial general plan amendment approval, the annexation approval, this Agreement's approval and the initial PAD zoning approval.

3. **PLAN APPROVAL AND VESTED RIGHTS.** As of the execution date of this Agreement, City, by and through its Mayor and City Council (collectively, the "Council"), hereby grants to Owners, their successors and assigns, its approval of the Development Plan. For the term of this Agreement, Owners shall have a contractually vested right to develop and use the Property in accordance with this Agreement and the Development Plan. The determinations of the City in this Agreement and the assurances provided to Owners in this Agreement are provided pursuant to and as contemplated by A.R.S. § 9-500.05. By entering into this Agreement, Owners do not waive any legal rights under Arizona and federal law.

4. **TERM AND EFFECTIVE DATE.** The Council grants to Owners and their successors and assigns, the right to implement development in accordance with the Development Plan under the terms and conditions of the Development Plan and this Agreement for a period of

thirty-five (35) years at which time this Agreement shall automatically terminate as to the Property without the necessity of any notice, agreement, or recording by or between the parties. This Agreement shall become effective and the term shall commence after approval by the City and full execution by the parties to this Agreement. The City reserves the right to terminate, modify or otherwise change this Agreement if two thousand (2,000) residential units have not received final plat approval after the passage of fifteen (15) years from the effective date of this Agreement. For good cause shown, Owners may request and City may approve extensions of such time periods. At the request of the City Manager, Owners shall meet with the City Manager and provide the City with annual status reports.

5. **RIGHTS RUN WITH THE LAND.** The rights established under this Agreement and the Development Plan are attached to and run with the Property. Upon the effective date of this Agreement, Owners and their successor(s) are entitled to exercise the rights granted pursuant to this Agreement. This Agreement shall be interpreted and construed so as to preserve any rights respecting the Owners and/or the Property existing under this Agreement and applicable law. Owners shall only be liable for performance of Owners' obligations under this Agreement during or relating to the period Owners own the Property.

6. **DEVELOPMENT PLAN.**

(a) The development of the Property shall be in accordance with the Development Plan and this Agreement unless otherwise amended pursuant to this Agreement. City agrees to permit an over-all maximum density of 4.0 units per gross acre. Owners are authorized to implement the types and uses, zoning, densities and intensities, location of uses, minimum size of proposed lots and residences and other standards of design as specifically set forth in the Development Plan and this Agreement. City agrees to cooperate by processing, in a reasonably timely manner, applications for approval and issuance of plans, specifications or plats which are consistent with the Development Plan and this Agreement, subject to the Owners, except as provided for in this Agreement, having first complied with the ordinances and regulations applicable thereto and all platting, application, and permit requirements and the Owners paying the then current generally applicable filing fees, plan review fees, building permit fees and other fees. The City and Owners agree that in addition to the types of uses and the densities and intensities of uses, the City's General Plan and the Development Plan provide for, among other things, the establishment of golf courses, resorts and recreational facilities, sanitation and treatment facilities, residential, office and commercial activity centers, educational, worship and municipal facilities, and other facilities typically found in mixed-use master planned communities.

(b) Owners expect that amendments to the Development Plan and planned area development zoning approval will be necessary from time to time since this is a phased project over a significant time period which must be able to adapt to changing markets and other events. The following changes shall require Council approval 1) a change in the total number of acres devoted to commercial uses if the acreage devoted to these uses is reduced, in the aggregate, 10 % or greater in area from that shown on the Development Plan; 2) an upward change in residential density classifications of greater than two classifications; 3) an increase in the total number of residential units; and 4) conversion to commercial uses on parcels 25 acres or larger or conversion of any acreage to industrial/manufacturing type uses adjacent to low-density

residential district neighborhoods already built within the Property if such conversion ordinarily requires a general plan amendment. The City shall not initiate changes or modifications to the approved zoning except at the request of the owner of the portion of the Property for which such change is sought. The City acknowledges and agrees that the Development Plan is the Owners' initial development concept for the Property and that the Owners shall be able, in their reasonable discretion, to relocate street layouts (except for major arterials or greater classifications) subject to subdivision regulations and the location of commercial, industrial and residential areas and parks and trails on the Property in response to changed conditions as discrete portions of the Property are more definitively planned and subdivided under the PAD zoning approval. Such minor modifications shall not necessitate a major amendment to this Agreement or the PAD approval but instead shall be provided to the City Planning Director, reviewed and approved, which approval shall not be unreasonably withheld, by the appropriate City departments and retained in the City's official file for the Property.

(c) City shall not adopt or change any ordinance, regulation or other control that is not uniform and that discriminates in its application against the Owners or the Property. Owners and City agree that after this Development Plan has been approved, any and all subsequent zoning ordinances or requirements, zoning restrictions, addenda, and revisions adopted by the City will not be applied to the Property except as may be required pursuant to Paragraph 6(f). Except as allowed in this Agreement, the City shall not impose or enact additional conditions, overlays, exactions, requirements, dedications, development fees or other fees, rules or regulations applicable to or governing the development of the Property, including any requirement for the dedication of land or property or their improvement, or the payment of fees or money for the planning, design, engineering, construction, acquisition, improvement, maintenance or provision of public services or infrastructure improvements to lessen, offset, mitigate, or compensate for the burdens of the development of the Property on the City. Development on the land as described in Exhibit "A" shall not be subject to development impact fees, or any other type of fee, surcharge or imposition similar to development fees, except as identified in Exhibit "F" of this Agreement. Development on the land as described in Exhibit "B" shall be subject to the generally applicable development impact fee system adopted by the City. Except as specifically mentioned in Exhibit "F", development on the Property shall be subject to all credits and off-sets regarding the payment of development fees as allowed by law including, but not limited to, any forbearance, if applicable and as may be allowed by law, on the amount of development fees the City may charge based on the development of the Property and the contribution Owners or subsequent Owners make or will make in the future in cash, or by taxes, fees or assessments toward the capital costs of necessary public services. For the purposes of development fee credits and offsets, sewer lines of a size of 12 inches and greater shall be considered sewer main lines and eligible for any credits and offsets to sewer development fees. The City shall not take any unreasonable action or position that would have the effect of subjecting the timing or development of the Property to procedures and limitations that may be part of a moratorium or any type of growth boundary except as may be permitted pursuant to Paragraph 6(f).

(d) The parties anticipate that development will be completed over a 35-year term in multiple phases. The physical boundaries for each of the phases are set forth in the Development Plan and are approximate and contingent upon market conditions, industry factors, and business considerations. Owners may adjust the physical boundaries of the various phases in

such a manner as Owners shall deem appropriate for the efficient development of the entire Property. One or more of the phases or a portion of the phases may be undertaken concurrently. Such adjustments shall not necessitate a major amendment to this Agreement or the PAD zoning unless the City reasonably determines that such modifications will negatively impact the City's ability to provide or maintain its level of services, but shall be provided to the City Planning Director and retained in the City's official file for the Property.

(e) After the initial approvals, any per acre application fee calculations for rezoning or general plan amendments shall be calculated using the extent of acreage specifically affected by the amendment request.

(f) City shall not apply to the Property any legislative or administrative land use regulation adopted by the City or pursuant to any City sponsored initiated measure that would impair, prevent, diminish, or otherwise similarly impact the right to develop in accordance with the Development Plan or materially change Owners' right to develop the Property in accordance with the land use types and intensities and densities as set forth in this Agreement and the Development Plan except as follows: 1) as specifically agreed to in writing by Owners; 2) future generally applicable ordinances, rules, regulations, and permit requirements (but excluding new development fees or exactions except as provided for in this Agreement) of the City reasonably necessary to alleviate significant threats to public health and safety, in which any ordinance, rule, regulation, permit requirement or other requirement or official policy imposed in an effort to contain or alleviate such a legitimate threat to public health and safety shall be as unobtrusive in its impact on the Property's vested development rights as reasonably practicable and shall not, in any event, be imposed arbitrarily or in a discriminatory fashion; 3) adoption and enforcement of zoning ordinance provisions governing nonconforming property or uses; 4) future land use ordinances, rules, regulations, permit requirements and other requirements and official policies of the City enacted as necessary to comply with mandatory requirements imposed on the City by county, state or federal laws and regulations, court decisions, and other similar superior external authorities beyond the control of the City, provided that in the event any such mandatory requirement prevents or precludes compliance with this Agreement, if permitted by law, such affected provision of this Agreement shall be modified as may be necessary to achieve the minimum permissible compliance with such mandatory requirements; and 5) future updates of, and amendments to, existing building, plumbing, mechanical, electrical, and similar construction and safety related codes adopted by the City which code updates and amendments are generated by a nationally recognized construction/safety organization or by the county, state or federal governments. Nothing shall be interpreted as relieving Owners of any obligation that it may have with respect to laws and regulations enacted by the Federal government or the State of Arizona. Nothing in this Agreement shall alter or diminish the authority of the City to exercise its eminent domain powers.

7. **ADDITIONAL PROPERTY.** The City may, at its sole discretion, amend this Agreement, from time to time and solely upon the request of Owners, to incorporate into this Agreement additional property owned by Owners located adjacent to the Property (the "Additional Property"). Such Additional Property shall not be subject to the development fees as designated in Exhibit "F" but shall be subject to the City's generally applicable development impact fee assessments.

8. **INFRASTRUCTURE PLANS.** Infrastructure plans will be submitted for review and approval, as necessary and required by the City for subdivision approval. The infrastructure plans shall include, but not be limited to, grading, drainage, sewer, water, roadway and other improvements as necessary and required for subdivision approval ("Infrastructure Plans").

9. **INFRASTRUCTURE AND DESIGN STANDARDS.** The infrastructure and design standards, requirements and specifications identified in the Development Plan shall be applicable to the development of the Property. To the extent there is no identification of a particular standard, the then existing City design standards and specifications shall apply to the development of the Property. City and Owners acknowledge that amendments to the Infrastructure Plans and/or the infrastructure and design standards and specifications for the Property may be necessary or desirable from time to time. If City staff reasonably determines that amendments are necessary to the Infrastructure Plans and infrastructure and design standards and specifications for the Property, Owners and the City (through an authorized administrative official), to the extent permitted by applicable law, shall negotiate in good faith to effectuate such amendment(s). If the parties cannot reach a negotiated agreement, City may impose the amendments it reasonably determines are necessary; provided, however, that if Owners are not in agreement with such amendments, they shall have a right to appeal such decision of staff to the next available and properly noticeable City Council meeting and, subsequently, to bring such Council action to arbitration.

10. **INFRASTRUCTURE CONSTRUCTION.** Construction of the infrastructure shall be performed in a workmanlike manner in compliance with applicable federal, state and local laws. To the maximum extent practical, the prior dedication of easements or rights-of-way shall not effect or proscribe Owners' rights to construct infrastructure improvements nor shall it affect the Owners' right to finance, construct and/or receive CFD reimbursement for such infrastructure improvements and/or real property interests, as provided for in Exhibit "D", through the community facilities district. City shall assist Owners, at Owners' cost, through the abandonment procedures of any and all mutually agreed upon unnecessary public rights-of-way and the establishment procedures of any and all necessary public rights-of-way. Owners shall use reasonable efforts to obtain any necessary easements for the development of public infrastructure; provided, however, that if despite the exercise of such reasonable efforts, Owners are unable to obtain necessary easements, the City upon request by Owners shall obtain said necessary easements through the City's power of condemnation and the obtaining of immediate possession, all in accordance with applicable law. Such costs of obtaining the easements shall be paid by Owners and shall be included toward development impact fee credits and offsets or included as eligible public infrastructure costs by any applicable community facilities district. The Owners and their authorized agents shall have the right to enter, remain upon and cross over City easements or rights-of-way to the extent reasonably necessary to design and/or construct the water and sewer improvements and other improvements for the Property, provided that the Owners' use of such right, which shall be subject to reasonable controls and restrictions imposed by the City Engineer, does not materially impede or materially adversely affect the City's use and enjoyment of the subject property and provided also that the Owners shall restore such easements and rights-of-way to substantially the same condition as existed prior to Owners' entry.

11. INFRASTRUCTURE AND IMPROVEMENT FINANCING. The parties acknowledge that one purpose of this Agreement is to provide for the coordinated planning, design, engineering, construction and/or provision of the range of public services/infrastructure improvements necessary to serve new development as indicated in the Development Plan. In consideration for the Owners' agreement to construct Val Vista as a seven lane (6 travel lanes plus a turn lane) roadway from Burris Road to Montgomery Road within twenty (20) years from the approval date of this Agreement, the public services/infrastructure required to serve development on the Property as indicated in the Development Plan or future more discrete plan approvals shall be constructed, upon Owners' request, after adherence to the proper statutory procedures and upon City's receipt of the appropriate required information, through the community facilities district ("CFD") mechanism pursuant to A.R.S. § 48-701 et seq. for a period of twenty (20) years from the approval date of this Agreement. If the Val Vista Road improvement has not been constructed within the twenty (20) year period, then after such 20 year period, the City and the CFD may approve the use of the CFD mechanism to finance, construct or acquire public services/infrastructure required to serve development on the Property for the remainder of the term of this Agreement. The City, Owners, and CFD shall modify the existing Copper Mountain Ranch Community Facilities District and enter into an intergovernmental, financing participation, and development agreement in the form as contained in Exhibit "D" ("CFD Agreement") and such agreement shall be the governing set of City policies and procedures through the twenty (20) year period referenced above or for the term of this Agreement should owners comply with the Val Vista Road improvement requirement. City, Owners and CFD shall modify any and all existing Copper Mountain Ranch CFD resolutions, ordinances, rules, regulations, policies and procedures as necessary to enact and implement the provisions of the this Agreement and the CFD Agreement. The City agrees to assume responsibility for the ownership, operation and maintenance of completed public infrastructure financed, acquired and/or constructed by one or more CFDs. Any CFD shall cause to be levied a CFD operation and maintenance tax on properties within the district and Owners shall provide additional funds for CFD operation as provided for in Exhibit "D." Dedications of land for any public use as may be required in this Agreement, do not preclude a right of Owners, prior to any such dedication, to sell such land (except for rights-of-way of roads of a classification equal to or less than collector and parks under 5 acres) to a community facilities district and to have such dedication made by such community facilities district.

12. ASSURANCES. Prior to commencing of construction, City may require Owners to provide assurances to City where appropriate and necessary to assure the installation of infrastructure and improvements related to such building permit(s) or permits for construction that Owners undertake. The amount of all assurances made by Owners shall be limited to the amount necessary to assure the installation of infrastructure and improvements related to each phase of the development in accordance with City ordinances. The City agrees that within twenty (20) days from the City's final approval of the particular completed infrastructure or service improvement for which the City has required such an assurance, the City shall, provided no warranty issue is in dispute, release (or, in the case of a letter of credit, accept a substitute letter of credit) such infrastructure assurance, in whole or in part as may be appropriate under the circumstances. Owners may use the following methods of assurance:

(a) Irrevocable letter of credit from a recognized financial institution acceptable to the City, authorized and licensed to do business in the State of Arizona;

(b) Cash or certified check;

(c) Corporate surety bond executed by a company acceptable to the City and licensed to do business in the State of Arizona; and

(d) Such other assurance mechanism agreed to by the parties to this Agreement such as, but not limited to, a certificate of occupancy holdback agreement.

13. STREETS. Except as such standards are identified in the Development Plan and as may be modified under Section 6(f), Owners shall construct the streets and roadways in compliance with City subdivision and street regulations ("Subdivision Regulations"). An overall transportation study for the Property assessing the potential impacts for various development alternatives shall be completed by Owner and submitted to the City prior to the first preliminary plat submittal. Additional and updated traffic and road improvement analyses for improvements within the Property shall be conducted by the Owner and provided to the City at the time applications are submitted for subdivision approval for discrete development portions of the Property, when major amendments to the approved Development Plan are made or when significant changes in the type of land uses are made (e.g. from industrial to commercial or commercial to residential). Determination by Owners of whether interior subdivision streets will be dedicated to the public or remain private shall be made by the Owners no later than the preliminary subdivision plat stage for each platted subdivision. Naming of the streets and addressing of the properties will be pursuant to Casa Grande ordinances. Owners shall have the right to choose the names in accordance with local ordinances for all new private streets and any new public streets not a continuation of an already named public street. Such named streets shall require review and approval of City emergency service departments which approval shall not be unreasonably withheld. Upon the completion and dedication of new streets, the City shall abandon public rights-of-way and/or reservations of such rights-of-way within the Property (including any section line rights-of-way which may legally exist, if any,) if such public rights-of-way are not shown to be dedicated as public rights-of-way in the approved subdivision plans. Where practical and desired from the City's planning perspective and upon agreement by Owners, the City shall provide for the continuation of rights-of-way from the Property through undeveloped adjacent properties as shown in the Development Plan. Approval of a plat containing dedication of streets and roadways to the public shall not constitute or effect acceptance by City of said streets and roadways into the City maintenance system. Upon termination of construction truck travel, both in a particular platted subdivision and neighboring subdivisions, over the streets, if any, dedicated to the public in a particular platted subdivision of the Property, the City Engineer shall reasonably determine whether repairs are needed. Upon the City Engineer's determination that repairs are needed, Owners shall repair said streets and roads of the subject platted subdivision to standards and specifications of the subdivision regulations. Upon the City Engineer's acknowledgement that the streets and roadways that are dedicated to the public are fully completed to standards and specifications of the subdivision regulations, the dedicated streets may be accepted into the City maintenance system in accordance with state and

local law. All streets and roadways dedicated to the public and accepted by the City shall be subject to the City's generally applicable warranty provisions or a lesser period of time if the parties mutually agree.

(a) Regarding roadway maintenance after dedication, if the City Public Works Director or his designee reasonably determines based upon information and plans provided from Owner that any public street will be used by equipment or vehicles that would exceed the weight-bearing capacity of said street such that the equipment or vehicles' use is likely to cause abnormal wear and tear on such street, Owner shall provide, or cause to be provided, one or a combination of letters of credit or other financial assurance in an amount reasonably sufficient to address projected repair costs, for the City to utilize to repair the affected street improvements in the event that Owner's assignee does not make such repairs pursuant to this paragraph. The City Public Works Director and Owner will mutually agree as to the condition of such street prior to its use by such equipment and vehicles (the "Pre-Existing Condition") in a written document signed by the relevant Owner or Assignee(s) and the City, which is filed with the Office of the City Clerk. Owner or its assignee shall be responsible only for the repair of the street to its Pre-Existing Condition at the conclusion of the streets' use by such equipment and vehicles.

14. WASTEWATER TREATMENT.

(a) If not located within the sewer service area certificated to a private sewer utility company, Owners shall design and construct, at Owners' cost, the CFD's cost or any combination thereof, a wastewater collection and transmission infrastructure of such design, capacity and type ("Wastewater System") as shall serve the reasonable needs of the Property and subsequent owners thereof, all in conformity with established federal, state and local laws. Design and construction of the Wastewater System shall be coordinated with City officials and shall be performed in a workmanlike manner and in compliance with applicable federal, state and generally applicable local laws, policies and standards. All portions of the Wastewater System accepted for public ownership and maintenance shall have a one (1) year warranty from the Owners against defective design, workmanship and/or materials, from the date of acceptance of said portions of the Wastewater System. Upon completion by the Owners and satisfactory inspection and final acceptance by the City or the CFD, which shall not be withheld unreasonably, the Wastewater System, and any discrete portion of the Wastewater System to serve a particular portion of the Property, shall be conveyed, together with all necessary property or easements to the City or the CFD. City shall cooperate by processing, in a timely manner, applications for necessary City franchise approvals, reviews, permits, or expansions or modifications to the City's 208 wastewater plan necessary to construct and operate the Wastewater System. So long as the facilities were constructed in accordance with City standards, if the City refuses to accept the dedicated facilities and the operation and maintenance obligations of the Wastewater System in a manner that equates to a refusal to be the wastewater service provider in an area of the Property, Owners may choose to form its own private utility company or utilize the services of utility providers and City will not oppose such action and, at no cost to the City, process the required approvals and necessary applications for consideration and approval.

(b) If not located within the sewer service area certificated to a private sewer utility company, City shall provide a wastewater treatment plant, mains and lift stations, if

necessary, ("City WWTP") of such design, capacity and type as shall serve the reasonable needs of the Property and subsequent owners thereof, all in conformity with established federal, state and local laws. If the City is unable or refuses to be the wastewater processor, Owners may choose to form their own private company or utilize the services of other providers. In which case, City shall reasonably cooperate by processing, in a timely manner, applications for any and all necessary City franchise approvals, reviews, permits, or expansions or modifications to the City's 208 wastewater plan necessary to construct and operate a private WWTP to serve the Property. The City shall have no liability regarding any private WWTP unless such plant is accepted as a City facility by the City. In addition to the capacity reserved under Section 14(c) of this Agreement, if capacity exists in existing City WWTP facilities, main transmission lines and lift stations, Owners reserve the right to pre-pay the then current City development fee for wastewater collection and treatment for portions of the development not being served by private operators and upon such payment, the City shall reserve capacity in such systems to accommodate the number of units for which such pre-payment was made for development on the Property. Development must occur on portions of the development within two years of the reservation payments and Owner must pay the difference, if any, between the pre-payment and the current fee at time of building permit issuance.

(c) Owners have paid for extra sewer line capacity under C.G. Contract No. 689-1 resulting in a 12 inch line over-sizing from 15 inches to 27 inches from the City WWTP to the Airport Industrial Park. City shall reserve for use by development on the Property the excess capacity in this City sewer line (excess capacity means the volume capacity of the excess 12 inches) from the City WWTP to the Airport Industrial Park for ten years from the date of this Agreement.

(d) All effluent produced by City wastewater treatment plants and associated facilities from influent from development on the Property shall be the property of the City. City agrees that Owners shall be provided City effluent if required for use on the Property in an amount generally equivalent to the influent from the Property (minus normal amounts of processing loss) to meet the Project's reasonable needs for many different uses including, but not limited to, construction, landscaping common areas, project monument features, recreation areas, golf courses, school grounds, athletic facilities, parks and lakes but such uses specifically exclude resale for off-Property construction. For eight (8) years from the issuance of the first building permit, the price of such effluent shall be $0.50 per 1,000 gallons to treat effluent subject to annual escalation rates (beginning 1/13/08 and escalated on each anniversary date) that equal the lower of the lowest contracted escalation rate arrangement the City has previously agreed to or the prior years Bureau of Labor Statistics Consumer Price Index (CPI-U) for the Western Region (the "Agreement Rate"). After the expiration of this time period, the Agreement Rate shall remain in effect for an additional seven (7) years only for effluent used for golf courses, resort development areas and for all purposes in the following Desert Color Planning Districts: Desert Color Resort Village, Desert Color Town Center, Desert Color Village Center and Desert Color Commons (collectively, "Eligible Land") . Before the expiration of the first eight (8) year period, Owners and the City hereby agree to work together in good faith to develop a reasonable methodology of estimation or more specific determination to identify amounts of effluent which will be used subject to the Agreement Rate for the additional seven (7) years. If construction on an amenitized resort facility (defined as a facility similar in scope and quality to the majority of Mobil Three-Star resorts listed on Exhibit "E") has begun within five (5) years

from the date of approval of this Agreement and completed within seven (7) years from the date of approval of this Agreement, the Agreement Rate shall be extended for the Eligible Land an additional five (5) years for a total of twenty (20) years. Owners shall design and construct or cause to be constructed with coordination and review with the City, the effluent delivery pipeline system and any reasonable improvements necessary to bring effluent to the Property which costs shall, to the extent allowed by law, be considered as eligible public improvements of the CFD and be purchased by the CFD at the Owners request. Should the City not be able to materially perform its commitment to provide effluent to the Property, Owners may at their own expense or from other funding sources arrange for the design, engineering, construction, acquisition, installation, and/or permitting of, in phases, effluent reuse/disposal facilities and a delivery system as part of a private non-potable water system that meets all applicable federal, state and local standards. In such case, if such system meets reasonable City standards and requirements, the City shall grant any and all necessary approvals and shall not act to oppose the formation of such private effluent system for which City shall have no liability whatsoever. Provided City is not the wastewater processor, Owners retain the right to use and/or sell all effluent generated by development on the Property, and, at their option, to seek and enter into an agreement for effluent service in the future from other private companies.

(e) If the City provides sewer service to the property, and the City's capacity is insufficient to serve the developments or if the City's facilities are in a location that makes Owners' connection thereto unduly burdensome either financially or due to physical engineering constraints, Owner may construct a wastewater treatment package plant ("Package Plant") so long as the Package Plant is constructed in accordance with the City's requirements in place at the time Owners apply for the required permits or, if none exist, reasonable and customary professional design and construction standards. To this end, the City agrees to support Owners' applications to various governmental authorities. If Owners must construct a Package Plant for their development, then the City will grant a development impact fee credit for the number of units which equals the design and construction costs for such Package Plant divided by the applicable sewer impact fee at the time of completion of construction of the Package Plant. After the completion of construction of the Package Plant, and at the request of the Owners, City will assume ownership and all maintenance responsibilities related to the operation of the Package Plant.

15. **WATER SERVICE.** Owners shall have the right to select a private water provider for potable water provision for the project. City shall not oppose such selection by Owners and shall cooperate with the various regulatory agencies and procedures needed to be accomplished to allow service by such selected approach. City shall process, in a reasonably timely manner, any and all necessary City franchise approvals, permits or other requirements necessary to allow the water provider chosen by Owners to construct water infrastructure and to operate a water company to serve development on the Property. Upon request by Owners, the City agrees, at Owner's expense, to assist and actively support the Owners and their respective successors and assigns and/or any water providers selected by Owners in obtaining a Certificate of Assured Water Supply or other similar necessary certifications from the Arizona Department of Water Resources or other agencies for the Property, or portions thereof, as the Property is developed in accordance with this Agreement.

Should the water system be a public water system, any and all costs related to such public water improvements expended by Owners shall be considered eligible public improvements of the CFD and purchased by the CFD at Owners' request.

16. COOPERATION. City and Owners shall each designate a representative to act as a liaison between City and its various departments and Owners ("Representatives"). The Representatives shall be available at reasonable times to assist with the performance of the parties under this Agreement. The applicable party may change the representative by giving notice to the other party of the name, title, address, and telephone number of the replacement. If Owners desire to have the City retain additional outside professionals and consultants in connection with expediting the development reviews for the Property, if City is willing to do so, Owners shall reimburse City for the reasonable fees for such consultant reviews. Such consultants will be chosen by the City and take direction from City officials.

17. NOTICES All notices, filings, consents, approvals and other communications provided for herein or given in connection herewith shall be in writing and delivered personally or sent by United States Mail in a postage prepaid envelope addressed to the other to the address provided herein or as may be changed in writing:

City:
Casa Grande City Manager
Casa Grande City Hall
510 East Florence Boulevard
Casa Grande, AZ 85222

Copy to:
City Attorney
Casa Grande City Hall
510 East Florence Boulevard
Casa Grande, AZ 85222

Owners:
Harrison Merrill, President
Vanguard Properties, Inc.
3340 Peachtree Rd, NE, Suite 2200
Atlanta, GA 30326

Larry Yount
LKY Development
5040 East Shea Boulevard, Suite 254
Scottsdale, AZ 85254

Copy to:
John D. DiTullio, Esq.,
Ballard Spahr Andrews & Ingersoll, LLP
3300 North Central Avenue, Suite 1800
Phoenix, AZ 85012-2518

18. ESTOPPEL CERTIFICATE. As may be reasonably commercially required, either party may request of the other party, and the requested party shall, within 20 working days respond and certify by written instrument to the requesting party that (a) the Development Plan is

unmodified and in full force and effect, or if there have been modifications, that the Development Plan is in full force and effect as modified, stating the nature and date of such modification; (b) the existence of any known default under the Development Plan and the scope and nature of the default; (c) the existence of any known counterclaims which the requested party has against the other party; and (d) any other known matters that may reasonably be requested in connection with the development of land, development of the Property or any material aspect of the Development Plan. The request for such information shall be written and contain a deadline specific equaling 20 working days from the date of transmittal. A breach of this section shall not be subject to the Cure Period as identified in Section 42.

19. WAIVER. No delay in exercising any right or remedy by either City or Owners shall constitute a waiver thereof. Waiver of any of the terms of this Agreement or the Development Plan shall not be valid unless in writing and signed by all parties hereto. The failure of any party to enforce the provisions of the Agreement or the Development Plan or require performance of any of the provisions shall not be construed as a waiver of such provisions or affect the right of the party to enforce all of the provisions of this Agreement and the Development Plan. Waiver of any breach of this Agreement or the Development Plan shall not be held to be a waiver of any other or subsequent breach thereof.

20. BINDING EFFECT. This Agreement shall be binding upon City and Owners and their respective successors and assigns. Upon the assignment, transfer or conveyance of any portion of Owners' interest in the Property to Owners' successor(s), the rights and responsibilities under this Agreement shall transfer to Owners' successor(s). The City shall be notified in writing of any assignment, transfer or conveyance within 14 calendar days of such assignment, transfer or conveyance.

21. GOVERNING LAW. The laws of the State of Arizona and the United States shall be applied to all provisions of this Development Agreement.

22. CHOICE OF FORUM. Notwithstanding A.R.S. § 12-408, any suit or action brought under this Agreement shall be commenced in Superior Court of the State of Arizona in and for the County of Pinal or the appropriate federal district court if involving federal claims and may be removed therefrom only upon the mutual agreement of the City and Owners.

23. EXERCISE OF AUTHORITY. It is understood and agreed that Owners shall not in any way exercise any portion of the authority or sovereign powers of City and shall not make or contract or commit or in any way represent itself as an agent for City. Nor shall anything in this Agreement be construed to create any partnership, joint venture or principal agency relationship between the parties.

24. INCORPORATION OF DOCUMENTS. All documents referred to herein and in the Development Plan are incorporated herein by reference.

25. RECORDATION. In order to provide notice to third parties, the City shall record this Agreement in the official records of the Pinal County Recorder within ten (10) days after the full execution of this Agreement. Owner shall pay for all standard costs of recordation.

26. CONFLICT OF INTEREST. This Agreement is subject to the provisions of A.R.S. § 38-511.

27. SEVERABILITY OF PROVISIONS. Each term and provision of this Development Agreement shall be considered severable and if, for any reason, any term or provision of this Agreement be declared or be determined to be illegal or invalid, the validity of the remaining terms and provisions shall not be affected thereby, and said illegal or invalid term or provision shall not be deemed a part of this Agreement, notwithstanding any other provision of this Agreement to the contrary.

28. TIME OF THE ESSENCE. Time is of the essence to this Agreement and with respect to the performance required by each party hereunder. All building and construction permits shall be issued by City within 10 business days of building or construction plan approval.

29. ADDITIONAL ACTS AND DOCUMENTS. Each party hereto agrees to do all such things and take all such actions, and to make, execute and deliver such other documents and instruments, as shall be reasonably requested to carry out the provisions, intent and purpose of this Agreement. If any action or approval is required of any party in furtherance of the rights under this Agreement, such approval shall not be unreasonably withheld.

30. AMENDMENTS. No amendment shall be made to this Agreement except by written document executed by City and Owners. Due to their large percentage ownership of the land affected by this Agreement, WHM Copper Mountain Investments, LLC ("WHM Copper") has the authority to initiate, negotiate, agree to and execute binding amendments for all the parties comprising the Owners, except for amendments materially altering either the land use classifications in the Development Plan or the monetary obligations in this Agreement affecting the lands of the entities comprising the Owners other than WHM Copper which amendments shall require such entities agreement and signature. Any and all amendments to this Agreement which impact only WHM Copper land, rights and responsibilities shall not require any other property owners consent or signature. Within ten (10) days after the execution of any amendment by both parties, the amendment shall be recorded, at Owner's expense, by the City with the Pinal County Recorder, Pinal County, Arizona.

31. ENTIRE AGREEMENT. This Agreement supersedes any and all other agreements, either oral or in writing, between the parties and contains all the covenants and agreements between the parties with respect to said matter. In the event of a conflict between the text of this Agreement and the attached or incorporated Exhibits or the terms of the PAD zoning, the text of this Agreement shall control.

32. COMPLETION OF CONSTRUCTION. The rights granted to Owners hereunder shall extend for the initial term and any extension thereof. If any building permit has been issued before the date of termination of the term, the rights shall remain valid until the permit expires in accordance with then current City regulations. Upon expiration of the term, all principal structures for which footings or foundations have been completed may be finished under the Development Plan. Upon expiration of the Agreement, the development may continue based on valid building permits issued in accordance with the standards in effect at that time.

Any unexpired permit issued for the Property as part of the Development Plan shall not expire nor shall it be revoked merely because the Agreement has expired.

33. HEADINGS. The headings for the paragraphs of this Agreement are for convenience and reference purposes only and in no way define, limit or describe the scope or intent of said paragraphs nor in any way affect this Agreement.

34. ATTORNEYS FEES. In the event it becomes necessary for a party to this Agreement to bring an action at law or other proceedings to enforce any of the terms or provisions of this Agreement, the successful party in any such action or proceeding may apply for attorney fees pursuant to A.R.S. § 12-341.01.

35. LOT SALE. It is the intention of the parties that although recorded, this Agreement shall not create conditions or exceptions to title or covenants running with any individual lots into which the Property is subdivided. Any title insurer can rely on this section when issuing any commitment to insure title to any individual lot or when issuing a title insurance policy for any individual lot. So long as not prohibited by law, this Agreement shall automatically terminate as to any individual lot (and not in bulk), without the necessity of any notice, agreement or recording by or between the parties, upon conveyance of the lot to a homebuyer by a recorded deed. For this section, "lot" shall be any lot upon which a home has been completely constructed that is contained in a recorded subdivision plat that has been approved by the City.

36. ASSIGNMENT. Owners shall have the right to sell, transfer or assign part or all of the Property to any person or entity ("Assignee") at any time during the duration of this Agreement. Owners shall provide the City notice of the sale, transfer or assignment which notice shall include the name, address and facsimile number of the Assignee.

37. LIEN FINANCING. Owners shall have the right at any time, and as often as it desires, to finance the Property and to secure the financing with a lien or liens against the Property. Owner shall obtain releases of liens on any property to be dedicated or conveyed to the City or the CFD.

38. COUNTERPARTS. This Agreement may be executed in any number of counterparts, each of which shall be an original but all of which shall constitute one and the same instrument.

39. CITY SERVICES. City shall provide all City services to the Property to the same extent and upon the same terms and conditions as those services are provided to other similarly situated real properties in the City, except as otherwise provided herein.

40. NO APPROVAL. If this Agreement, the annexation, the PAD zoning and the Development Plan are not approved by the Council or is approved subject to conditions or stipulations not accepted by Owners, City shall take immediate action to rescind any and all approvals within the thirty (30) day effectiveness period and Owners shall have no obligation to construct any of the improvements provided for in this Agreement, the PAD zoning or the Development Plan. In such event, the Copper Mountain Ranch Development Agreement recorded as Fee No. 1999-043635, as amended, shall remain in full force and effect.

41. TIMELY ACTION. The City acknowledges and agrees that it is desirable for the Owners to proceed rapidly with the implementation of this Agreement and the development of the Property and that, accordingly, a reasonably timely approval, review and construction inspection process is necessary. The parties agree that if no substantive good faith review or final decision by City staff has occurred within normal City timeframes regarding review of applications, plans, permit requests or any other similar action, the Owners shall have the right to immediately appeal to the City Manager for an expedited decision pursuant to this paragraph. The City Manager shall provide the Owners with a decision within 15 working days after the Owners' written request for an expedited decision under this Section 41.

42. DEFAULT. Failure by either party to perform or otherwise act in accordance with any term or provision hereof shall constitute a breach of this Agreement and, if the breach is not cured within 30 days after written notice thereof from the other party (the "Cure Period"), shall constitute a default under this Agreement; provided, however, that if the failure is such that more than 30 days would reasonably be required to perform such action or comply with any term or provision thereof, then the party shall have such additional time as may be necessary to perform or comply so long as the party commences performance or compliance within said 30 day period and diligently proceeds to complete such performance or fulfill such obligation. In the event a breach is not cured within the Cure Period, the non-defaulting party shall have all the rights and remedies that may be available under law or equity, including without limitation the right to specifically enforce any term or provision of this Agreement and/or the right to institute an action for damages.

43. GOOD STANDING; AUTHORITY. Each of the parties represents and warrants to the other a) that it is duly formed and validly existing; b) that it is a limited liability company, limited partnership or corporation qualified to do business in Arizona with respect to the Owners, or a political subdivision of the state with respect to the City; and c) that the individuals executing this Agreement on behalf of their respective parties are authorized and empowered to bind the party on whose behalf each such individual is signing.

44. FORCE MAJEURE. The performance of either party shall be extended for an appropriate period by any causes that are beyond the control of the party required to perform, such as, but not limited to, an act of God, civil or military disturbance, or acts of terrorism. The parties may upon mutual agreement extend the term of this Agreement in response to the impacts of such events.

45. NO MORATORIUM. The Parties hereby acknowledge that the Owners shall not be subjected to any moratorium action taken by the City except as shall be in strict compliance with the law as set forth in the Arizona Revised Statutes §9-463.06 in such form as such law exists upon the date of full execution by the parties to this Agreement which shall be attached as Exhibit "G". Further, the City shall not take any action or adopt any ordinance, resolution or other land use rule or regulation imposing a limitation on the conditioning, rate, timing or sequencing of the development of the Property or any portion thereof if such action shall have a material adverse impact on the development of the Property as put forth in the Development Plan.

46. INDEMNIFICATION.

(a) Owners, or Owners' successors and assigns, agrees to defend, indemnify and hold harmless City, its officers, officials and employees for liability from and against claims, damages, losses and expenses of any nature whatsoever (including but not limited to reasonable attorney fees, court costs, the costs of appellate proceedings, and all claim adjusting and handling expense), relating to, arising out of, resulting from or alleged to have resulted from Owners' or its successors' and assigns' acts, errors, mistakes or omissions relating to any action or inaction of the Owners, their successors or assigns under this Agreement, including but not limited to work or services in the performance of this Agreement by any subcontractor or anyone directly or indirectly employed by or contracting with the Owners or a subcontractor or anyone for whose acts any of them may be liable. Owners' responsibility and obligation to indemnify any party under this subsection shall cease upon Owners' transfer, assignment, or conveyance of its ownership interest in all or portions of the Property unless it is a claim relating to an event when Owners owned the Property. If any claim, action or proceeding is brought against the City, its officers, officials and employees, by reason of any event that is the subject of this subsection, Owners, or their successors or assigns (at its sole cost and expense) shall pay, resist or defend such claim or action on behalf of the City, its officers, officials and employees by the attorney of the Owners, or if covered by insurance, Owners' insurer, all of which must be approved by City, which approval shall not be unreasonably withheld or delayed. The City shall cooperate with all reasonable efforts in the handling and defense of such claim. Any settlement of claims must fully release and discharge the City, its officers, officials and employees from any liability for such claims. The release and discharge shall be in writing and shall be subject to approval by the City, which approval shall not be unreasonably withheld or delayed.

(b) The indemnity provisions of this Agreement shall survive the termination of this Agreement.

(c) As a condition of sale or transfer by Owners, successors and assigns of Owners shall acknowledge in writing the assumption of the indemnity obligations of this Agreement and such written acknowledgement shall be provided to the City.

47. NOTICE OF CONVEYANCE OR ASSIGNMENT. The Owners shall give written notice to the City of any sale of the entire or portions of the Property within ten (10) days after the effective date of the sale.

48. PRIOR AGREEMENTS. Except as identified in this Agreement, the parties mutually agree and acknowledge that the following agreements and any amendments thereto have either already been terminated or are hereby cancelled and shall have no effect:

- Effluent Sales Agreement (C.G. Contract No. 599-6) and 1st Amendment to Effluent Sales Agreement (C.G. Contract No. 599-6.1);
- Water Services Agreement (CFD Contract No. 202-1); and
- Sewer Line Extension Agreement (C.G. Contract No. 689-1).

49. OVER-SIZING. If Owners agree to participate in the cost of over-sizing any public infrastructure improvements, the City, the Owners and any community facilities district shall establish a mutually agreeable means of collecting timely, pro-rata share cost reimbursements from owners of other real property for the community facilities district's and/or Owners' costs of financing, designing and installing public facilities that are of the size, length or capacity greater than that needed to serve or mitigate the impacts of development of the Property and which will serve other property in the City.

50. EMERGENCY SERVICES SUBSIDY. In order to assist in the provision of police, fire and emergency medical services to the portion of the Property as described in Exhibit "A", a payment of $500 per single family residential unit shall be paid to the City at the time of issuance of a building permit for initial new construction of such units by the party seeking such permit for a period of ten (10) years from the date of this Agreement. This payment shall also apply to the property as described in Exhibit "B" for a period of five (5) years from the date of this Agreement for all property described in Exhibit "B" east of the section line dividing Sections 26 and 27 and for a period of ten (10) years from the date of this Agreement for all property described in Exhibit "B" west of the section line dividing Sections 26 and 27. The proceeds of this payment shall be used to provide police, fire and emergency medical services to the Property and immediately proximate areas of land as such emergency services response area boundaries may reasonably exist outside of the Property's boundaries.

51. VOLUNTARY ACCEPTANCE. The parties acknowledge and agree that they have voluntarily accepted and approved of the terms and conditions of this Agreement and that no inappropriate influence has been exerted by any party to this Agreement.

52. BUFFER AREA. No residential or commercial structures shall be constructed on the Property within thirty (30) feet of the property line between the Property and the unincorporated area as identified on Exhibit "H."

53. PUBLIC RECREATION COMPLEX LAND DEDICATION. If it is determined by City staff to be an eligible public infrastructure improvement under applicable law relating to community facilities districts, and subject to the contingencies identified in this section, Owners shall dedicate 120 acres of the Property to the City for the purpose of a public recreation complex provided the City has established a mechanism to finance the construction and completion of such a public recreation complex within 5 years from the effective date of the recording of final plats for initial development activity in the first phase of the project. Before Owners make any such dedication, Owners shall make a determination, in their sole discretion, as to the adequacy, effectiveness and sufficiency of the commitments and financing mechanism referenced above and if Owners reasonably determine that such commitments and financing mechanisms are not satisfactory, the dedication requirement shall be automatically terminated as a term of this Agreement. Owners shall also retain the right, in their sole discretion, to review and approve the proposed uses for such complex and to determine the location of any such dedication. Dedication of land for this public use does not preclude a right of Owners, prior to any such dedication, to sell such land to the community facilities district at fair market value and to have such dedication made by the community facilities district.

54. VAL VISTA ROAD. Developer agrees that it shall, as a minimum improvement and within 20 years, construct Val Vista Road as a seven-lane (6 lane plus a turn lane) roadway from Burris Road to Montgomery Road. Notwithstanding the foregoing, Owners shall convey to the CFD three hundred (300) feet of right-of-way for Val Vista Road, which is currently planned to be an expressway by the City of Casa Grande. City agrees that at the time of upgrading of the construction of the Road to an expressway utilizing the 300 feet of right-of-way, there shall be provided, upon Owner's request, no less than 6 intersections at locations on the Property to be mutually and reasonably determined by City and Owners. If City or the CFD determines at some point in the future during the term of this Agreement, that it no longer wants the full 300 feet of right-of-way, Owners shall have a first right of refusal to purchase back any such right-of-way area from the City or CFD at the cost of acquisition of the right-of-way by the CFD plus the prior years Bureau of Labor Statistics Consumer price Index (CPI-U) for the Western Region. City or the CFD shall maintain such right-of-way area in an appropriate manner at least equal to City standards elsewhere so as not to be a nuisance or unduly negatively impact surrounding developed areas.

IN WITNESS WHEREOF, the Council of Casa Grande, Arizona, by its Chairman and its Clerk, duly authorized, have affixed hereunto their hand and caused its official seal to be affixed on this 25th day of January 2007.

CITY OF CASA GRANDE, an Arizona municipal corporation

By:_____
Charles T. Walton, Sr.
Mayor

Date: 1/25/07

ATTEST:

By:_____
Gloria Leija
City Clerk

Date: 1/25/07

CITY OF CASA GRANDE INCORPORATED 1915 CASA GRANDE, ARIZONA

APPROVAL AS TO FORM AND AUTHORITY:

By:_____
Brett Wallace
City Attorney

STATE OF ARIZONA)
) SS.
COUNTY OF PINAL)

The foregoing Amended and Restated Development Agreement for Copper Mountain Ranch was acknowledged before me this 25 day of Jan, 2007 by Charles T. Walton, Sr., Mayor of the City of Casa Grande, an Arizona municipal corporation, and being authorized to do so, executed the foregoing instrument on behalf of the City for the purposes therein stated._____

Notary Public _____

My Commission Expires:

_____

OFFICIAL SEAL
GLORIA ANN LEIJA
NOTARY PUBLIC - STATE OF ARIZONA
PINAL COUNTY
My Comm. Expires Jan. 23, 2008

WHM COPPER MOUNTAIN INVESTMENTS, L.L.C., a Delaware limited liability company

By: WHM Copper Mountain Holdings, LLC, a Delaware limited liability company, Manager

By: Harrison Merrill Copper Mountain Holdings, LLC, a Delaware limited liability company, Manager

By: _____
William Harrison Merrill, Manager

Date: Feb. 12, 2007

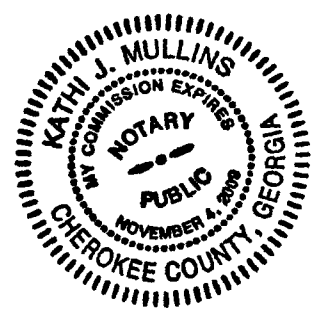
STATE OF Georgia)
) SS.
COUNTY OF Fulton)

The foregoing Amended and Restated Development Agreement for Copper Mountain Ranch was acknowledged before me this 12th day of Feb, 2007 by W. Harrison Merrill, Manager of Harrison Merrill Copper Mountain Holdings, LLC, a Delaware limited liability company, Manager of WHM Copper Mountain Holdings, LLC, a Delaware limited liability company, Manager of WHM COPPER MOUNTAIN INVESTMENTS, LLC, a Delaware limited liability company, who being authorized to do so, executed the foregoing instrument on behalf of said entity for the purposes therein stated.

_____
Notary Public

My Commission Expires:

11-4-09



140 VAL VISTA/BURRIS LIMITED PARTNERSHIP, an Arizona limited partnership

By: _____

Printed Name LARRY K YOUNT

Title: MANAGER

Date: 2/14/07

STATE OF ARIZONA)
) SS.
COUNTY OF MARICOPA)

The foregoing Amended and Restated Development Agreement for Copper Mountain Ranch was acknowledged before me this 15th day of Feb., 2007 by Larry K Yount a manager of 140 Val Vista/Burris Limited Partnership, an Arizona limited partnership, who being authorized to do so, executed the foregoing instrument on behalf of said entity for the purposes therein stated.

_____
Notary Public
Robyn Patricia Yount

My Commission Expires:

August 28, 2008

OFFICIAL SEAL
ROBYN PATRICIA YOUNT
NOTARY PUBLIC - State of Arizona
MARICOPA COUNTY
My Comm. Expires Aug. 28, 2008

100 VAL VISTA MONTGOMERY, L.L.C.,
an Arizona limited liability company

By: _____
Printed Name LARRY K YOUNT
Title: SEC

Date: 2/14/07

STATE OF ARIZONA)
) SS.
COUNTY OF MARICOPA)

The foregoing Amended and Restated Development Agreement for Copper Mountain Ranch was acknowledged before me this 15th day of Feb, 2007 by Larry Yount, a [redacted] of 100 Val Vista Montgomery, L.L.C., an Arizona limited liability company, who being authorized to do so, executed the foregoing instrument on behalf of said entity for the purposes therein stated.

Robyn Yount Callahan
Notary Public Robyn Patricia Callahan

My Commission Expires:
August 28, 2008

OFFICIAL SEAL
ROBYN PATRICIA YOUNT
NOTARY PUBLIC-State of Arizona
MARICOPA COUNTY
My Comm. Expires Aug. 28, 2008

ROBIN R. YOUNT, LTD., an Arizona corporation

By: _____

Printed Name: Larry K Yount

Title: Sec

Date: 2/14/07

STATE OF ARIZONA)
) SS.
COUNTY OF MARICOPA)

The foregoing Amended and Restated Development Agreement for Copper Mountain Ranch was acknowledged before me this 15th day of Feb, 2007 by Larry K Yount, a Sec of Robin R. Yount, LTD., an Arizona corporation, who being authorized to do so, executed the foregoing instrument on behalf of said entity for the purposes therein stated.

Robyn Yount Calihan
Notary Public
Robyn Patricia Yount

My Commission Expires:

August 28, 2008

OFFICIAL SEAL
ROBYN PATRICIA YOUNT
NOTARY PUBLIC - State of Arizona
MARICOPA COUNTY
My Comm. Expires Aug. 28, 2008

RYG 120, L.L.C., an Arizona limited liability company

By: Larry K Yount

Printed Name: Larry K Yount

Title: Sec

Date: 2/14/07

STATE OF ARIZONA)
) SS.
COUNTY OF MARICOPA)

The foregoing Amended and Restated Development Agreement for Copper Mountain Ranch was acknowledged before me this 15th day of Feb, 2007 by Larry K. Yount a Sec. of RYG 120, L.L.C., an Arizona limited liability company, who being authorized to do so, executed the foregoing instrument on behalf of said entity for the purposes therein stated.

Robyn Yount Calihan
Notary Public
Robyn Patricia Yount

My Commission Expires:

August 28, 2008

OFFICIAL SEAL
ROBYN PATRICIA YOUNT
NOTARY PUBLIC - State of Arizona
MARICOPA COUNTY
My Comm. Expires Aug. 28, 2008

Richard and Dana, L.L.C., an Arizona limited liability company

By: Richard Hock
Printed Name: RICHARD HOCK
Title: MANAGER
Date: 2/15/07

STATE OF ARIZONA)
) SS.
COUNTY OF MARICOPA)

The foregoing Amended and Restated Development Agreement for Copper Mountain Ranch was acknowledged before me this 15th day of Feb., 2007 by Richard Hock, a Manager of Richard and Dana L.L.C., an Arizona limited liability company, who being authorized to do so, executed the foregoing instrument on behalf of said entity for the purposes therein stated.

Robyn Yount Calihan
Notary Public
Robyn Patricia Yount

My Commission Expires:
August 28, 2008

OFFICIAL SEAL
ROBYN PATRICIA YOUNT
NOTARY PUBLIC - State of Arizona
MARICOPA COUNTY
My Comm. Expires Aug. 28, 2008

Bruce and Karen, L.L.C., an Arizona limited liability company

By: Bruce H. Combe
Printed Name: BRUCE H. COMBE
Title: MANAGER
Date: 2/19/07

STATE OF ARIZONA)
) SS.
COUNTY OF MARICOPA)

The foregoing Amended and Restated Development Agreement for Copper Mountain Ranch was acknowledged before me this 19th day of Feb., 2007 by Bruce H. Combe a manager of Bruce and Karen L.L.C., an Arizona limited liability company, who being authorized to do so, executed the foregoing instrument on behalf of said entity for the purposes therein stated.

Robyn Yount Calihan
Notary Public
Robyn Patricia Yount

My Commission Expires:
August 28, 2008

OFFICIAL SEAL
ROBYN PATRICIA YOUNT
NOTARY PUBLIC - State of Arizona
MARICOPA COUNTY
My Comm. Expires Aug. 28, 2008

RRY REAL ESTATE, L.L.C., an Arizona limited liability company

By: _____
Printed Name: LARRY K YOUNT
Title: SEC

Date: 2/14/07

STATE OF ARIZONA)
) SS.
COUNTY OF MARICOPA)

The foregoing Amended and Restated Development Agreement for Copper Mountain Ranch was acknowledged before me this 15th day of Feb, 2007 by Larry K Yount, a SEC of RRY REAL ESTATE, L.L.C., an Arizona limited liability company, who being authorized to do so, executed the foregoing instrument on behalf of said entity for the purposes therein stated.

Robyn Yount-Calhoun
Notary Public
Robyn Patricia Yount

My Commission Expires:
August 28, 2008

OFFICIAL SEAL
ROBYN PATRICIA YOUNT
NOTARY PUBLIC - State of Arizona
MARICOPA COUNTY
My Comm. Expires Aug. 28, 2008

VAL VISTA/W BIANCO LIMITED PARTNERSHIP, an Arizona limited partnership

By: _____
Printed Name LARRY K YOUNT
Title: MANAGER

Date: 2/14/07

STATE OF ARIZONA)
) SS.
COUNTY OF MARICOPA)

The foregoing Amended and Restated Development Agreement for Copper Mountain Ranch was acknowledged before me this 15th day of Feb, 2007 by Larry K Yount a manager of VAL VISTA/W BIANCO LIMITED PARTNERSHIP, an Arizona limited partnership, who being authorized to do so, executed the foregoing instrument on behalf of said entity for the purposes therein stated.

_____
Notary Public
Robyn Patricia Yount

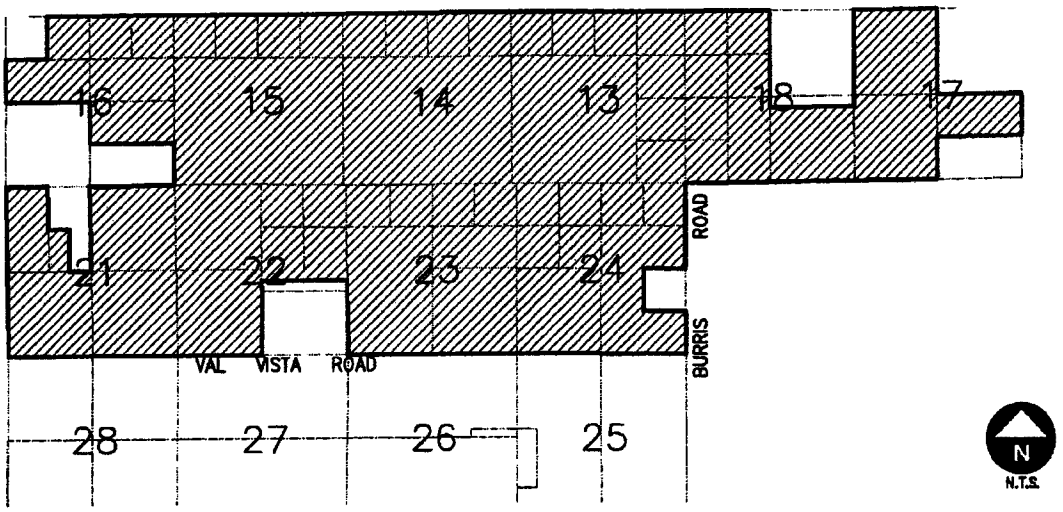
My Commission Expires:
August 28, 2008

OFFICIAL SEAL
ROBYN PATRICIA YOUNT
NOTARY PUBLIC - State of Arizona
MARICOPA COUNTY
My Comm. Expires Aug. 28, 2008

EXHIBIT "A"

LEGAL DESCRIPTION

COPPER MOUNTAIN RANCH



COPPER MOUNTAIN RANCH
P.A.D. (ORIGINAL P.A.D BOUNDARY)

JACK JOHNSON COMPANY

JACK JOHNSON COMPANY
Designing World Destinations

October 27, 2005
Vanguard Properties, Inc.
Copper Mountain Ranch PUD

LEGAL DESCRIPTION

Copper Mountain Ranch Parcel, lying within Township 5 South, Range 5 East and Township 5 South, Range 6 East of the Gila and Salt River Meridian, Pinal County, Arizona, more particularly described as follows:

All of Section 13, Section 14, Section 15, and Section 23, Township 5 South, Range 5 East;

The Northeast Quarter, the South Half of the Northwest Quarter, the North Half of the Southeast Quarter, and Government Lot #3 of Section 16, Township 5 South, Range 5 East;

The Northeast Quarter, the South Half, the West Half of the Northwest Quarter, and the West Half of the Southeast Quarter of the Northwest Quarter of Section 21, Township 5 South, Range 5 East;

The North Half, the Southwest Quarter, and the North twenty (20) acres of the Southeast Quarter of Section 22, Township 5 South, Range 5 East;

The North Half, the Southwest Quarter, the South Half of the Southeast Quarter, and the Northwest Quarter of the Southeast Quarter of Section 24, Township 5 South, Range 5 East;

The West Half, and the Southeast Quarter, except the North twenty (20) acre portion of the Southeast Quarter of Section 18, Township 5 South, Range 6 East;

The West Half, and the North Half of the Southeast Quarter of Section 17, Township 5 South, Range 6 East.

Said portion on land contains 5,503.9565 acres, more or less, including any easements of record.

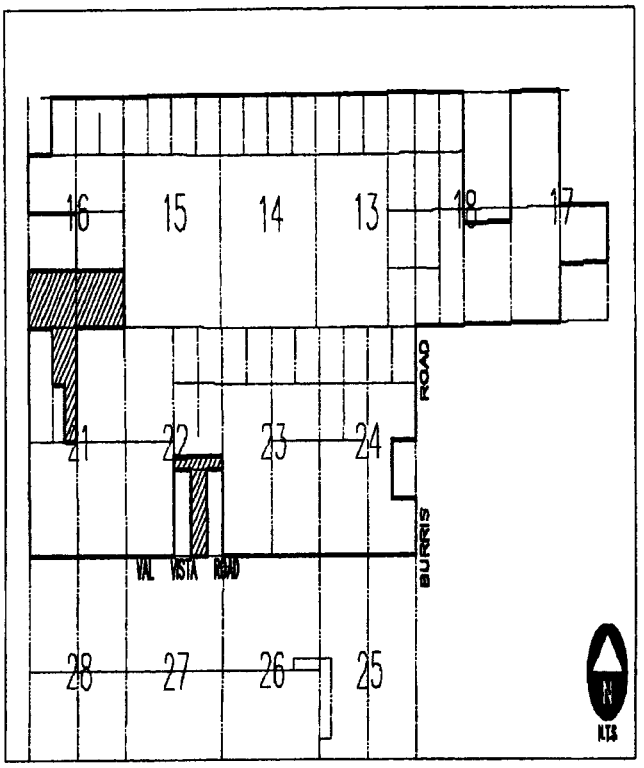
5745 N. Scottsdale Road, Suite 130 ~Scottsdale ~AZ 85250 | Telephone ~480.214.0370 ~Facsimile ~480.214.0356

SCOTTSDALE ~PARK CITY ~BOISE

www.jackjohnson.com

EXHIBIT "B"

COPPER MOUNTAIN RANCH



COPPER MOUNTAIN RANCH
P.A.D. (YOUNT ADDITION)

JACK JOHNSON COMPANY

JACK JOHNSON COMPANY

November 22, 2005
Vanguard Properties, Inc.
Copper Mountain Ranch PAD
Yount Addition
Page 1 of 1

LEGAL DESCRIPTION

Parcels of land lying within Township 5 South, Range 5 East of the Gila and Salt River Meridian, Pinal County, Arizona, more particularly described as follows:

Parcel 1

The South Half of the West Half of the Southwest Quarter of Section 16, Township 5 South, Range 5 East;

The South Half of the East Half of the Southwest Quarter of Section 16, Township5 South, Range 5 East;

The South Half of the Southeast Quarter of Section 16, Township 5 South, Range 5 East;

The South Half of the Southeast Quarter of the Northeast Quarter of the Northwest Quarter and the East Half of the Southeast Quarter of the Northwest Quarter of Section 21, Township 5 South, Range 5 East;

The Northeast Quarter of the Northwest Quarter of Section 21, Township 5, Range 5 East;
Except the South Half of the Southeast Quarter of the Northeast Quarter of the Northwest Quarter of said Section 21;

Parcel 2

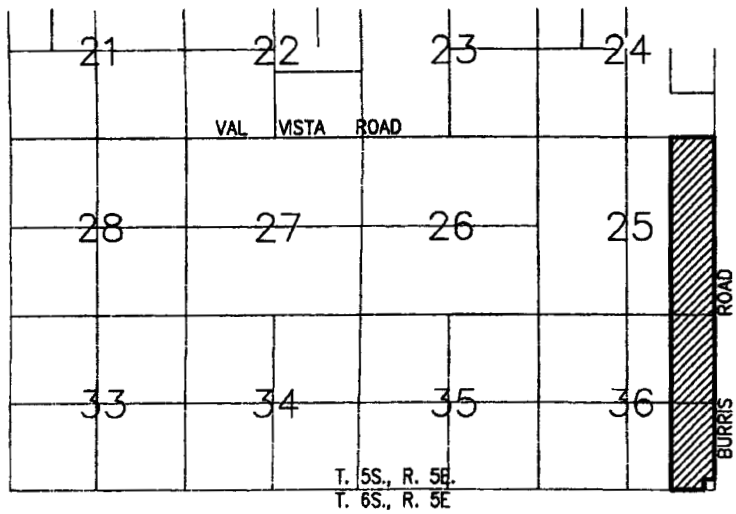
The South Half of the North Half of the North Half of the Southeast Quarter of Section 22, Township 5 South, Range 5 East;

The East Third of the West Half of the Southeast Quarter and the West Third of the East Half of the Southeast Quarter of Section 22, Township 5 South, Range 5 East;
Except the North Half of the North Half of said Southeast Quarter Section;

Said Parcels of land contains 279.6194 acres, more or less.

C:\Documents and Settings\cmz.JJC\Desktop\Copper Mountain Ranch Legals\CMR PAD Yount Addition Legal.doc
5745 N. Scottsdale Road, Suite 130 –Scottsdale –AZ 85250 Telephone –480.214.0370 –Facsimile –480.214.0356
SCOTTSDALE –PARK CITY –BOISE
www.jackjohnson.com

COPPER MOUNTAIN RANCH



N

N.T.S.

COPPER MOUNTAIN RANCH
P.A.D. (VISTA MOUNTAIN PORTION WITHIN THE CITY OF CASA GRANDE)

JACK JOHNSON COMPANY

December 1, 2005
Vanguard Properties, Inc.
Vista Mountain Ranch Portion
Within the Town of Casa Grande

LEGAL DESCRIPTION

Those portions of Sections 25, and 36 of Township 5 South, Range 5 East of the Gila and Salt River Meridian, Pinal County, Arizona, being more particularly described as follows:

The East Half of the East Half of Section 25;

The East Half of the East Half of Section 36;

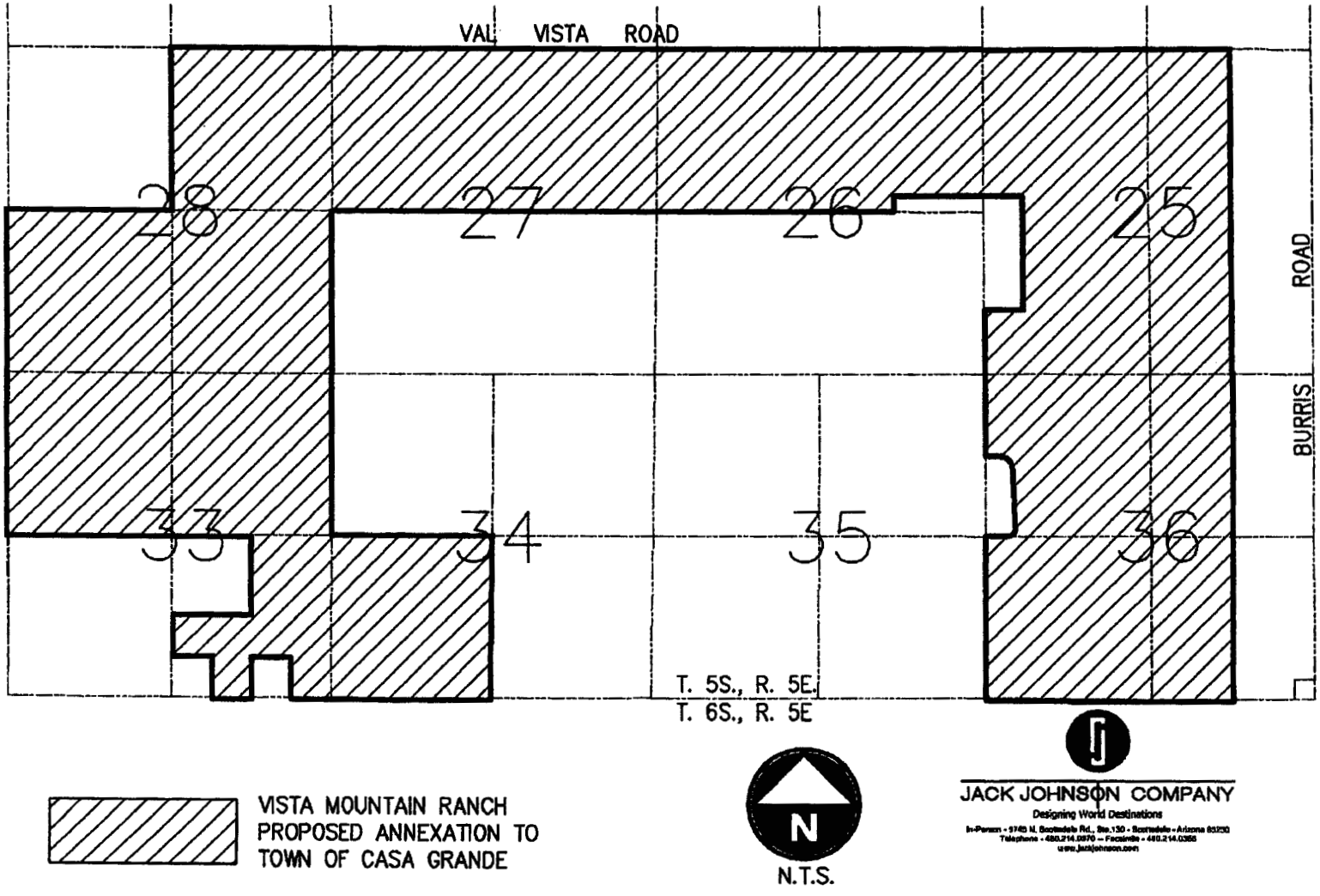
Excepting therefrom:

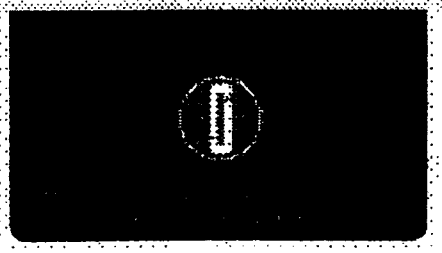
The Southeast Quarter of the Southeast Quarter of the Southeast Quarter of the Southeast Quarter of said Section 36.

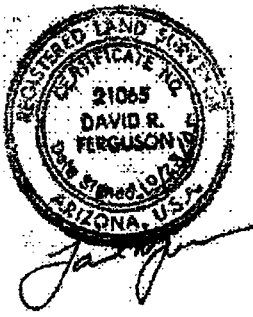
Said portion of land contains 319.42 acres, more or less.

O:\698CopperMountain\Exhibits\Copper Mtn Boundary\01_Correspondence\CMR PAD Vista Portion in CG Legal.doc
5745 N. Scottsdale Road, Suite 130 --Scottsdale --AZ 85250 | Telephone --480.214.0370 --Facsimile --480.214.0356
SCOTTSDALE --PARK CITY --BOISE
www.jackjohnson.com

ANNEXATION MAP
VISTA MOUNTAIN RANCH







October 28, 2005
Vanguard Properties, Inc
Vista Mountain Ranch Annexation
Page 1 of 5

LEGAL DESCRIPTION

THOSE PORTIONS OF SECTIONS 25,26,27,28,33,34,35 & 36, TOWNSHIP 5 SOUTH, RANGE 5 EAST OF THE GILA & SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA DESCRIBED AS FOLLOWS:

COMMENCING AT THE WEST QUARTER CORNER OF SECTION 33, TOWNSHIP 5 SOUTH, RANGE 5 EAST FROM WHICH THE SOUTHWEST CORNER OF SAID SECTION 33 BEARS SOUTH 00 DEGREES 08 MINUTES 20 SECONDS WEST, AT A DISTANCE OF 2635.80 FEET;

THENCE SOUTH 45 DEGREES 05 MINUTES 59 SECONDS WEST, A DISTANCE OF 46.70 FEET TO A POINT THAT IS 33 FEET SOUTH AND 33 FEET WEST OF SAID WEST QUARTER SECTION CORNER OF SECTION 33, SAID POINT BEING THE POINT OF BEGINNING;

THENCE NORTH 00 DEGREES 08 MINUTES 17 SECONDS EAST ALONG A LINE 33 FEET WEST OF AND PARALLEL WITH THE WEST LINE OF SECTION 33, A DISTANCE OF 2669.16 FEET TO A POINT 33 FEET WEST OF THE SECTION CORNER FOR SECTIONS 28, 29, 32 AND 33 OF SAID TOWNSHIP 5 SOUTH, RANGE 5 EAST;

THENCE NORTH 00 DEGREES 08 MINUTES 04 SECONDS EAST ALONG A LINE 33 FEET WEST OF AND PARALLEL WITH THE WEST LINE OF SECTION 28, TOWNSHIP 5 SOUTH RANGE 5 EAST, A DISTANCE OF 2635.85 FEET;

THENCE NORTH 89 DEGREES 58 MINUTES 26 SECONDS EAST A DISTANCE OF 33.00 FEET TO THE WEST QUARTER CORNER OF SAID SECTION 28;

THENCE CONTINUING NORTH 89 DEGREES 58 MINUTES 26 SECONDS EAST ALONG THE EAST WEST MID SECTION LINE OF SECTION 28, A DISTANCE OF 2640.19 FEET TO THE CENTER QUARTER CORNER OF SAID SECTION 28;

THENCE NORTH 00 DEGREES 12 MINUTES 16 SECONDS EAST ALONG THE NORTH SOUTH MID SECTION LINE OF SAID SECTION 28, A DISTANCE OF 2638.36 FEET TO THE NORTH QUARTER CORNER OF SAID SECTION 28, SAID POINT FALLING ON THE SOUTHERLY LINE OF THE CURRANT CORPORATE BOUNDARY AS ESTABLISHED BY CITY ORDINANCE NO. 1907;

THENCE NORTH 89 DEGREES 56 MINUTES 03 SECONDS EAST ALONG THE NORTH LINE OF SAID SECTION 28, A DISTANCE OF 2644.35 FEET TO THE CORNER OF SECTIONS 21, 22, 27 AND 28, OF SAID TOWNSHIP 5 SOUTH, RANGE 5 EAST;

THENCE NORTH 89 DEGREES 59 MINUTES 10 SECONDS EAST ALONG THE NORTH SECTION LINE OF SAID SECTION 27, A DISTANCE OF 2681.00 FEET TO THE QUARTER CORNER FOR SECTIONS 27 AND 22 OF SAID TOWNSHIP 5 SOUTH, RANGE 5 EAST;

THENCE SOUTH 89 DEGREES 59 MINUTES 44 SECONDS EAST ALONG THE NORTH LINE OF SAID SECTION 27, A DISTANCE OF 2659.93 FEET, TO THE SECTION CORNER OF SECTIONS 22, 23, 26 AND 27 OF SAID TOWNSHIP 5 SOUTH RANGE 5 EAST;

8245 N. Scottsdale Road, Suite 130 Scottsdale, AZ 85250 | Telephone 480.214.0370 - Facsimile - 480.214.0369
Digital www.jeroplanning.com

THENCE SOUTH 89 DEGREES 52 MINUTES 14 SECONDS EAST, ALONG THE NORTH LINE OF SAID SECTION 26, A DISTANCE OF 2644.98 FEET, TO THE QUARTER CORNER FOR SECTIONS 23 AND 26 OF SAID TOWNSHIP 5 SOUTH, RANGE 5 EAST;

THENCE NORTH 89 DEGREES 57 MINUTES 12 SECONDS EAST ALONG THE NORTH LINE OF SAID SECTION 26, A DISTANCE OF 2645.10 FEET, TO THE CORNER OF SECTIONS 23, 24, 25 AND 26 OF SAID TOWNSHIP 5 SOUTH, RANGE 5 EAST;

THENCE SOUTH 89 DEGREES 49 MINUTES 07 SECONDS EAST, ALONG THE NORTH LINE OF SAID SECTION 25, A DISTANCE OF 2658.78 FEET, TO THE QUARTER CORNER OF SECTION 24 AND 25 OF SAID TOWNSHIP 5 SOUTH, RANGE 5 EAST;

THENCE SOUTH 89 DEGREES 50 MINUTES 19 SECONDS EAST, ALONG THE NORTH LINE OF SAID SECTION 25, A DISTANCE OF 1329.87 FEET, SAID POINT BEING ON THE WESTERLY LINE OF THAT PORTION OF SAID SECTION 25 LYING IN THE CURRENT CORPORATE BOUNDARY AS ESTABLISHED BY CITY ORDINANCE NO. 1907, FROM WHICH THE NORTHEAST CORNER OF SAID SECTION 25 BEARS SOUTH 89 DEGREES 50 MINUTES 19 SECONDS EAST, A DISTANCE OF 1329.86 FEET;

THENCE CONTINUING SOUTH 00 DEGREES 05 MINUTES 06 SECONDS EAST ALONG SAID CORPORATE BOUNDARY, A DISTANCE OF 2639.47 FEET, TO A POINT ON THE MID SECTION LINE OF SAID SECTION 25;

THENCE SOUTH 00 DEGREES 05 MINUTES 38 SECONDS EAST, A DISTANCE OF 2639.91 FEET, TO A POINT ON THE SOUTH LINE OF SAID SECTION 25;

THENCE SOUTH 00 DEGREES 07 MINUTES 41 SECONDS EAST, A DISTANCE OF 2640.14 FEET, TO A POINT ON THE MID SECTION LINE OF SAID SECTION 36;

THENCE SOUTH 00 DEGREES 07 MINUTES 42 SECONDS EAST, A DISTANCE OF 2643.73 FEET TO A POINT ON THE SOUTH LINE OF SAID SECTION 36, TOWNSHIP 5 SOUTH, RANGE 5 EAST FROM WHICH THE SOUTHEAST CORNER OF SAID SECTION 36 BEARS SOUTH 89 DEGREES 55 MINUTES 57 SECONDS EAST AT A DISTANCE OF 1324.01 FEET;

THENCE CONTINUING SOUTH 00 DEGREES 07 MINUTES 42 SECONDS EAST A DISTANCE OF 33.00 FEET;

THENCE NORTH 89 DEGREES 55 MINUTES 57 SECONDS WEST ALONG A LINE 33 FEET SOUTH OF AND PARALLEL WITH THE SOUTH LINE OF SAID SECTION 36 A DISTANCE OF 1324.21 FEET TO A POINT 33 FEET SOUTH OF THE SOUTH QUARTER CORNER OF SAID SECTION 36;

THENCE NORTH 89 DEGREES 38 MINUTES 07 SECONDS WEST ALONG A LINE 33 FEET SOUTH OF AND PARALLEL WITH THE SOUTH LINE OF SAID SECTION 36, A DISTANCE OF 2663.10 FEET;

THENCE NORTH 00 DEGREES 06 MINUTES 57 SECONDS WEST A DISTANCE OF 33.00 FEET TO THE SOUTHWEST CORNER OF SAID SECTION 36;

THENCE CONTINUING NORTH 00 DEGREES 06 MINUTES 57 SECONDS WEST ALONG THE WEST LINE OF SAID SECTION 36, A DISTANCE OF 2639.20 FEET TO THE WEST QUARTER CORNER OF SAID SECTION 36;

THENCE NORTH 00 DEGREES 06 MINUTES 57 SECONDS WEST ALONG THE WEST LINE OF SECTION 36, A DISTANCE OF 8.75 FEET;

THENCE SOUTH 89 DEGREES 32 MINUTES 04 SECONDS EAST DEPARTING SAID WEST SECTION LINE, A DISTANCE OF 360.55 FEET TO THE BEGINNING OF A NON TANGENT CURVE CONCAVE NORTHWESTERLY FROM WHICH THE RADIUS POINT BEARS NORTH 00 DEGREES 50 MINUTES 16 SECONDS WEST, AT A DISTANCE OF 123.28 FEET;

THENCE NORTHEASTERLY ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 89 DEGREES 33 MINUTES 32 SECONDS, AN ARC LENGTH OF 192.70 FEET;

THENCE NORTH 02 DEGREES 41 MINUTES 15 SECONDS WEST A DISTANCE OF 980.73 FEET TO THE BEGINNING OF A CURVE CONCAVE SOUTHWESTERLY HAVING A RADIUS OF 217.19 FEET;

THENCE NORTHWESTERLY ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 85 DEGREES 47 MINUTES 34 SECONDS, AN ARC LENGTH OF 325.21 FEET;

THENCE NORTH 88 DEGREES 28 MINUTES 49 SECONDS WEST A DISTANCE OF 227.58 FEET TO A POINT ON THE WEST LINE OF SAID SECTION 36;

THENCE NORTH 00 DEGREES 06 MINUTES 57 SECONDS WEST ALONG THE WEST LINE OF SAID SECTION 36, A DISTANCE OF 1316.64 FEET TO THE CORNER OF SAID SECTIONS 25, 26, 35 AND 36;

THENCE NORTH 00 DEGREES 07 MINUTES 01 SECONDS WEST ALONG THE WEST LINE OF SAID SECTION 25 A DISTANCE OF 1050.01 FEET;

THENCE SOUTH 89 DEGREES 48 MINUTES 43 SECONDS EAST DEPARTING SAID SECTION LINE, A DISTANCE OF 630.01 FEET;

THENCE NORTH 00 DEGREES 07 MINUTES 01 SECONDS WEST A DISTANCE OF 1855.03 FEET;

THENCE NORTH 89 DEGREES 48 MINUTES 43 SECONDS WEST A DISTANCE OF 630.01 FEET TO A POINT ON THE WEST LINE OF SAID SECTION 25, FROM WHICH THE WEST QUARTER CORNER

OF SAID SECTION 25 BEARS SOUTH 00 DEGREES 07 MINUTES 01 SECONDS EAST, AT A DISTANCE OF 265.79 FEET;

THENCE NORTH 89 DEGREES 55 MINUTES 41 SECONDS WEST, DEPARTING SAID SECTION LINE, A DISTANCE OF 1450.01 FEET;

THENCE SOUTH 00 DEGREES 07 MINUTES 01 SECONDS EAST A DISTANCE OF 265.79 FEET TO A POINT ON THE EAST WEST MID SECTION LINE OF SAID SECTION 26 FROM WHICH THE EAST

QUARTER CORNER OF SAID SECTION 26 BEARS SOUTH 89 DEGREES 55 MINUTES 41 SECONDS EAST, AT A DISTANCE OF 1450.01 FEET;

THENCE NORTH 89 DEGREES 55 MINUTES 41 SECONDS WEST ALONG SAID EAST WEST MID SECTION LINE A DISTANCE OF 3883.15 FEET TO THE WEST QUARTER CORNER OF SAID SECTION 26;

THENCE SOUTH 89 DEGREES 57 MINUTES 15 SECONDS WEST ALONG THE EAST WEST MID SECTION LINE OF SAID SECTION 27, A DISTANCE OF 5296.79 FEET TO THE WEST QUARTER CORNER OF SAID SECTION 27;

THENCE SOUTH 00 DEGREES 16 MINUTES 52 SECONDS WEST ALONG THE WEST LINE OF SECTION 27, A DISTANCE OF 2640.02 FEET TO THE CORNER OF SAID SECTIONS 27, 28, 33 AND 34;

THENCE SOUTH 00 DEGREES 18 MINUTES 41 SECONDS WEST ALONG THE WEST LINE OF SECTION 34, A DISTANCE OF 2640.12 FEET TO THE WEST QUARTER CORNER OF SAID SECTION 34;

THENCE NORTH 89 DEGREES 58 MINUTES 44 SECONDS EAST ALONG THE EAST WEST MID SECTION LINE OF SAID SECTION 34, A DISTANCE OF 2622.73 FEET TO THE CENTER QUARTER CORNER OF SAID SECTION 34;

THENCE SOUTH 00 DEGREES 33 MINUTES 22 SECONDS WEST ALONG THE NORTH SOUTH MID SECTION LINE OF SAID SECTION 34, A DISTANCE OF 2639.82 FEET TO THE SOUTH QUARTER CORNER OF SAID SECTION 34;

THENCE CONTINUING SOUTH 00 DEGREES 33 MINUTES 22 SECONDS WEST A DISTANCE OF 33.00 FEET;

THENCE SOUTH 89 DEGREES 56 MINUTES 32 SECONDS WEST ALONG A LINE 33 FEET SOUTH OF AND PARALLEL WITH THE SOUTH LINE OF SAID SECTION 34, A DISTANCE OF 2609.78 FEET TO A POINT FROM WHICH THE SOUTHWEST CORNER OF SAID SECTION 34 BEARS NORTH 00 DEGREES 03 MINUTES 30 SECONDS WEST, AT A DISTANCE OF 33.00 FEET;

THENCE SOUTH 89 DEGREES 56 MINUTES 27 SECONDS WEST ALONG A LINE 33 FEET SOUTH OF AND PARALLEL WITH THE SOUTH LINE OF SECTION 33, TOWNSHIP 5 SOUTH, RANGE 5 EAST, A DISTANCE OF 651.09 FEET TO A POINT ON THE SOUTHERLY PROLONGATION OF THE WEST LINE OF LOT 32 OF GIBSON COLLARD SUBDIVISION BOOK 7, PAGE 33 PINAL COUNTY RECORDS;

THENCE NORTH 00 DEGREES 45 MINUTES 58 SECONDS WEST ALONG SAID WEST LINE OF LOT 32, A DISTANCE OF 688.60 FEET TO THE CORNER OF LOTS 23, 24, 31 AND 32 OF SAID GIBSON COLLARD SUBDIVISION;

THENCE NORTH 89 DEGREES 56 MINUTES 07 SECONDS WEST ALONG THE SOUTH LINE OF LOT 23 OF SAID GIBSON COLLARD SUBDIVISION, A DISTANCE OF 646.97 FEET TO THE CORNER OF LOTS 22, 23, 30 AND 31 OF SAID GIBSON COLLARD SUBDIVISION;

THENCE SOUTH 00 DEGREES 22 MINUTES 10 SECONDS EAST ALONG THE EAST LINE OF LOT 30 OF SAID GIBSON COLLARD SUBDIVISION, A DISTANCE OF 689.96 FEET TO THE POINT OF INTERSECTION OF THE PROLONGATION OF THE EAST LINE OF LOT 30 AND A LINE 33 FEET SOUTH OF THE SOUTH LINE OF SAID SECTION 33;

THENCE SOUTH 89 DEGREES 56 MINUTES 42 SECONDS WEST ALONG A LINE 33 FEET SOUTH OF AND PARALLEL WITH THE SOUTH LINE OF SECTION 33 A DISTANCE OF 651.85 FEET TO A POINT ALONG THE SOUTHERLY PROLONGATION OF THE WEST LINE OF LOT 30 OF SAID GIBSON COLLARD SUBDIVISION;

THENCE NORTH 00 DEGREES 02 MINUTES 47 SECONDS EAST ALONG SAID WEST LINE OF LOT 30, A DISTANCE OF 691.37 FEET TO THE CORNER OF LOTS 21, 22, 29 AND 30 OF SAID GIBSON COLLARD SUBDIVISION;

THENCE NORTH 89 DEGREES 55 MINUTES 45 SECONDS WEST ALONG THE SOUTH LINE OF LOT 20 OF SAID GIBSON COLLARD SUBDIVISION, A DISTANCE OF 646.84 FEET TO THE CORNER OF LOTS 20, 21, 28 AND 29 OF SAID GIBSON COLLARD SUBDIVISION;

THENCE NORTH 00 DEGREES 27 MINUTES 37 SECONDS EAST ALONG THE WEST LINE OF LOT 21 OF SAID GIBSON COLLARD SUBDIVISION A DISTANCE OF 692.81 FEET TO THE POINT OF INTERSECTION OF THE NORTHERLY PROLONGATION OF THE WEST LINE OF SAID LOT 21 AND THE NORTHERN PLATTED RIGHT OF WAY OF BELLEVUE ROAD;

THENCE SOUTH 89 DEGREES 48 MINUTES 05 SECONDS EAST ALONG THE SOUTH LINE OF LOTS 12 AND 11 OF SAID GIBSON COLLARD SUBDIVISION A DISTANCE OF 1283.68 FEET TO THE SOUTHWEST CORNER OF LOT 10 OF SAID GIBSON COLLARD SUBDIVISION;

THENCE NORTH 00 DEGREES 20 MINUTES 25 SECONDS WEST ALONG THE WEST LINE OF LOTS 10 AND 7 OF SAID GIBSON COLLARD SUBDIVISION A DISTANCE OF 1262.74 FEET TO THE POINT OF INTERSECTION OF THE NORTHERLY PROLONGATION OF THE WEST LINE OF LOT 7 OF SAID GIBSON COLLARD SUBDIVISION AND A LINE 33 FEET SOUTH OF AND PARALLEL WITH THE EAST WEST MID SECTION LINE OF SAID SECTION 33;

THENCE NORTH 89 DEGREES 56 MINUTES 22 SECONDS WEST ALONG A LINE 33 FEET SOUTH OF AND PARALLEL WITH THE EAST WEST MID SECTION LINE OF SAID SECTION 33 A DISTANCE OF 1289.57 FEET TO A POINT FROM WHICH THE CENTER QUARTER CORNER BEARS NORTH 00 DEGREES 03 MINUTES 15 SECODS EAST, AT A DISTANCE OF 33.00 FEET;

THENCE NORTH 89 DEGREES 56 MINUTES 19 SECONDS WEST A DISTANCE OF 2678.49 FEET TO THE POINT OF BEGINNING.

PERIMETER LENGTH: 88,648.74 FEET

COMPRISING 114,619,123.23 SQUARE FEET OR 2,631.29 ACRES MORE OR LESS

EXHIBIT "C"

DEVELOPMENT PLAN

EXHIBIT "D"

Copper Mountain Ranch CFD District Development, Financing Participation, and Waiver and Intergovernmental Agreement

AMENDED DISTRICT DEVELOPMENT, FINANCING PARTICIPATION, WAIVER AND INTERGOVERNMENTAL AGREEMENT (COPPER MOUNTAIN RANCH COMMUNITY FACILITIES DISTRICT)

[AREA RESERVED FOR RECORDING INFORMATION]

DISTRICT DEVELOPMENT, FINANCING PARTICIPATION, WAIVER AND INTERGOVERNMENTAL AGREEMENT (COPPER MOUNTAIN RANCH COMMUNITY FACILITIES DISTRICT)

EXHIBIT "D"	FORM OF CONVEYANCE OF SEGMENT OF ACQUISITION PROJECT
EXHIBIT "E"	COMMUNITY FACILITIES DISTRICT PUBLIC BID CHECKLIST
EXHIBIT "F"	FORM OF DISCLOSURE STATEMENT

THIS AMENDED DISTRICT DEVELOPMENT, FINANCING PARTICIPATION; WAIVER AND INTERGOVERNMENTAL AGREEMENT (COPPER MOUNTAIN RANCH COMMUNITY FACILITIES DISTRICT), dated as of _____ 1, 200_ (hereinafter referred to as this "*Agreement*"), by and among the City of Casa Grande, Arizona, a municipality duly incorporated and validly existing pursuant to the laws of the State of Arizona (hereinafter referred to as the "Municipality"); Copper Mountain Ranch Community Facilities District, a community facilities district formed by the Municipality, and duly organized and validly existing, pursuant to the laws of the State of Arizona (hereinafter referred to as the "*District*"), and _____ _____ a _____ duly organized and validly existing pursuant to the laws of the State of Arizona and having an interest in certain property in the District (hereinafter referred to as "_____"), and _____, a _____ duly incorporated and validly existing pursuant to the laws of the State of _____ (hereinafter referred to as, collectively, the "*Owners*"), and the Merrill Copper Mountain Ranch Owner's Agent, an Arizona limited liability company ("*Owner's Agent*").

WITNESSETH:

WHEREAS, pursuant to Title 48, Chapter 4, Article 6, Arizona Revised Statutes, as amended (hereinafter referred to as the "*Act*"), and Section 9-500.05, Arizona Revised Statutes, as amended, the Municipality, the District, certain of the Owner entered into this Agreement as a "development agreement" to specify, among other things, conditions, terms, restrictions and requirements for "public infrastructure" (as such term is defined in the Act) and the financing of public infrastructure and subsequent reimbursements or repayments over time; and

WHEREAS, with regard to the real property described in Exhibit "A" hereto (hereinafter referred to as the "*Property*") which makes up the real property included within the District, the Municipality, the District, and the Owner have determined to specify some of such matters in this Agreement, particularly matters relating to the construction and/or acquisition of certain public infrastructure by the District, the acceptance thereof by the Municipality and the reimbursement and/or repayment of the Owner with respect thereto, all pursuant to the Act, such public infrastructure being necessary for the Owner to develop the Property prior to the time at which the District can itself pay for the construction or acquisition thereof; and

WHEREAS, this Agreement as a "development agreement" is consistent with the "general plan" of the Municipality, as defined in Section 9-461, Arizona Revised Statutes, as amended, applicable to the Property on the date this Agreement is executed; and

WHEREAS, pursuant to an election to hereinafter be held in and for the District, questions authorizing the district board of the District (i) to issue certain general obligation bonds of the District, including to provide moneys for certain "public infrastructure purposes" (as such term is defined in the Act) described in the General Plan of the District heretofore approved by the Municipality and the District and in this Agreement (hereinafter referred to as the "*General Obligation Bonds*") including the levy, assessment and collection of a debt service tax against all real and personal property in the District, unlimited as to rate or amount therefore, and (ii) to levy, assess and collect an operation and maintenance tax in an amount up to $0.30 per $100.00 of secondary assessed valuation for all real and personal property in the District (hereinafter referred to as the "*O/M Tax*") to provide for amounts which become attributable to the operation

and maintenance expenses of the District in the future are expected to be approved pursuant to the Act; and

WHEREAS, special assessment lien bonds of the District shall be issued to provide moneys for certain public infrastructure purposes described in such General Plan (herein referred to as the "*Assessment Bonds*"); and

WHEREAS, the use of the proceeds of the sale of the General Obligation Bonds and the Assessment Bonds and amounts which will be collected with respect to the O/M Tax in the future is a subject of this Agreement; and

WHEREAS, pursuant to the Act, the District entered into this Agreement with the Owner with respect to the advance of moneys for public infrastructure purposes by the Owner and the repayment of such advances and to obtain credit enhancement for, and process disbursement and investment of proceeds of, the General Obligation Bonds and the Assessment Bonds; and

WHEREAS, specifically, pursuant to the procedures prescribed by Sections 48-576 through 48-589, Arizona Revised Statutes, as amended, as nearly as practicable, or such other procedures as the district board of the District provides, assessments of the costs of any public infrastructure purpose on any land in the District may be based on the benefit determined by such board to be received by such land, and, in that respect, Owner has determined to waive certain matters and agree to certain other matters with respect thereto; and

WHEREAS, prior to the issuance of the Assessment Bonds, the District entered into this Agreement as a written agreement with the Owner as to the manner in which such assessments are to be allocated inasmuch as the portion of the Property upon which they are to be levied is to be divided into more than one parcel and assessments may be prepaid and reallocated; and

WHEREAS, pursuant to the Act and Title 11, Chapter 7, Article 3, Arizona Revised Statutes, as amended, the District and the Municipality entered into the specified sections of this Agreement as an "intergovernmental agreement" with one another for joint or cooperative action for services and jointly to exercise any powers common to them and for the purposes of the planning, design, inspection, Ownership, control, maintenance, operation or repair of "public infrastructure," including particularly to provide for the acceptance by the Municipality of certain public infrastructure constructed or acquired by the District;

NOW, THEREFORE, in the joint and mutual exercise of their powers, in consideration of the above premises and of the mutual covenants herein contained and for other valuable consideration, and subject to the conditions set forth herein, the parties hereto agree that:

ARTICLE I
DEFINED TERMS; MISCELLANEOUS MATTERS RELATING TO USE THEREOF

Section 1.1. (a) For all purposes of this Agreement, except as otherwise expressly provided or unless the context otherwise requires, the terms defined in this Section have the meanings assigned to them in this Section and include, as appropriate, the plural as well as the singular:

"*Acquisition Infrastructure*" means that portion of the Infrastructure other than that which is the subject of a request of the Owner and approval of the District Manager described in Section 2.1.

"*Acquisition Project*" means each project which is a part of the Acquisition Infrastructure on a project-by-project basis.

"*Acquisition Project Construction Contract*" means a construction contract for an Acquisition Project.

"*Act*" means Title 48, Chapter 4, Article 6, Arizona Revised Statutes, as amended.

"*Agreement*" means this District Development, Financing Participation, Waiver and Intergovernmental Agreement (Copper Mountain Ranch Community Facilities District), dated as of _____ 1, 200_, by and among the Municipality, the District, and the Owner's Agent, as amended from time to time.

"*Assessed Property*" means the real property included within the District and hereinafter described in an amendment to this Agreement upon terms determined by the District Board.

"*Assessment Bond Acquisition Construction Contracts*" means the Construction Contracts for the Work.

"*Assessment Bonds*" means the series of special assessment lien bonds of the District authorized to be sold and issued by the District as described in this Agreement, payable from amounts collected from, among other sources, the Assessments.

"*Assessment Diagram*" means the assessment diagram to be prepared by the District Engineer and the Superintendent of Streets showing estimated maximum dollar amounts of benefits derived from the Work to be for each parcel of the Assessed Property and assessing against each such parcel the maximum proportionate share of costs and expenses of the Work to be shown in an exhibit to be provided by an amendment to this Agreement upon terms determined by the District Board.

"*Assessments*" means, as to be originally levied and as thereafter reallocated as described herein, the "not to exceed" proportionate share of costs and expenses of the Work levied against each parcel of the Assessed Property pursuant to Title 48, Chapter 4, Article 2, Arizona Revised Statutes.

"*Bonds*" means, as applicable, the Assessment Bonds or the General Obligation Bonds.

"*Certificate of the Engineers*" means a certificate of the Owner Engineer and the District Engineer in substantially the form of Exhibit "C" hereto.

"*Construction Contract*" means a construction contract for a Project.

"*Conveyance*" means a conveyance for a Segment in substantially the form of Exhibit "D" hereto.

"*Deposit Amount*" means the dollar amount equal to maximum annual debt service for any fiscal year of the District (including the amount necessary for any mandatory redemption of related term General Obligation Bonds) for a series of the General Obligation Bonds.

"*Developer*" means, a person acting as an agent for an Owner in connection with causing the construction of the infrastructure pursuant to Articles II and III.

"*Disclosure Statement*" means the disclosure statement substantially in the form of Exhibit "F" hereto.

"*District*" means Copper Mountain Ranch Community Facilities District, a community facilities district formed by the Municipality, and organized and existing, pursuant to the laws of the State.

"*District Board*" means the district board of the District.

"*District Budget*" means the budget of the District required for each Fiscal Year by the Act.

"*District Engineer*" means _____.

"*District Expenses*" means the reasonable expenses and costs of the operation and administration of the District including the reasonable expenses and costs incurred by the Municipality in connection with the formation of the District; its operations; its relationship with the Municipality; its issuance of the Assessment Bonds or the General Obligation Bonds or any similar matters and reasonable fees and related costs and expenses of staff of the Municipality, financial advisors, engineers, appraisers, attorneys and other consultants and including any overhead incurred by the Municipality with respect thereto and specifically allocated to the District Expenses. The District may retain third party consultant services to assist the District in its operations and the reasonable costs of such services shall be included as District Expenses.

"*District Indemnified Party*" means the Municipality and each legislator, director, trustee, member, officer, official or employee thereof or of the District.

"*Engineers*" means, collectively, the Owner Engineer and the District Engineer; provided, however, that absent compelling reason, neither may be changed upon less than thirty (30) days written notice and, in the case of the Owner Engineer, without compliance with the other provisions hereof with respect to such change.

"*Estimate*" means the estimate of the Financeable Amount indicated in the First Report.

"*Financeable Amount*" means the total of amounts necessary (1) to pay the total of all amounts due pursuant to the Assessment Bond Acquisition Construction Contracts not otherwise paid from cash collections of the Assessments and (2) to pay (i) all other amounts indicated in this Agreement, (ii) all relevant issuance costs related to the Assessment Bonds, (iii) capitalized interest for a period not in excess of that permitted by the Act and described elsewhere herein and (iv) an amount necessary to fund a debt service reserve fund in an amount not in excess of that permitted by the Act and described elsewhere herein.

"*First Report*" means the first of the Reports, being the Report applicable to the Work.

"*Fiscal Year*" means the twelve (12) month period beginning on July 1 of any year and ending on June 30 of the following year.

"*Force Majeure*" means any condition or event not reasonably within the control of a party obligated to perform hereunder, including, without limitation, "acts of God"; strikes, lock-outs, or other disturbances of employer/employee relations; acts of public enemies; orders or restraints of any kind of the government of the United States or any state thereof or any of their departments, agencies, or officials, or of any civil or military authority; insurrection; civil disturbances; riots; acts of terrorism; epidemics; landslides; lightning; earthquakes; subsidence; fires; hurricanes; storms; droughts; floods; arrests; restraints of government and of people; explosion; and partial or entire failure of utilities. Failure to settle strikes, lock-outs and other disturbances of employer/employee relations or to settle legal or administrative proceedings by acceding to the demands of the opposing party or parties, in either case when such course is in the judgment of the party hereto unfavorable to such party, shall not constitute failure to use its best efforts to remedy such a condition or event.

"*General Obligation Bonds*" means the series of general obligation bonds of the District authorized to be sold and issued by the District as described in this Agreement.

"*Indemnified Party*" means the Municipality and the District and each legislator, director, trustee, partner, member, officer, official, independent contractor or employee thereof and each person, if any, who controls the Municipality and/or the District within the meaning of the Securities Act.

"*Infrastructure*" means, collectively, any "public infrastructure" (as such term is defined in Section 48-701 of the Act) and any property the acquisition of which would constitute a "public infrastructure purpose" (as such term is defined in such Section) and includes the public infrastructure described in Exhibit "B" hereto and that in any Reports. Infrastructure includes parks (in excess of 5 acres), trails, bridges and culverts, amphitheater, vertical monumentation (clock towers, etc.), signage, paving, landscaping, lighting, parking, public monumentation and other public structures, lakes, fountains, water features, and golf courses, and Infrastructure-related real property including third party easements .

"*Initial Expenses*" means, prior to receipt of collections of the first levy of the O/M Tax, the reasonable expenses and costs of the operation and administration of the District including the reasonable expenses and costs incurred by the Municipality in connection with the formation of the District, its operations, its relationship with the Municipality, its issuance of the Assessment Bonds or the General Obligation Bonds or any similar matters and reasonable fees and related costs and expenses of staff of the Municipality, financial advisors, engineers, appraisers, attorneys and other consultants and including any overhead incurred by the Municipality with respect thereto and specifically allocated to the Initial Expenses. In no case shall this amount exceed $50,000.

"*Land Development Agreement*" means the _____ Agreement, entered into as of _____, 200_, by and between the Municipality and

_____, and recorded _____, 200_, in Instrument No. _____, official records of Pinal County, Arizona, as amended from time to time.

"*Municipality*" means the City of Casa Grande, Arizona, a municipality incorporated and existing pursuant to the laws of the State.

"*O/M Expenses*" means the reasonable expenses and costs of the operation and maintenance of the Projects with respect to the Projects including any overhead incurred by the Municipality with respect thereto and specifically allocated to the O/M Expenses.

"*O/M Tax*" means an operation and maintenance tax in the amount up to $0.30 per $100.00 of assessed valuation for all real and personal property in the District.

"*Owners*" means (a) collectively, (i) initially, the Owners and (ii) persons (other than the District) who subsequently acquire ownership of the Property and can reasonably evidence to the District an ability to assume the obligations and responsibilities of this Agreement thereby releasing the Owners from on-going liability, (b) individually, any one of the foregoing and (c) any individual and/or entity which can demonstrate a net worth in excess of $5,000,000.

"*Owners Agent*" means Merrill Copper Mountain Ranch Owners Agent, LLC, an Arizona limited liability company. Costs associated with the function and operations of the Owners Agent shall not be eligible for reimbursement through the CFD and shall be the sole responsibility of the Owners.

"*Owners Agent Agreement*" means an agreement among Owners Agent, an Owner and certain other parties regarding, but not limited to, coordination of the public bidding process, payment of contractors, direction of the Escrow Agent, and other matters.

"*Owner Engineer*" means any firm of professional engineers hired by the Owner after approval thereof by the District Manager to perform the services required therefrom for the purposes hereof.

"*Plans and Specifications*" means the plans and specifications for a Project which shall be prepared and reviewed in accordance with the requirements for plans and specifications for construction projects of the Municipality similar to the Project or the Acquisition Project, as applicable.

"*Project*" means each project which is a part of the Infrastructure on a project-by-project basis.

"*Property*" means the real property described in Exhibit "A" to this Agreement.

"*Report*" means the study of the feasibility and benefits required by the Act for the applicable Project or Acquisition Project.

"*Securities Act*" means the Securities Act of 1933, as amended.

"*Segment*" means a completed, discrete portion of an Acquisition Project as determined by the District Engineer and the District Manager.

"*Segment Price*" means an amount equal to the sum of the amounts paid by the Owner for (i) design of the Segment (including the costs of the review of such design by the District Engineer), (ii) construction of the Segment pursuant to the Acquisition Project Construction Contract for such Segment (such amount to be equal to the contract amount plus any increases to such contract amount approved as described in Section 3.5 less any change orders decreasing the contract amount), (iii) the fair market value of real property (specifically inclusive of, but not limited to, rights-of-way areas for roadways of a classification greater than collector, but exclusive of park areas under 5 acres [this park concept for over 5 acres is not to include large areas of open space not developed for active recreation with trails, ball fields, ball courts and other typical park amenities]), third party easements and any other interests in real property which are part of such Segment, (iv) miscellaneous and incidental costs relating to the construction and/or installation of such Segment (v) interest on the amounts described in clauses (i) through (iv) during the period starting after the Segment has been accepted by the Municipality for use until the Segment Price for such Segment is paid to the Escrow Agent on behalf of the Owners Agent as provided in Section 4.2(b) (which period may not be longer than five (5) years), calculated and compounded on an annual basis at the rate of interest equal to the prime rate as reported in the West Coast Edition of The Wall Street Journal from day-to-day as certified in the Certificate of the Engineers for that Segment.

"*State*" means the State of Arizona.

"*Total Debt Service*" means, collectively, amounts for debt service for the next succeeding tax year with respect to the General Obligation Bonds and for payment of the amounts described in Section 9.1 for such year.

"*Work Plans and Specifications*" means, for purposes of levying the Assessments, the descriptions of the Infrastructure in the First Report and the Plans and Specifications for the corresponding Acquisition Projects, which shall compose the Work.

"*Work*" means the portion of the Infrastructure described in an amendment to this Agreement upon terms determined by the District Board.

(b) All references in this Agreement to designated "Exhibits," "Articles," "Sections" and other subdivisions are to the designated Exhibits, Articles, Sections and other subdivisions of this Agreement as originally executed.

(c) The words "herein," "hereof" and "hereunder" and other words of similar import refer to this Agreement as a whole and not to any particular Exhibit, Article, Section or other subdivision.

ARTICLE II
CONSTRUCTION OF PROJECTS BY THE DISTRICT;
ACQUISITION OF PLANS AND SPECIFICATIONS

Section 2.1. Upon a written request of the Owner and after approval by the District Manager prior to the construction bidding therefore, the District may cause any portion of the Infrastructure to be constructed pursuant to the Plans and Specifications in a fashion which, in the discretion of the Owner, allows for development of the Property to proceed in accordance with the terms of the Land Development Agreement. (Underlying Ownership of real property in and on which the Acquisition Infrastructure is to be built shall be determined in the final plat or final development plan process of the Municipality.)

Section 2.2. (a) The construction of the Infrastructure shall be bid, and the Infrastructure shall be constructed, in accordance with the requirements for bidding and constructing projects pursuant to Title 34, Chapter 2, Article 1, Arizona Revised Statutes, as amended ("Title 34") and in accordance with the Community Facilities District Public Bid Checklist attached hereto as Exhibit "E" reasonable procedures developed and mutually agreed to after consultation with appropriate City of Casa Grande officials. The District agrees that it may be in the District's best interest to assign the construction bid process to the Owner, subject to the following conditions; (i) the plans, specifications, bidding and contract documents will be prepared by or at the direction of the Owner and reviewed and commented on by the District, (ii) the Owner shall advertise for bids for the construction of the public improvements in conformance with Title 34; (iii) the contracts for the construction of the public improvements shall be awarded to the lowest responsible bidder as determined by the District in consultation with the Owner; and (iv) any other reasonable condition serving the best interests of the District.

(b) The Infrastructure (or any Project which is a part thereof) shall be bid in one or more parts by and in the name of the District, and Construction Contracts shall be entered into with the bidders selected in accordance with the requirements for awarding contracts for projects promulgated by Title 34 for such purpose.

Section 2.3. Neither the Owner nor any entity related to any of them have been nor shall be compensated by the Municipality or the District for any costs of any Project except as provided herein.

Section 2.4. Construction of a Project shall be financed at any time after the sale and delivery of the Bonds (and while there are remaining available, unrestricted proceeds of the sale of the Bonds) only pursuant to Section 5.1(b).

Section 2.5. Unless required by Title 34, the District agrees that the Owner shall not be required to post improvement security or performance bonds for public improvements directly funded with Bonds.

Section 2.6. Plans and Specifications for the Projects which are not Acquisition Projects shall be prepared by the Owner Engineer and shall be acquired by the District pursuant to Section 5.2(b) simultaneously with the financing of the construction of the related Project

pursuant to Section 5.1(b). The District shall not be liable for any payment or repayment to the Owner with respect to the Plans and Specifications except as provided by this Agreement.

ARTICLE III
CONSTRUCTION OF ACQUISITION PROJECTS BY THE OWNER; CERTAIN MATTERS RELATED TO PLANS AND SPECIFICATIONS

Section 3.1. Subject to the terms of this Agreement including the obligation under the circumstances described herein to pay the Segment Price for a Segment as hereinafter provided, the Owner shall, at the sole cost and expense of the Owner, for which the Owner shall be liable, cause the remainder of the Infrastructure (i.e., the Acquisition Infrastructure) to be constructed pursuant to the Plans and Specifications on real property in which the Owner has an interest.

Section 3.2. (a) The construction of the Acquisition Infrastructure and the preparation of the Plans and Specifications shall be bid pursuant to the provisions of Title 34 and Section 2.2 in accordance with the requirements for construction projects and plans and specifications. Acquisition Project Construction Contracts shall be entered into with the bidders selected in accordance with Title 34 (Compliance with such requirements with respect to the Acquisition Projects shall be evidenced by a Certificate of the Engineers.)

(b) As between the Owner and the District, the Owner shall bear all risks, liabilities, obligations and responsibilities under each Acquisition Project Construction Contract and all risk of loss of or damage to any Acquisition Project (or any part thereof) occurring prior to the time of acquisition of such Acquisition Project (or part thereof) pursuant to Article IV.

(c) The Municipality and the District shall be named as an insured on any insurance policies required under a bid for an Acquisition Project and as a third party beneficiary with respect to all warranties, guarantees and General Obligation Bonds with respect thereto.

(d) An indication of final payment and contract closeout shall be provided to the District Manager by the Owner's Agent, (on behalf of the applicable Owner and based solely upon documentation provided to the Owner's Agent by the applicable Owner), before any acquisition pursuant to Article IV. If any liens are placed on any portion of an Acquisition Project which is the subject of an Acquisition Project Construction Contract or if litigation ensues between the Owner and any contractor with respect to an Acquisition Project Construction Contract, the District shall not acquire the Acquisition Project or any portion thereof until such liens are removed or such litigation is resolved.

Section 3.3. (a) Subsequent to the execution and delivery of this Agreement, any advertisement for bids for construction of any Acquisition Project or provision of any Plans and Specifications to be acquired shall clearly indicate that the Owner will be the "Owner" for purposes of the Acquisition Project Construction Contract or contract for such Plans and Specifications and shall include the following language: **"THE WORK WHICH IS THE SUBJECT OF THE BID IS THE SUBJECT OF A DISTRICT DEVELOPMENT, FINANCING PARTICIPATION AND INTER-GOVERNMENTAL AGREEMENT AMONG OWNER, THE CITY OF CASA GRANDE, ARIZONA, AND COPPER MOUNTAIN RANCH COMMUNITY FACILITIES DISTRICT PURSUANT TO WHICH**

SUCH WORK MAY BE ACQUIRED BY SUCH COMMUNITY FACILITIES DISTRICT. THE SUCCESSFUL CONTRACTOR WILL NOT HAVE RECOURSE, DIRECTLY OR INDIRECTLY, TO SUCH CITY OR COMMUNITY FACILITIES DISTRICT FOR ANY COSTS UNDER ANY CONTRACT OR ANY LIABILITY, CLAIM OR EXPENSE ARISING THERE-FROM." (The Owner is "OWNER" for purposes of the foregoing.)

(b) Each Acquisition Project Construction Contract or contract for such Plans and Specifications shall provide that the respective contractors shall not have recourse, directly or indirectly, to the Municipality or the District for the payment of any costs pursuant to such Acquisition Project Construction Contract or contract for such Plans and Specifications or any liability, claim or expense arising therefrom and that the Owner shall have sole liability therefore.

Section 3.4. The Owner shall provide, at its sole cost, for inspection of work performed under any Acquisition Project Construction Contract by the Engineers.

Section 3.5. Any change order to any Acquisition Project Construction Contract of an amount 10% or less of the Acquisition Project Construction Contract shall be subject to approval by the District Manager (which approval shall not be unreasonably withheld or delayed) and shall be certified to in the applicable Certificate of the Engineers. Any change order to any acquisition Project Construction Contract of an amount in excess of 10% of the Acquisition Project Construction Contract shall be subject to approval by the District Board (which approval shall not be unreasonably withheld or delayed and shall be provided within no more than fifteen (15) working days) and shall be certified to in the applicable Certificate of the Engineers.

ARTICLE IV
ACQUISITION OF ACQUISITION PROJECTS FROM THE OWNER

Section 4.1. (a) Subject to the other terms of this Agreement, the Owner shall sell to the District, and the District shall acquire from the Owner, the Segments for the Segment Prices.

(b) Acquisition of a Segment shall be financed (1) at any time before the sale and delivery of the Bonds (or after there are no available, unrestricted proceeds of the sale of the Bonds remaining) only pursuant to Section 5.2(a) hereof and (2) at any time after the sale and delivery of the Bonds (and while there are available, unrestricted remaining proceeds of the sale of the Bonds) only pursuant to Section 5.2(b) hereof.

(c) The District shall not be liable for any payment or repayment to the Owner with respect to the Acquisition Infrastructure except as provided by this Agreement.

Section 4.2. (a) The District shall pay the Segment Price for and acquire from the Owner, and the Owner shall accept the Segment Price for and sell to the District, each Segment as provided in Section 4.1 after the approval of the Report and within thirty (30) days after receipt by the District Manager of the following with respect to such Segment, in form and substance reasonably satisfactory to the District Manager (which Report and documentation shall be submitted to the District by the Owner's Agent on behalf of the applicable Owner):

(1) the Certificate of the Engineers;

(2) the Conveyance;

(3) evidence that public access to the Segment or the Acquisition Project, as applicable, has been or will be provided to the Municipality;

(4) the assignment of all contractors' and materialmens' warranties and guarantees as well as payment and performance bonds;

(5) an acceptance letter issued by the Municipality and by its terms subject specifically to recordation of the Conveyance which is the subject of such letter and

(6) such other documents, instruments, approvals or opinions as may reasonably be requested by the District Manager including, with respect to any real property related to the Acquisition Project, title reports, insurance and opinions and evidence satisfactory to the District Manager that such real property does not contain environmental contaminants which make such real property unsuitable for its intended use or, to the extent such contaminants are present, a plan satisfactory to the District Manager which sets forth the process by which such real property will be made suitable for its intended use and the sources of funds necessary to accomplish such purpose.

Section 4.2. (b) The District shall pay the Segment Price to the Escrow Agent for deposit into an escrow account designated by the Owner's Agent for distribution to Owners pursuant to escrow instructions of the Owner's Agent.

ARTICLE V
FINANCING OF COSTS OF PROJECTS AND PLANS AND SPECIFICATIONS

Section 5.1 (a) [Reserved to Preserve Section Numbering]

(b) (1) Any amounts due pursuant to any Construction Contract (including incidental costs relating thereto) after the sale and delivery of any of the Bonds (and while there are remaining, available, unrestricted proceeds of the sale of the Bonds) shall be provided for by the payment of such amounts from, and only from, the available, unrestricted proceeds of the sale of the Bonds to the extent only of the remaining amounts thereof (and, if applicable, cash collections, if any, from the Assessments). Proceeds of the sale of the Assessment Bonds shall only be applied for such purposes to amounts provided for the Work.

(2) Until the sale and delivery of the Bonds, the District shall not have any obligation to pay such amounts. Neither the District nor the Municipality shall be liable to the Owner (or any contractor or assigns under any Construction Contract) for payment of any such amount except to the extent available, unrestricted proceeds of the sale of the Bonds are available for such purpose, and no representation or warranty is given that the Bonds can be sold

or that sufficient, available, unrestricted proceeds from the sale of the Bonds shall be available to pay such amounts.

Section 5.2. (a) (1) To provide for any acquisition of a Segment occurring before the sale and delivery of the Bonds and after there are no remaining, available, unrestricted proceeds of the sale of the Bonds, the Segment Price of that Segment shall be advanced by the Owner pursuant to the terms of this Agreement and the Conveyance for that Segment.

(2) As soon as possible after the sale and delivery of the Bonds, the amount advanced by the Owner for the Segment Price of a Segment prior to the sale and delivery of the Bonds shall, subject to the requirements of Section 4.2, be paid to the Owner from, and only from, the available, unrestricted proceeds of the sale of the Bonds to the extent only of the remaining amounts thereof (and, if applicable, cash collections, if any, from the Assessments). Neither the District nor the Municipality shall be liable to the Owner (or any contractor or assigns under any Acquisition Project Construction Contract) for payment of any Segment Price except to the extent available, unrestricted proceeds of the sale of the Bonds (and, if applicable, cash collections, if any, from the Assessments) are available for such purpose, and no representation or warranty is given that the Bonds can be sold or that sufficient available, unrestricted proceeds from the sale of the Bonds shall be available to pay any Segment Price. Proceeds of the sale of the Assessment Bonds shall only be applied for such purposes to amounts advanced for the Work.

(3) Until the sale and delivery of the Bonds and after there are no available, unrestricted remaining proceeds of the sale of the Bonds, the District shall not have any obligation to repay the Owner for any advance made by the Owner to pay a Segment Price.

(b) (1) Any acquisition of a Segment occurring after the sale and delivery of the Bonds or of Plans and Specifications for a Project to be acquired which may occur only after sale and delivery of the Bonds (and while there are remaining, available, unrestricted proceeds of the sale of the Bonds) shall, subject to the requirements of Section 4.2, be provided for by the payment of the Segment Price for such Segment or of the costs of such Plans and Specifications based on actual amounts paid by the Owner to the Owner Engineer therefore from, and only from, the available, unrestricted proceeds of the sale of the Bonds to the extent only of the remaining amounts thereof (and, if applicable, cash collections, if any, from the Assessments). In the event there are not sufficient bond proceeds available to pay all of the construction costs or Segment Price, nothing contained herein shall preclude the Owner from including the unpaid portion in a future Report or preclude the Owner from including the unpaid portion in a future Bond financing. Proceeds of the sale of the Assessment Bonds shall only be applied for such purpose to amounts provided for the Work. (To the extent bond proceeds are available, the District shall pay the costs of such Plans and Specifications to the Owner as provided in Section 2.6 after approval of the Report (which Report shall be submitted to the District by the Owner's Agent on behalf of the Applicable Owner) and within thirty (30) days after receipt by the District Manager of evidence of exclusive Ownership of the architectural materials (including memorandums, notes and preliminary and final drawings) and the related intellectual property rights (including copyright, if any) related to such Plans and Specifications, in all media, including electronic, and that the District shall be held harmless and be free to use such Plans and Specifications in any way it determines, including particularly, but not by way of

limitation, giving them to another firm for the design of a similar structure in form and substance reasonably satisfactory to the District Manager. The District shall pay the amounts to the escrow agent in a manner provided in Section 4.2 (b). To the extent that bond proceeds are insufficient to pay the costs of such Plans and Specifications, Owner reserves the right to submit the cost of such Plans and Specifications to the District for reimbursement from subsequent bond proceeds.)

(2) Until the sale and delivery of the Bonds, the District shall not have any obligation to pay such Segment Price or such costs of such Plans and Specifications. Neither the District nor the Municipality shall be liable to the Owner (or any contractor or assigns under any Acquisition Project Construction Contract) for payment of any Segment Price or for the costs of such Plans and Specifications except to the extent available, unrestricted proceeds of the sale of the Bonds (and, if applicable, cash collections, if any, from the Assessments) are available for such purpose, and no representation or warranty is given that the Bonds can be sold or that sufficient, available, unrestricted proceeds from the sale of the Bonds shall be available to pay such Segment Price or such costs of such Plans and Specifications. In the event there are not sufficient bond proceeds available to pay all of the construction costs or Segment Price, nothing contained herein shall preclude the Owner from including the unpaid portion in a future Report or preclude the Owner from including the unpaid portion in a future Bond financing.

ARTICLE VI
MATTERS RELATING TO THE ASSESSMENT BONDS AND THE GENERAL OBLIGATION BONDS AND OTHER OBLIGATIONS OF THE DISTRICT

Section 6.1. (a) Upon dates established by the District Manager after request of the Owner's Agent, the District Board shall, take such reasonable action necessary for the District to issue and sell, pursuant to the provisions of the Act, an applicable amount of the General Obligation Bonds in an amount sufficient to repay advances for or to pay directly from the available, unrestricted proceeds thereof the total of all amounts due for the purposes of any Construction Contract for the Infrastructure and the Segment Prices for the Acquisition Infrastructure and costs of the Plans and Specifications for the Infrastructure to be acquired, established or reasonably expected to be established pursuant hereto plus all relevant issuance costs related thereto (except for such amounts due in those respects with regard to the Work which shall be provided for pursuant to Section 6.3). Upon a written request of the Owner's Agent and after approval by the District Board, whose approval shall not be unreasonably withheld, prior to construction bidding therefore, (which request shall be made at the indication of such Owner in accordance with Owner's Agent Agreement), this Agreement shall be amended to provide for the issuance and sale of additional special assessment lien bonds of the District, the proceeds of the sale of which shall be applied to repay such advances or to pay such amounts instead of from the proceeds of the sale of the General Obligation Bonds. After the earlier of 1) the passage of 10 years from the first issuance of general obligation bonds or 2) the issuance of $100,000,000 in aggregate special assessment and general obligation bonds for required Infrastructure, the District shall be eligible to utilize an amount of not more than 10% of all future Owner requested bond issuances ("District General Obligation Bond Set Aside") for use related to eligible Infrastructure without Owner approval subject to the following requirements: 1) Owner shall have priority on an annual basis for consecutive five (5) year periods ("Five Year Period") to utilize the project's general obligation bonding capacity assuming a target tax equal

to that being utilized by the District over the last five year period ("Target Tax Rate"); and 2) to the extent the Owner utilizes all available bonding capacity in any fiscal year, such District General Obligation Bond Set Aside shall accrue for the benefit of the District to be issued at such time as the earlier of: (i) the Owner does not require all general obligation bonding capacity, or (ii) the fifth year of each consecutive Five Year Period. If the Owner has utilized all of the available general obligation bonding capacity in years one through four of the Five Year Period, in year five the District shall have first priority to issue general obligation bonds in the amount of the lesser of: 1) the District G.O. Bond Set Aside amount or, (2) the amount of available GO bonding capacity at the Target Tax Rate. To the extent that the District issues general obligation bonds, such amounts will be issued separately from that of the Owner's requested general obligation bond issuances and shall be at the sole cost of the District. The District shall not be eligible to utilize special assessment bonds for any purposes secured by Property controlled by the Owner. The District may undertake the financing of the Infrastructure if necessary in connection with development of the Property under bona fide emergency circumstances with the written approval of the Owner's Agent.

(b) If the unrestricted proceeds of the sale of the Assessment Bonds or the General Obligation Bonds are insufficient to pay any or all of the amounts due described in Section 5.1(b) or all of the Segment Prices for the Acquisition Infrastructure and costs of the Plans and Specifications for the Infrastructure to be acquired, there shall be no recourse against the District or the Municipality for, and neither the District nor the Municipality shall have liability with respect to, such amounts so due or the Segment Prices for the Acquisition Infrastructure, except from the available, unrestricted proceeds of the sale of the Assessment Bonds or the General Obligation Bonds, if any and as applicable. In the event there are not sufficient bond proceeds available to pay all of the construction costs or Segment Price, nothing contained herein shall preclude the Owner from including the unpaid portion in a future Report or preclude the Owner from including the unpaid portion in a future Bond financing.

(c) In making a request under this Section, the Owners Agent may request the issuance and sale of both General Obligation Bonds and Assessments Bonds, the aggregate proceeds of the sale of which shall be applied to pay (including repayment of advances) such amounts. In making a request under this Section, the Owners Agent shall be entitled to specify that the subject Infrastructure or Acquisition Infrastructure consists of separately-financeable constituent elements (e.g., that a roadway is to be financed by one series of Bonds to pay for the construction of the road and by another series of Bonds to pay for the real property on which the road is constructed).

Section 6.2. (a) Pursuant to the request of the Owner's Agent as provided in Section 6.1, (which request, in the case of an Assessment Bonds, shall be made at the indication of the applicable Owner in accordance with the Owner's Agreement), the District shall, subject to the other conditions of this Agreement, issue, in one or more series, the Assessment Bonds and, in one or more series in principal amounts to be determined by the District Board, the General Obligation Bonds. The District shall not issue the Assessment Bonds or any series of the General Obligation Bonds in a "public sale" (as such term is used in the Act) unless the Assessment Bonds or the corresponding series of the General Obligation Bonds, as applicable, shall receive one of the four highest investment grade ratings by a nationally recognized bond rating agency with restrictions on subsequent transfer thereof under such terms as the District

Board shall approve. If Bonds are sold in other than a "public sale", no secondary market transfer restrictions shall apply provided such secondary market transfers are between the following parties, the status of which shall be verified through the broker/dealer network: (i) accredited investors (as defined in Rule 501(a), regulation D as amended), (ii) qualified institutional buyers (as defined in Rule 144A, as amended) or (iii) sophisticated municipal market participants.

(b) The total aggregate principal amount of all of the series of the General Obligation Bonds shall not exceed $950,000,000. The bond election for the issuance of bonds shall remain in effect for fifty (50) years or the longest term allowed by law if a fifty (50) year term is in violation of state or federal law.

(c) A series of the General Obligation Bonds shall only be issued if the debt service therefore can be amortized with substantially equal amounts of annual debt service from amounts generated by a tax rate of not to exceed $2.95 per one hundred dollars of secondary assessed valuation of property within the boundaries of the District as indicated on the tax roll for the current tax year (not including O/M Tax). If after ten (10) years from the execution of this Agreement, there has not been the commencement of construction of a minimum of one resort in accordance with the PAD approval and such resort is not substantially completed after twelve (12) years from the execution of this Agreement, the above referenced $2.95 tax rate may be reduced to a minimum of $2.50. For purposes of the foregoing, a delinquency factor for tax collections equal to the greater of five percent (5%) and the historic, average, annual, percentage delinquency factor for the District as of such Fiscal Year shall be assumed; all property in the District owned by the Owner or any entity owned or controlled (as such term is used in the Securities Act) by the Owner shall be assigned the last value such property had when categorized as "vacant" for purposes of secondary assessed valuation and the debt service for any outstanding series of the General Obligation Bonds theretofore issued shall be taken into account in determining whether such tax rate will produce adequate debt service tax collections; provided, however, that the first series of the General Obligation Bonds shall be issued no later than necessary to have the debt service tax costs therefore appear on the first tax bill applicable to any single family residential dwelling unit to be located within the boundaries of the District to be owned by other than the Owner or any entity owned or controlled (as such term is used in the Securities Act) by the Owner or any homebuilder to whom the Owner or any entity owned or controlled (as such term is used in the Securities Act) by the Owner sells property within the boundaries of the District.

(d) If necessary as reasonably determined by the District Board, the "sale proceeds" of the sale of each series of the General Obligation Bonds shall include an amount sufficient to fund a reserve fund, which shall be a reserve to secure payment of debt service on that series of the General Obligation Bonds, in an appropriate amount not to exceed the maximum amount permitted by the Internal Revenue Code of 1986, as amended, and the Treasury Regulations applicable thereto.

Section 6.3. (a) Notwithstanding any provision hereof to the contrary, this Section shall apply to the Assessment Bonds to the exclusion of any conflicting provision herein. Pursuant to the request of the Owner's Agent (which request shall be made at the indication of the applicable Owner in accordance with the Owner's Agreement), the District Board shall, take all such

reasonable action necessary for the District to issue and sell, pursuant to the provisions of the Act, the Assessment Bonds in an amount not to exceed the Financeable Amount.

(1) (A) The Assessments shall be levied based on the Financeable Amount, but in any case shall be subject to Section 6.3(f) (1).

(B) The Assessments shall be levied pursuant to the procedures prescribed by Sections 48-576 through 48-589, Arizona Revised Statutes, as amended, as nearly as practicable and except as otherwise provided herein, upon all of the Assessed Property in an amount equal to the Financeable Amount based on the benefits to be received by and as allocated to the parcels into which the Assessed Property is or is to be divided, as determined by the District Board herein, and shall be collected pursuant to the procedures prescribed by Sections 48-599 and 600, Arizona Revised Statutes, as amended, as nearly as practicable. The District will make reasonable efforts to enter into an intergovernmental agreement with Pinal County to collect annual assessment payments on the Pinal County tax billing.

(C) The Owner shall accept the Assessments which are in an amount not more than the Financeable Amount against the Assessed Property and have the Assessments allocated and recorded with the County Recorder of Pinal County, Arizona, by means of this Agreement against the various parcels comprising the Assessed Property; provided, however, that the District Board may modify the Assessments after the Assessments have been legally assessed to correspond to subsequent changes in the development of the affected property but in no case shall the Assessments be reduced below a total necessary to provide for debt service for the corresponding Assessment Bonds.

(D) The Assessed Property shall receive benefits from the Work equal to not less than the Assessments as so allocated to the parcels into which the Assessed Property is or is to be divided and that the Assessments shall be final, conclusive and binding upon the Owner whether or not the Work is completed in substantial compliance with the Work Plans and Specifications.

(E) In the event of nonpayment of any of the Assessments, the procedures for collection thereof and sale of the applicable portion of the Assessed Property prescribed by Sections 48-601 through 48-607, Arizona Revised Statutes, as amended, shall apply, as nearly as practicable, except that neither the District nor the Municipality is required to purchase any of the Assessed Property at the sale if there is no other purchaser. In the event of nonpayment of any Assessment related to Assessed Property held by the Owner, the District may accelerate the collection thereof and the sale of any Assessed Property held by the Owner in the same assessment area.

(F) To prepay in whole or in part the applicable portion of any of the Assessments, the following shall be paid in cash to the District: (I) the interest on such portion to the next date Bonds may be redeemed plus (II) the unpaid principal amount of such portion (III) any premium due on such redemption date with respect to such portion plus (IV) any administrative or other fees charged by the District with respect thereto less (V) the amount by which the reserve described in Section 4.3(f)(2) may be reduced on such redemption date as a result of such prepayment. Upon the completion of such calculation, the prepayment amount

will be rounded up to the next highest multiple of $1,000 to facilitate the prepayment of Bonds.

(G) To the extent that funds are advanced on behalf of the Owner to prepay special assessment liens prior to such liens being passed on to third party home buyers; the portion of the assessment lien amount relating the segment price shall remain eligible for financing through subsequent General Obligation bond issuance provided such refinancing is allowed by law and shall not cause interest on the Bonds to be includable in gross income for federal tax purposes pursuant to Section 61 of the Internal Revenue Code of 1986, as amended.

(H) The Owner hereby acknowledge that lenders and other parties involved in financing future improvements on the Assessed Property (including mortgages for single family residences) may require that liens associated with the Assessments (or applicable portions thereof) be paid and released prior to accepting a lien with respect to any such financing.

(2) (A) By an amendment hereto upon terms determined by the District Board, the Owner shall agree that they have reviewed the Estimate and the Work Plans and Specifications and approve the same.

(B) This Agreement shall be construed to be an express consent by the Owner that (I) the District may, with respect to the Assessed Property, incur costs and expenses necessary to complete the Work and (II) the District may levy and collect the Assessments in amounts sufficient to pay the Financeable Amount, including the Work, but not in excess of the Financeable Amount.

(C) The mailing to the governing body of the Municipality of the Estimate and the Work Plans and Specifications in the form of the First Report pursuant to Section 48-715, Arizona Revised Statutes, as amended, shall satisfy the filing requirements of Section 48-577, Arizona Revised Statutes, as amended, and the publication of the notice of hearing on the First Report pursuant to Section 48-715, Arizona Revised Statutes, as amended, shall satisfy the publication and posting requirements of Section 48-578, Arizona Revised Statutes, as amended.

(3) Notwithstanding that Section 32-2181(I), Arizona Revised Statutes, as amended, may be construed to prevent any waiver of the right to appear before the District Board on any hearing required at or prior to the confirmation of the Assessments, the Owner instead hereby request that the District Board hold hearings on any protests with respect to the Work and objections to the extent of the Assessed Property (all of which is to be assessed) pursuant to Sections 48-579 and 580, Arizona Revised Statutes, as amended, any objections to award of applicable contracts with respect to the Work pursuant to Section 48-584, Arizona Revised Statutes, as amended, and any objections with respect to the Assessments or to any previous proceedings connected therewith or claim that the Work has not been performed according to any applicable contract or the Work Plans and Specifications pursuant to Section 48-590, Arizona Revised Statutes, as amended, should any protests or objections or any requests for hearings with respect thereto be made prior to the confirmation of the Assessments, the Owner hereby waive all formal requirements of notice (whether to be mailed, posted or published) and the passage of time prior to such hearings and further consents that hearings and

proceedings may be consolidated and held by the District Board on the same day or days.

(4) The Owner, with full knowledge of the provisions, and the rights thereof pursuant to such provisions, of applicable law, shall waive the following in an amendment to the Agreement upon terms determined by the District Board as the same exist at the time of such amendment:

(A) any and all defects, irregularities, illegalities or deficiencies in the proceedings establishing the Assessed Property;

(B) any and all notices and time periods related thereto provided by Section 48-576, et seq., Arizona Revised Statutes, as amended, including, but not limited, to mailing, posting and publication, as applicable, of any notice required in connection with the adoption of the resolution of intention with respect to the Work, the noticing of proposed improvements with respect to the Work, the adoption of the resolution ordering the improvements with respect to the Work, the noticing of ordering of the improvements with respect to the Work, the noticing of award of applicable contracts with respect to the Work, the Assessments and any other procedural steps and related proceedings necessary in connection with the Work;

(C) any and all protests with respect to the Work and objections to the extent of the Assessed Property (all of which is to be assessed) and including any right to file a written protest or objection for such purpose and any right to any hearing on such matters;

(D) any and all defects, irregularities, illegalities or deficiencies in, or in the adoption by the District Board of, the Assessed Property (all of which is to be assessed), the Work Plans and Specifications, the Estimate and the Assessment Diagram, all of which provide for and effectuate the completion of the Work;

(E) any and all defects, irregularities, illegalities or deficiencies in, or in the awarding of, any contracts for or with respect to, the Work, including, but not limited to, any right to claim that any of the acts or proceedings relating to the Work are irregular, illegal or faulty pursuant to Section 48-584(E), Arizona Revised Statutes, as amended, any right to file a notice specifying in which respect the acts and proceedings are irregular, illegal or faulty and any right to any hearing in connection there-with;

(F) any and all actions and defenses against the Assessments or any of the Assessment Bonds, including, but not limited to, the judicial review granted by Section 48-721(A), Arizona Revised Statutes, as amended, as to whether the Property (all of which is to be assessed) is benefited by the Work;

(G) any right to object to the legality of any of the Assessments or to any of the previous proceedings connected therewith or claim that the Work has not been performed according to any applicable contract or the Work Plans and Specifications in each case as permitted pursuant to Section 48-590(G), Arizona Revised Statutes, as amended, and including any right to file a written notice specifying the grounds of such objection and any right to any hearing in connection therewith;

(H) any right to cash payment of Assessments per Section 48-590, Arizona Revised Statutes, as amended, except as may otherwise be ordered by the District Board; and

(I) any and all provisions of any collateral security instruments relating to the Assessed Property (all of which is to be assessed) which prohibit the establishment of the Assessed Property, designation of the boundaries of the Assessed Property (all of which is to be assessed), completion of the Work and levying and recording of the Assessments.

(5) By an amendment hereto upon terms determined by the District Board, the Owner shall agree that the Work is of more than local or ordinary public benefit and that the Assessed Property receives a benefit from the Work in an amount not less than the Estimate.

(6) Instead of the public bidding, bonding and contracting requirements set forth in Sections 48-581 and 584, Arizona Revised Statutes, as amended, the provisions therefore provided by this Agreement have been or will be complied with in respect to the Work.

(A) The Owner shall execute all documents necessary, appropriate or incidental to the purposes of this Agreement, particularly as they relate to this Section thereof, as long as such documents are consistent with this Agreement and do not create additional liability of any type to the signers by virtue of execution thereof.

(B) This Agreement as it relates to the Owner and particularly as it relates to this Section shall be a covenant and agreement running with the Assessed Property and shall be recorded in the records of the County Recorder of Pinal County, Arizona, as a lien and encumbrance against the Assessed Property. In the event of any sale, transfer or other conveyance by the Owner of the right, title or interest of the Owner in the Assessed Property or any part thereof, the Property or such part thereof shall continue to be bound by all of the terms, conditions and provisions hereof; any purchaser, transferee or other subsequent Owner shall take such property subject to all of the terms, conditions and provisions hereof and any purchaser, transferee or other subsequent Owner shall take such property entitled to all of the rights, benefits and protections afforded the predecessor in interest thereof by the terms hereof. To the extent that the Assessments after levied remain unpaid, the Assessments shall constitute liens against the Assessed Property in the amounts indicated in the Assessment Diagram, as provided by, and pursuant to, this Agreement and the Act and shall be enforceable and collectable with the same force and effect originally provided to them.

(C) (1) At the time of sale of the Assessment Bonds, an appraisal prepared by an MAI appraiser must show that the overall bulk sales value of the Assessed Property with all of the Infrastructure described in the First Report in place is worth at least five (5) times as much as the principal amount of the Assessment Bonds if the issue is sold through a public offering. The "overall bulk sales value" is defined as that product produced by dividing the total fair market value of the property contained within the boundaries of the assessment area by the total assessment to be placed upon the property contained within the assessment area. In the event that the District required lien-to-value ratio cannot be achieved, the Owner shall

preserve the following options: (i) post a letter of credit or pledge MAI appraised real estate collateral sufficient to cover the portion of the Bonds not supported by the overall lien-to-value requirement; (ii) escrow a portion of the Bonds not supported by the overall lien-to-value requirement or (iii) issue a second series of special assessment bonds for the benefited area in question. In the event of a limited public offering or a private offering, at the time of sale of the Assessment Bonds, a MAI appraiser must show that the overall bulk, wholesale value of the Assessed Property with all of the Infrastructure described in the First Report in place is worth at least three (3) times as much as the principal amount of the Assessment Bonds. Notwithstanding the foregoing, if the Assessment Bonds are to be purchased by the Owners and/or an affiliate of the Owners, such appraisal must show that such value is worth at least one (1) times as much as the principal amount of the Assessment Bonds. If Owners and/or an affiliate of the Owners is the purchaser of any Assessment Bonds at the time of original issuance, then, provided that: an appraisal prepared by an MAI appraiser indicates that the fair market value of the Assessed Property is worth at least three (3) times as much as the principal amount of the Assessment Bonds any transfer of record ownership of those Bonds to qualified institutional buyers [as defined in Rule 144A as amended], accredited investors [as defined in Rule 501(a), Regulation A, as amended] or sophisticated municipal market participants and other such similar entities pursuant to a private sale by the Owners and/or that affiliate will be permissible. In determining the market value of the property under either a public, limited public or private scenario, infrastructure which is to be constructed with Bond proceeds and/or for which performance bonds have been obtained, will be treated for valuation purposes as if they were completed as of the date of valuation.

(2) If necessary as reasonably determined by the District Board, the "sale proceeds" of the sale of the Assessment Bonds shall include an amount sufficient to fund a reserve fund, which shall be a reserve to secure payment of debt service on the Assessment Bonds, in an amount equal to the maximum amount permitted by the Internal Revenue Code of 1986, as amended, and the Treasury Regulations applicable thereto. Payment from such reserve shall not effect a reduction in the amount of the Assessments, and any amount collected with respect to the Assessments thereafter shall be deposited to such reserve to the extent the Assessments are so paid therefrom.

(D) The proceeds of the sale of the Assessment Bonds shall include an amount sufficient to fund interest accruing on such series of the Bonds for a period of at least six (6) months but not more than three (3) years after the issuance thereof.

Section 6.4. Section preserved for numbering purposes.

Section 6.5. Other than (1) this Agreement, (2) the Assessment Bonds and the General Obligation Bonds and (3) any obligations necessary in connection with either of the foregoing, the District shall not incur, or otherwise become obligated with respect to, any other obligations.

ARTICLE VII
ACCEPTANCE BY THE MUNICIPALITY

Section 7.1. Simultaneously with the payment of the related Segment Price or completion of construction of a Project, the Segment of Acquisition Infrastructure or the Project

constructed is hereby accepted (including for purposes of maintenance and operation thereof) by the Municipality, subject to the conditions pursuant to which facilities such as the Acquisition Projects and the Projects so constructed are typically accepted by the Municipality (including nondiscriminatory improvement warranties) and thereafter shall be made available for use by the general public.

ARTICLE VIII
INDEMNIFICATION

Section 8.1. (a) The Owner (1) shall, jointly and severally, indemnify and hold harmless each Indemnified Party for, from and against any and all losses, claims, damages or liabilities, joint or several, arising from any challenge or matter relating to the formation, activities or administration of the District (including the establishment of the Assessed Property), or the carrying out of the provisions of this Agreement (but not for any matters which are related to infrastructure which is not part of the Infrastructure), including particularly but not by way of limitation for any losses, claims or damages or liabilities (A) related to any Acquisition Project Construction Contract or Project constructed pursuant to a Construction Contract including claims of any contractor, vendor, subcontractor or supplier, (B) to which any such Indemnified Party may become subject, under any statute or regulation at law or in equity or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon any untrue statement or alleged untrue statement of a material fact set forth in any offering document relating to the Bonds, or any amendment or supplement thereto, or arise out of or are based upon the omission or alleged omission to state therein a material fact required to be stated therein or which is necessary to make the statements therein, in light of the circumstances in which they were made, not misleading in any material respect and (C) to the extent of the aggregate amount paid in any settlement of any litigation commenced or threatened arising from a claim based upon any such untrue statement or alleged untrue statement or omission or alleged omission if such settlement is effected with the written consent of the Owner (which consent shall not be unreasonably withheld) and (2) shall reimburse any legal or other expenses reasonably incurred by any such Indemnified Party in connection with investigating or defending any such loss, claim, damage, liability or action; provided, however, that the foregoing shall not apply to any loss, claim, damage or liability relating to or arising from the subsequent activities or administration of the District with respect to any portion of the Infrastructure that has been accepted by the Municipality pursuant to Section 7.1.

(b) Section 8.1(a) shall, however, not be applicable to any of the following:

(1) matters involving any gross negligence or willful misconduct of any Indemnified Party,

(2) any loss, claim, damage or liability for which insurance coverage is actually procured which names the District as an insured, in order to provide insurance against the errors and omissions of the District Board or the other representatives, agents or employees of the District and any loss, claim, damage or liability that is covered by any commercial general liability insurance policy actually procured which names the District as an insured (provided, however, that if the Owner also have insurance coverage for any such loss, claim, damage or liability, claims shall be made first against such coverage),

(3) any loss, claim, damage or liability arising from or relating to defects in any Infrastructure that are not known to the Owner and are discovered two (2) years or more following acceptance thereof by the Municipality pursuant to Section 7.1 or

(4) matters arising from any breach of this Agreement by the District or any other Indemnified Party.

(c) An Indemnified Party shall, promptly after the receipt of notice of a written threat of the commencement of any action against such Indemnified Party in respect of which indemnification may be sought against the Owner, notify the Owner in writing of the commencement thereof and provide a copy of the written threat received by such Indemnified Party. Failure of the Indemnified Party to give such notice shall reduce the liability of The Owner by the amount of damages attributable to the failure of the Indemnified Party to give such notice to the Owner, but the omission to notify the Owner of any such action shall not relieve The Owner from any liability that any of them may have to such Indemnified Party otherwise than under this section. In case any such action shall be brought against an Indemnified Party and such Indemnified Party shall notify the Owner of the commencement thereof, the Owner may, or if so requested by such Indemnified Party shall, participate therein or defend the Indemnified Party therein, with counsel satisfactory to such Indemnified Party and the Owner (it being understood that, except as hereinafter provided, the Owner shall not be liable for the expenses of more than one counsel representing the Indemnified Parties in such action), and after notice from the Owner to such Indemnified Party of an election so to assume the defense thereof, the Owner shall not be liable to such Indemnified Party under this section for any legal or other expenses subsequently incurred by such Indemnified Party in connection with the defense thereof; provided, however, that unless and until the Owner defend any such action at the request of such Indemnified Party, the Owner shall have the right to participate at their own expense in the defense of any such action. If the Owner shall not have employed counsel to defend any such action or if an Indemnified Party shall have reasonably concluded that there may be defenses available to it and/or other Indemnified Parties that are different from or additional to those available to the Owner (in which case the Owner shall not have the right to direct the defense of such action on behalf of such Indemnified Party) or to other Indemnified Parties, the legal and other expenses, including the expense of separate counsel, incurred by such Indemnified Party shall be borne by the Owner.

Section 8.2. (a) To the extent permitted by applicable law, the District shall indemnify, defend and hold harmless each Indemnified Party for, from and against any and all liabilities, claims or demands for injury or death to persons or damage to property arising from in connection with, or relating to the performance of this Agreement. The District shall not, however, be obligated to indemnify the District Indemnified Parties with respect to damages caused by the negligence or willful misconduct of the District Indemnified Parties. The District shall not indemnify, defend and hold harmless the Municipality with respect to matters relating to public infrastructure owned by the Municipality.

ARTICLE IX
PAYMENT OF CERTAIN EXPENSES AND COSTS

Section 9.1. (a) To provide for expenses and costs for agents or third parties required to administer the General Obligation Bonds and the levy and collection of ad valorem taxes for payment of the General Obligation Bonds and any purposes otherwise related to such activities of the District, amounts shall be budgeted by the District Board each Fiscal Year in the District Budget for such purposes and shall be paid from amounts available from the tax levy described in Section 6.2(d).

(b) To provide for the payment of expenses and costs for agents or third parties required to administer the Assessment Bonds and the levy and collection of the Assessments and any purposes otherwise related to such activities of the District, amounts shall be budgeted by the District Board each Fiscal Year in the District Budget for such purposes and shall be paid from amounts collected for such purposes as a portion of the interest portion of the installments due with respect to the Assessments.

Section 9.2. To provide for the payment of the District Expenses and the O/M Expenses, the District Board shall levy all or a portion of the O/M Tax and shall apply the collections of the O/M Tax *first* to pay the District Expenses and second to pay the O/M Expenses. To the extent the collections of the O/M Tax are not sufficient to pay the District Expenses and the O/M Expenses, the Owner shall, to the extent of reasonable amounts necessary therefore, be liable and obligated to pay, jointly and severally, or, on a reasonable basis acceptable to the District Manager, obligate a Owner's or similar association to pay, to the District on July 1 of each fiscal year of the District the amount of any shortfall indicated in the District Budget with respect to the District or O/M Expenses, including any amount required because of any shortfall in the prior Fiscal Year as provided in such District Budget and no matter how such shortfall was otherwise funded. The District shall only levy the O/M Tax in an amount necessary for the District Expenses and the O/M Expenses reflected in the District Budget for the Fiscal Year of the District and only in reasonable amounts therefore. The obligations of the Owner pursuant to this Section shall apply only to shortfalls related to O/M Expenses and shall not exceed $75,000 beginning with the first full Fiscal Year after the execution and delivery hereof by the District [provided, however, that for any period prior thereto such obligations shall not exceed $75,000 times the number of full months remaining in such Fiscal Year divided by twelve (12)] and such Owner obligation shall remain until 75% build-out of Copper Mountain Ranch as amended is obtained (75% build-out means the point at which building permits for 75% of the residential units approved at Copper Mountain Ranch have been issued).

Section 9.3. The Owner shall deposit $50,000 as a deposit on account to be applied by the Municipality, in its discretion, to pay Initial Expenses as well as on-going administrative expenses of the District until such time as the O/M Tax has been levied upon written demand by the District Manager. Amounts paid pursuant to this Section by the Owner which may be reimbursed under applicable law to the Owner from the proceeds of the sale of the General Obligation Bonds shall, at the request of the Owner and to the extent of available amounts therefore, be included as part of the purpose of the Assessment Bonds or the General Obligation Bonds. The obligations of the Owner pursuant to this Section shall only be effective until the first full Fiscal Year after the first Fiscal Year in which the O/M Tax is levied.

Section 9.4. The Owner may be required to advance funds related to the issuance of bonds. Provided bonds are issued, the District agrees that it will reimburse the Owner from Bond proceeds (to the extent available) for any advanced funds incurred in connection with the amendment of the District operating agreement and the issuance of Bonds. The amount of such costs shall be reviewed by the District and may be modified if reasonably determined not to be in accordance with industry standards.

ARTICLE X
MISCELLANEOUS

Section 10.1. None of the Municipality, the District or the Owner shall knowingly take, or cause to be taken, any action which would cause interest on any Bond to be includable in gross income for federal income tax purposes pursuant to Section 61 of the Internal Revenue Code of 1986, as amended.

Section 10.2. (a) To provide evidence satisfactory to the District Manager that any prospective purchaser of land within the boundaries of the District has been notified that such land is within the boundaries of the District and that the Bonds may be then or in the future be outstanding, the Disclosure Statement shall be produced by the Owner; provided, however, that the Disclosure Statement may be modified as necessary in the future to adequately describe the District and the Bonds and source of payment for debt service therefore as agreed by the District Manager and the Owner.

(b) The Owner shall or shall require that the Owner or each homebuilder to whom the Owner has sold land:

(1) cause any purchaser of land to sign the Disclosure Statement upon entering into a contract for purchasing such land;

(2) provide a copy of each fully executed Disclosure Statement to be filed with the District Manager and

(3) provide such information and documents, including audited financial statements to any necessary repository or depository, but only to the extent necessary for the underwriters of the Bonds to comply with Rule 15c2-12 of the Securities Exchange Act of 1934.

Section 10.3. This Agreement shall be binding upon and shall inure to the benefit of the parties to this Agreement and their respective legal representatives, successors and assigns; provided, however, that none of the parties hereto shall be entitled to assign its right hereunder or under any document contemplated hereby without the prior written consent of the other parties to this Agreement, which consent shall not be unreasonably withheld.

Section 10.4. Each party hereto shall, promptly upon the request of any other, have acknowledged and delivered to the other any and all further instruments and assurances reasonably requested or appropriate to evidence or give effect to the provisions of this Agreement.

Section 10.5. This Agreement sets forth the entire understanding of the parties as to the matters set forth herein as of the date this Agreement is executed and cannot be altered or otherwise amended except pursuant to an instrument in writing signed by each of the parties hereto; provided, however, that such an amendment shall be effective against the Owner and the District only if such amendment does not amend Section 7.1 or 9.3 and shall be effective against the Owner, the District and the Municipality, as applicable, only if such amendment only amends Section 7.1 or 9.3 as it relates to the Municipality. This Agreement is intended to reflect the mutual intent of the parties with respect to the subject matter hereof, and no rule of strict construction shall be applied against any party.

Section 10.6. The District and the Owner understand that some of the public improvements funded by District and/or the Owner may also serve to benefit other surrounding property Owners. In such case, the Owner and the District agree to require these properties to pay their fair share of the applicable public improvements and related costs including financing charges.

In the event that: (i) property within the City can be shown to the satisfaction of the District's engineer to benefit directly from improvements financed by the District and/or the Owner; (ii) property which was previously owned by a public entity or quasi public entity at the time the District was formed is subsequently converted to privately-owned land and can be shown to the satisfaction of the District's engineer to benefit directly from the District and/or Owner financed improvements; and/or (iii) property that specially or directly benefits from the District and/or the Owner financed improvements to the satisfaction of the District's engineer and is not included within the CFD, the City will require each such property falling within clauses (i) though (iii) to contribute its proportionate fair share of the aforementioned improvement costs (including Financing Costs) through participation in a proportionate benefit reimbursement mechanism ("Reimbursement Mechanism").

It is anticipated that the City and/or District would cause each property's reimbursement obligation imposed pursuant to the Reimbursement Mechanism to be paid in full at the earlier of; (i) final plat recordation, or (ii) the issuance of the first building permit. Proceeds from the Reimbursement Mechanism shall be applied as follows:

a) to the District, to the extent that the funded the public improvements;

b) to Owner, to the extent that Owner funded the public improvements.

Section 10.7. This Agreement shall be governed by and interpreted in accordance with the laws of the State.

Section 10.8. The waiver by any party hereto of any right granted to it under this Agreement shall not be deemed to be a waiver of any other right granted in this Agreement nor shall the same be deemed to be a waiver of a subsequent right obtained by reason of the continuation of any matter previously waived under or by this Agreement.

Section 10.9. This Agreement may be executed in any number of counterparts, each of which, when executed and delivered, shall be deemed to be an original, but all of which taken together shall constitute one of the same instrument.

Section 10.10. The Municipality and the District may, within three years after its execution, cancel this Agreement, without penalty or further obligation, if any person significantly involved in initiating, negotiating, securing, drafting or creating this Agreement on behalf of the Municipality or the District, respectively, is, at any time while this Agreement is in effect, an employee or agent of the Owner in any capacity or a consultant to any other party of this Agreement with respect to the subject matter of this Agreement and may recoup any fee or commission paid or due any person significantly involved in initiating, negotiating, securing, drafting or creating this Agreement on behalf of the Municipality or the District, respectively, from the Owner arising as the result of this Agreement. The Owner has not taken and shall not take any action which would cause any person described in the preceding sentence to be or become an employee or agent of the Owner in any capacity or a consultant to any party to this Agreement with respect to the subject matter of this Agreement.

Section 10.11. The term of this Agreement shall be as of the date of the execution and delivery hereof by each of the parties hereto and shall expire upon the earlier of the agreement of the District, the Municipality, the Owner to the termination hereof, _____ 1, 2064, and the date on which all of the Bonds are paid in full or defeased to the fullest extent possible pursuant to the Act.

Section 10.12. All notices, certificates or other communications hereunder (including in the Exhibits hereto) shall be sufficiently given and shall be deemed to have been received 48 hours after deposit in the United States mail in registered or certified form with postage fully prepaid addressed as follows:

If to the Municipality:

City of Casa Grande
510 E. Florence Boulevard
Casa Grande, Arizona 85222_____
Attention: City Manager

If to the District:

Copper Mountain Communities Facilities District
% City of Casa Grande
510 E. Florence Boulevard
Casa Grande, Arizona 85222
Attention: City Manager

If to Owner:

_____
_____
_____
_____

With a mandatory copy to:

(Owner Legal Counsel)

_____

_____

_____

Any of the foregoing, by notice given hereunder, may designate different addresses to which subsequent notices, certificates or other communications will be sent.

Section 10.13. If any provision of this Agreement shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision thereof.

Section 10.14. The headings or titles of the several Articles and Sections hereof and in the Exhibits hereto, and any table of contents appended to copies hereof and thereof, shall be solely for convenience of reference and shall not affect the meaning, construction or effect of this Agreement.

Section 10.15. This Agreement does not relieve any party hereto of any obligation or responsibility imposed upon it by law; provided, however, that if the provisions of this Agreement conflict in any particular with those of the Land Development Agreement relating to the District, the provisions of the Land Agreement shall supersede and control those of the Agreement, as amended, in all respects.

Section 10.16. No later than ten (10) days after this Agreement is executed and delivered by each of the parties hereto, the Owner shall on behalf of the Municipality and the District record a copy of this Agreement with the County Recorder of Pinal County, Arizona.

Section 10.17. Unless otherwise expressly provided, the representations, covenants, indemnities and other agreements contained herein shall be deemed to be material and continuing, shall not be merged and shall survive any conveyance or transfer provided herein.

Section 10.18. If any party hereto shall be unable to observe or perform any covenant or condition herein by reason of Force Majeure, then the failure to observe or perform such covenant or condition shall not constitute a default hereunder so long as such party shall use its best efforts to remedy with all reasonable dispatch the event or condition causing such inability and such event or condition can be cured within a reasonable amount of time.

Section 10.19. Whenever the consent or approval of any party hereto, or of any agency therefore, shall be required under the provisions hereof, such consent or approval shall not be unreasonably withheld, conditioned or delayed.

Section 10.20. Section preserved for numbering purposes.

Section 10.21. (a) Failure by any party to perform or otherwise act in accordance with any term or provision of this Agreement for a period of thirty (30) days (hereinafter referred to as the "Cure Period") after written notice thereof from any other party,

shall constitute a default under this Agreement; provided, however, that if the failure or delay is such that more than thirty (30) days would reasonably be required to perform such action or comply with any term or provision hereof, then such party shall have such additional time as may be necessary to perform or comply so long as such party commences performance or compliance within said thirty (30) day period and diligently proceeds to complete such performance or fulfill such obligation. Said notice shall specify the nature of the alleged default and the manner in which said default may be satisfactorily cured, if possible. In the event such default is not cured within the Cure Period, any non-defaulting party shall have all rights and remedies under Arizona and/or federal law.

* * *

IN WITNESS WHEREOF, the officers of the Municipality and of the District have duly affixed their signatures and attestations, and the officers of the Owner their signatures, all as of the day and year first written above.

CITY OF CASA GRANDE, ARIZONA

By_____
_____, Mayor

ATTEST:

.....
_____, Clerk

Pursuant to A.R.S. Section 11-952(D), this Agreement has been reviewed by the undersigned attorney for the Municipality who has determined that this Agreement is in proper form and is within the powers and authority granted pursuant to the laws of this State to the Municipality.

.....
_____, Attorney

COPPER MOUNTAIN RANCH COMMUNITY FACILITIES DISTRICT

By_____

_____, Chairman,
District Board

ATTEST:

_____, District Clerk

Pursuant to A.R.S. Section 11-952(D), this Agreement has been reviewed by the undersigned attorney for the District, who has determined that this Agreement is in proper form and is within the powers and authority granted pursuant to the laws of this State to the District.

_____, District Counsel

_____, a _____
_____ company

By_____
_____

By_____
Printed Name_____
Title_____

_____, a _____
corporation

By_____
Printed Name:_____
Title:_____

STATE OF ARIZONA)
) ss.
COUNTY OF PINAL)

The foregoing instrument was acknowledged before me this ____ day of _____, 2006, by _____, as Mayor of the City of Casa Grande, Arizona, a municipal corporation under the laws of the State of Arizona.

_____
Notary Public

My commission expires:

_____

STATE OF ARIZONA)
) ss.
COUNTY OF PINAL)

The foregoing instrument was acknowledged before me this ____ day of _____, 2006, by _____, as Chairman of the District Board of Copper Mountain Ranch Community Facilities District, an Arizona community facilities district.

_____
Notary Public

My commission expires:

_____

STATE OF _____)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me this ____ of _____, 2006, by _____, the _____of _____, a _____, _____ of the _____, an Arizona limited _____, on behalf of the limited liability company.

_____
Notary Public

My commission expires:

_____

STATE OF _____)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me this ____ of _____, 2006, by _____, the _____ of _____ , a _____ corporation.

_____
Notary Public

My commission expires:

_____

ATTACHMENTS:

EXHIBIT "A" --	Legal Description of the Property
EXHIBIT "B" --	Description of Infrastructure
EXHIBIT "C: --	Form Of Certificate of Engineers for Conveyance of Segment of Project
EXHIBIT "D" --	Form of Conveyance of Segment of Project
EXHIBIT "E" --	Public Bid Checklist
EXHIBIT "F" --	Form of Disclosure Statement
EXHIBIT "G" --	Commercial and Residential Development Fees

EXHIBIT "A" (TO EXHIBIT "D")

LEGAL DESCRIPTION OF PROPERTY TO BE INCLUDED IN THE DISTRICT

EXHIBIT "B" (TO EXHIBIT "D")

DESCRIPTION OF INFRASTRUCTURE

EXHIBIT "C" (TO EXHIBIT "D")

FORM OF CERTIFICATE OF ENGINEERS FOR CONVEYANCE OF SEGMENT OF ACQUISITION PROJECT

CERTIFICATE OF ENGINEERS FOR CONVEYANCE OF SEGMENT OF ACQUISITION PROJECT

(insert description of Acquisition Project/Segment)

STATE OF ARIZONA)
COUNTY OF PINAL)
CITY OF CASA GRANDE) ss.
COPPER MOUNTAIN RANCH COMMUNITY)
FACILITIES DISTRICT)

We the undersigned, being Professional Engineers in the State of Arizona and, respectively, the duly appointed District Engineer for Copper Mountain Ranch Community Facilities District (hereinafter referred to as the "District"), and the engineer employed by _____ _____ (hereinafter referred to as "the Owner"), each hereby certify for purposes of the District Development, Financing Participation and Intergovernmental Agreement (Copper Mountain Ranch Community Facilities District), dated as of _____ 1, 2006 (hereinafter referred to as the "Agreement"), by and among the District, the City of Casa Grande, Arizona and the Owner that:

1. The Segment indicated above has been performed in every detail pursuant to the Plans and Specifications (as such term and all of the other initially capitalized terms in this Certificate are defined in the Agreement) and the Acquisition Project Construction Contract (as modified by any change orders permitted by the Agreement) for such Segment.

2. The Segment Price as publicly bid and including the cost of approved change orders for such Segment is $_____.

3. the Owner provided for compliance with the requirements for public bidding for such Segment as required by the Agreement (including, particularly but not by way of limitation, Title 34, Chapter 2, Article 1, Arizona Revised Statutes, as amended) in connection with award of the Acquisition Project Construction Contract for such Segment.

4. the Owner filed all construction plans, specifications, contract documents, and supporting engineering data for the construction or installation of such Segment with the Municipality.

5. the Owner obtained good and sufficient performance and payment bonds in connection with such Contract.

DATED AND SEALED THIS _____ DAY OF _____, 200__.

By_____
District Engineer

[P.E. SEAL]

[P.E. SEAL]

By_____
Engineer for the Owner

[Confirmed for purposes of Section _____ of the Development Agreement by

_____
Manager for Copper Mountain Ranch Community Facilities District*]

[THIS WILL BE <u>REQUIRED</u> FOR EVERY SEGMENT ACQUIRED WITH PROCEEDS OF THE SALE OF THE BONDS!!!]

_____

* To be inserted if the provisions of Section 3.5 hereof are applicable to the respective Segment of the Project

EXHIBIT "D" (TO EXHIBIT "D")

FORM OF CONVEYANCE OF SEGMENT OF ACQUISITION PROJECT

CONVEYANCE OF SEGMENT OF ACQUISITION PROJECT

(Insert description of Acquisition Project/Segment)

STATE OF ARIZONA)
COUNTY OF PINAL)
CITY OF CASA GRANDE) ss.
COPPER MOUNTAIN RANCH COMMUNITY)
FACILITIES DISTRICT)

KNOW ALL MEN BY THESE PRESENTS THAT:

_____ ("the Owner"), for good and valuable consideration received by the Owner from Copper Mountain Ranch Community Facilities District, a community facilities district formed by the City of Casa Grande, Arizona (the "Municipality"), and duly organized and validly existing pursuant to the laws of the State of Arizona (the "District"), receipt of which is hereby acknowledged [, and the promise of the District to hereafter pay the amounts described in the hereinafter described Development Agreement*], does by these presents grant, bargain, sell and convey to the District, its successors and assigns, all right, title and interest in and to the following described property, being the subject of a District Development, Financing Participation and Intergovernmental Agreement (Copper Mountain Ranch Community Facilities District), dated as of _____ 1, 2006, by and among the Owner, the Municipality and the District and more completely described in such Development Agreement:

[Insert description of Acquisition Project/Segment]

together with any and all benefits, including warranties and performance and payment bonds, under the Acquisition Project Construction Contract (as such term is defined in such Development Agreement) or relating thereto, all of which are or shall be located within utility or other public easements dedicated or to be dedicated by plat or otherwise free and clear of any and all liens, easements, restrictions, conditions, or encumbrances affecting the same [, such subsequent dedications not affecting the promise of the District to here-after pay the amounts described in such Development Agreement*], but subject to all taxes and other assessments, reservations in patents, and all easements, rights-of-way, encumbrances, liens, covenants, conditions, restrictions, obligations, leases, and liabilities or other matters as set forth on Exhibit I hereto.

---

* Insert with respect to any acquisition financed pursuant to Section 5.2(a) hereof.
* Insert with respect to any acquisition financed pursuant to Section 5.2(a) hereof.

TO HAVE AND TO HOLD the above-described property, together with all and singular the rights and appurtenances thereunto in anywise belonging, including all necessary rights of ingress, egress, and regress, subject, however, to the above-described exception(s) and reservation(s), unto the District, its successors and assigns, for-ever; and the Owner do hereby bind themselves, their successors and assigns to warrant and forever defend, all and singular, the above-described property, subject to such exception(s) and reservation(s), unto the District, its successors and assigns, against the acts of the Owner and no other.

The Owner bind and obligate themselves, their successors and assigns, to execute and deliver at the request of the District any other or additional instruments of transfer, bills of sale, conveyances, or other instruments or documents which may be necessary or desirable to evidence more completely or to perfect the transfer to the District of the above-described property, subject to the exception(s) and reservation(s) hereinabove provided.

This conveyance is made pursuant to such Development Agreement, and the Owner hereby agree that the amounts specified above and paid [or promised to be paid*] to the Owner hereunder satisfy in full the obligations of the District under such Development Agreement and hereby release the District from any further responsibility to make payment to the Owner under such Development Agreement except as above provided.

The Owner, in addition to the other representations and warranties herein, specifically make the following representations and warranties:

1. The Owner has the full legal right and authority to make the sale, transfer, and assignment herein provided.

2. The Owner is not a party to any written or oral contract which adversely affects this Conveyance.

3. The Owner are not subject to any bylaw, agreement, mortgage, lien, lease, instrument, order, judgment, decree, or other restriction of any kind or character which would prevent the execution of this Conveyance.

4. The Owner is not engaged in or threatened with any legal action or proceeding, nor is it under any investigation, which prevents the execution of this Conveyance.

5. The person executing this Conveyance on behalf of the Owner has full authority to do so, and no further official action need be taken by the Owner to validate this Conveyance.

6. The facilities conveyed hereunder are all located within property owned by the Owner or utility or other public easements dedicated or to be dedicated by plat or otherwise.

IN WITNESS WHEREOF, the Owner have caused this Conveyance to be executed and delivered this _____. day of _____, 200___.

_____

By_____

By_____
Title:_____

STATE OF ARIZONA)
) ss.
COUNTY OF PINAL)

This instrument was acknowledged before me on _____, 200__ by _____, of _____, a _____, on behalf of said corporation.

_____
Notary Public

_____
Typed/Printed Name of Notary

[NOTARY SEAL]

My commission expires:_____

EXHIBIT "E" (TO EXHIBIT "D")

CASA GRANDE COMMUNITY FACILITIES DISTRICT PUBLIC BID CHECKLIST

Number	Task	Date	Responsible Party
1	City Engineer Approval of Bid Documents		City Engineer
2	Public Advertisement #1 (Affidavit attached)		District Clerk
3	Bids submitted to District Clerk		District Clerk
4	Public Bid Opening (Summary attached)		District Clerk
5	Proof of Bidder's Qualification (Analysis attached)		Developer
6	Execution of Contract		
	Execute Contract (Copy of contract attached)		Developer
7	Issue Notice of Award (Copy attached)		Developer
8	Issue Notice to Proceed (Copy attached)		Developer
9	Change Orders (Attach all copies and approvals)		
	District Manager Approval (less than 10%)		District Manager
	District Engineer Approval (all)		City Engineer
	District Board Approval (greater than 10%)		District Chairman
10	City Letter of Acceptance of Construction (Copy attached)		
	District Engineer Approval		District Engineer
	City Engineer Approval		City Engineer
11	Affidavit of Project Costs. (Copy attached)		Developer

All items are complete

_____

Signature

Attest (seal) _____

By _____

Title _____

EXHIBIT "F" (TO EXHIBIT "D")

FORM OF DISCLOSURE STATEMENT

COPPER MOUNTAIN RANCH COMMUNITY FACILITIES DISTRICT DISCLOSURE STATEMENT

_____, an _____ company (the "Owner"), in conjunction with the City of Casa Grande, Arizona (the ""), have established a community facilities district ("CFD") at the development known as "Copper Mountain Ranch." The CFD has financed and, in the future, will finance certain public infrastructure improvements, which will result in a property tax liability and a separate special assessment lien liability for each property Owner of Copper Mountain Ranch resulting from being in the CFD.

BACKGROUND

On September 30, 1988, the Arizona Community Facilities District Act became effective. This provision in State law was created to allow Arizona municipalities to form CFDs for the primary purpose of financing the acquisition, construction, installation, operation and/or maintenance of public infrastructure improvements, including water and sewer improvements.

HOW THE CFD WORKS

On _____, 200__, the Mayor and Council of the formed CFD which includes all of the residential and commercial property in _____. An election was held on _____, 200__, at which time the Owner of the property within the CFD voted to authorize up to $___,000,000 of ad valorem tax bonds to be issued over time by the CFD to finance the acquisition or construction of _____ improvements. The proceeds of separate special assessment lien bonds will be used to finance acquisition or construction of _____ _____ improvements. Such improvements have been or will be dedicated to the after acquisition or construction of such public infrastructure by the District. The will operate and maintain such improvements.

WHAT WILL BE FINANCED?

The CFD has been established to finance up to $___,000,000 in public infrastructure improvements within _____ including financing costs related to such improvements. The initial bond issue is expected to be approximately $_____,000. The proceeds of this bond issue are currently expected to be utilized to finance the engineering, design and construction of _____. In addition, it is anticipated that approximately $_____,000 in bonds will be issued over the next _____ years for future phases of infrastructure at Copper Mountain Ranch.

BENEFITS TO RESIDENTS

The bond issues by the CFD will benefit all residents within Copper Mountain Ranch by providing _____ improvements. This benefit was taken into account by the Owner in connection with establishing the price of the lot on which your home is to be located. Each

resident of the CFD will participate in the repayment of the bonds in the form of an additional property tax to the current property taxes assessed by other governmental entities as well as a separate special assessment lien payable twice a year in addition to such taxes. The added tax is currently deductible for purpose of calculating federal and state income taxes.

PROPERTY OWNER' TAX AND ASSESSMENT LIABILITY

The obligation to retire the bonds will become the responsibility of any property Owner in the CFD through the payment of property taxes collected by the Pinal County Treasurer in addition to all other property tax payments and the collection of installments of such assessment liens by the CFD. **(PLEASE NOTE THAT NO OTHER AREA WITHIN THE BOUNDARIES OF THE IS SUBJECT TO A PROPERTY TAX OR AN ASSESSMENT LEVIED BY ANY OTHER COMMUNITY FACILITIES DISTRICT.)** Beginning in fiscal year 200_-0_, the CFD levied a not to exceed $____ per $100.00 of secondary assessed valuation tax rate to provide for repayment of the bonds and the payment of certain administrative expenses and of operation and maintaining the infrastructure it finances as well as a total assessment lien of $_____ in principal amount.

Although the level of the tax rate is not limited by law, the tax rate of the CFD is not expected to exceed $_____ per $100.00 of secondary assessed valuation for as long as the bonds are outstanding. **(There can be no guarantee tax rates will not be increased to provide for repayment in the future.)**

IMPACT OF ADDITIONAL CFD PROPERTY TAX AND ASSESSMENT

The following illustrates the additional annual tax liability imposed by the CFD, based on varying residential values within Copper Mountain Ranch and a $____ tax rate:

Market Value of Residence	**Estimated Annual Additional Tax Liability**
$___,000	$
___,000	
___,000	
___,000	
___,000	
___,000	

*Assumptions:

1. Market value is not the same as full cash value as reported by the County Assessor, which is typically 85% of market value.
2. Assumes residential property assessment ratio will remain at 10%.
3. Tax amount is computed by multiplying the tax rate per $100 of assessed value by full cash value times the assessment ratio.

The following illustrates the annual assessment liability imposed by the CFD which is in addition to the foregoing:

Market Value of Residence	**Estimated Annual Additional Tax Liability***
$___,000	$
___,000	
___,000	
___,000	
___,000	
___,000	

Additional information regarding the description of infrastructure improvements to be financed by the CFD, bond issue public disclosure documents and other documents and agreements (including a copy of this Disclosure Statement) are available for review in the City of Casa Grande Clerk's office.

Your signature below acknowledges that you have read this disclosure document at the time you made your decision to purchase property at Copper Mountain Ranch and you signed your purchase contract and that you understand the property you are purchasing will be taxed and separately assessed to pay the CFD bonds described above.

_____ _____

Home Buyer(s) Signature/Date Home Buyer(s) Printed Name(s)

_____ _____

Home Buyer(s) Signature/Date _____ Parcel No. _____. Lot No. _____

EXHIBIT "E"

EXAMPLES OF THREE-STAR RESORTS

About Phoenix, AZ

The Best Resorts in Phoenix

From Judy Hedding,
Your Guide to Phoenix, AZ
FREE Newsletter, Sign Up Now!

Mobile Travel Guide Rates Arizona Resorts

The Mobil Travel Guide has been rating restaurants and hotels for nearly 50 years. They rely on an objective evaluation by their own Secret Inspectors. These inspectors conduct unannounced inspections, service evaluations, collect comments from customers, and perform senior management oversight. When evaluating a property, they focus on the guest experience, expectations, and the consistency of service, in addition to the physical facilities and amenities available.

According to the Mobil Travel Guide web site, "The Mobil Five-Star Award indicates that a property is one of the very best in the country and consistently provides gracious and courteous service, superlative quality in its facility, and a unique ambiance that is all its own. The hotels and restaurants at the Five-Star level are consistently and proactively responding to consumer's needs, and they continue their commitment to excellence, doing so with grace and perseverance.

Also highly regarded is the Mobil Four-Star Award, which honors properties for outstanding achievement in overall facility and for providing very strong service levels in all areas. These award winners provide a distinctive experience for the ever-demanding and sophisticated consumer."

Not one resort in Arizona is ranked at the Mobil Five-Star Award level at this time. There are a total of fifteen resorts in Arizona that achieved the Mobil Four-Star Award level. Ten of those resorts are in the Phoenix area.

Mobil Four-Star Resorts/Hotels in the Greater Phoenix Area

1. Arizona Biltmore Resort And Spa, Phoenix
2. Boulders Resort, Carefree, Carefree
3. Fairmont Scottsdale Princess, Scottsdale
4. Four Seasons Resort Scottsdale at Troon North, Scottsdale
5. Hyatt Regency Scottsdale, Scottsdale
6. Marriott Camelback Inn Resort Golf Club & Spa, Scottsdale
7. Phoenician, Scottsdale
8. Ritz-Carlton Phoenix, Phoenix
9. Royal Palms Hotel And Casitas, Phoenix
10. Wigwam Resort And Golf Club, Litchfield Park

Of course, many of these resorts are very pricey. If you are looking for an enoyable experience at a more reasonable price, many of the Mobil Three-Star resorts are very fine properties.

Mobil Three-Star Resorts/Hotels in the Greater Phoenix Area

- Arizona Golf Resort & Conference Center, Mesa
- Fiesta Inn, Tempe
- Gold Canyon Golf Resort, Gold Canyon
- Hermosa Inn, Paradise Valley (Bed & Breakfast)
- Hilton Garden Inn Scottsdale, Scottsdale (Motel)
- Hilton Phoenix East/Mesa, Mesa (Hotel)
- Hilton Scottsdale Resort And Villas, Scottsdale (Hotel)
- Hyatt Regency Phoenix, Phoenix (Hotel)
- Inn At Eagle Mountain, Fountain Hills (Hotel)

- Jw Marriott Desert Ridge Resort And Spa, Phoenix
- Marriott Mountain Shadows Resort And Golf Club, Scottsdale
- Marriott Scottsdale At Mcdowell Mountain, Scottsdale (All Suites)
- Marriott Suites Scottsdale Old Town, Scottsdale (All Suites)
- Millennium Resort Scottsdale, Mccormick Ranch, Scottsdale
- Orange Tree Golf And Conference Center, Scottsdale
- Pointe Hilton Squaw Peak Resort, Phoenix
- Pointe Hilton Tapatio Cliffs Resort, Phoenix
- Pointe South Mountain Resort, Phoenix
- Radisson Resort & Spa Scottsdale, Scottsdale
- Renaissance Scottsdale Resort, Scottsdale
- Sanctuary at Camelback Mountain, Paradise Valley
- Scottsdale Plaza Resort, Scottsdale
- Sheraton Crescent Hotel, Phoenix Hotel
- Sheraton Mesa Hotel And Convention Center, Mesa (Hotel)
- Sheraton San Marcos Golf Resort And Conference Center, Chandler
- Sheraton Wild Horse Pass Resort And Spa, Gila River Indian Community Phoenix
- Sunburst Resort, Scottsdale
- Tempe Mission Palms Hotel, Tempe
- Westin Kierland Resort And Spa, Scottsdale

For more details about how Mobil rates resorts and restaurants, or to find out about the best resorts in other states, visit the Mobil Travel Guide.

Phoenix For Visitors

Hotels, Motels and ResortsThings to See and Do in Greater PhoenixPhoenix and Arizona Maps

More Phoenix Resources

Restaurants and PubsNight LifeTransportation in Greater Phoenix

Recent Discussions

Food Safety AlertAir FaresContest: When Will Phoenix Cool Off?

About

Advertisement

EXHIBIT "F"
DEVELOPMENT FEES

Unless otherwise explicitly agreed to by Owners, in their sole discretion, in writing, all fees referenced in this Exhibit F shall be paid by the party seeking building permit issuance.

Commercial Development Fees

1. For the term of this Agreement, at the time of issuance of a building permit for new construction, the City's then existing adopted Sewer Development Fee shall be applicable to development on the Property.

2. For a period of 4 years after the date of this Agreement, for all other purposes for which development fees are assessed by the City, a total fee of $0.54 per square foot shall be assessed.

3. For a period commencing on the expiration of the 4th year above, and ending on the conclusion of the 8th year after the date of this Agreement, for all other purposes for which development fees are assessed by the City, a total fee of $1.08 per square foot shall be assessed.

4. For a period commencing on the expiration of the 8th year above, and ending on the conclusion of the 12th year after the date of this Agreement, for all other purposes for which development fees are assessed by the City thereafter, a total fee of $1.62 per square foot shall be assessed.

5. For a period commencing on the expiration of the 12th year above, and thereafter, for all other purposes for which development fees are assessed by the City, the then existing adopted development impact fees shall be applicable to development on the Property.

Residential Development Fees

1. For the term of this Agreement, at the time of issuance of a building permit for new residential construction, the City's then existing adopted Sewer Development Fee shall be applicable to development on the Property. For a period of four (4) years after the date of this Amended and Restated Agreement, for all other purposes for which development fees are assessed by the City, a total fee of $500 per single-family residential unit shall be assessed at the time of issuance of a building permit for new residential construction and such $500 fee shall not be eligible for any offsets or credits.

2. For a period commencing on the expiration of the 4th year above, and ending on the conclusion of the 8th year after the date of this Amended and Restated Agreement, for all other purposes for which development fees are assessed by the City, a total fee of $1,000 per single family residential unit shall be assessed at the time of issuance of a building permit for new residential construction and such $1,000 fee shall not be eligible for any offsets or credits.

3. For a period commencing on the expiration of the 8th year above, and ending on the conclusion of the 12th year after the date of this Amended and Restated Agreement, for all other purposes for which development fees are assessed by the City, a total fee of $1,500 per single

family residential unit shall be assessed at the time of issuance of a building permit for new residential construction and such $1,500 fee shall not be eligible for any offsets or credits.

4. For a period commencing on the expiration of the 12th year above, and thereafter, for all other purposes for which development fees are assessed by the City, the then existing adopted development impact fees shall be applicable to development on the Property.

EXHIBIT "G"
ARIZONA REVISED STATUTE
SECTION 9-463.06

9-463.06. Standards for enactment of moratorium; land development; limitations; definitions

A. A city or town shall not adopt a moratorium on construction or land development unless it first:

1. Provides notice to the public published once in a newspaper of general circulation in the community at least thirty days before a final public hearing to be held to consider the adoption of the moratorium.

2. Makes written findings justifying the need for the moratorium in the manner provided for in this section.

3. Holds a public hearing on the adoption of the moratorium and the findings that support the moratorium.

B. For urban or urbanizable land, a moratorium may be justified by demonstration of a need to prevent a shortage of essential public facilities that would otherwise occur during the effective period of the moratorium. This demonstration shall be based on reasonably available information and shall include at least the following findings:

1. A showing of the extent of need beyond the estimated capacity of existing essential public facilities expected to result from new land development, including identification of any essential public facilities currently operating beyond capacity and the portion of this capacity already committed to development, or in the case of water resources, a showing that, in an active management area, an assured water supply cannot be provided or, outside an active management area, a sufficient water supply cannot be provided, to the new land development, including identification of current water resources and the portion already committed to development.

2. That the moratorium is reasonably limited to those areas of the city or town where a shortage of essential public facilities would otherwise occur and on property that has not received development approvals based upon the sufficiency of existing essential public facilities.

3. That the housing and economic development needs of the area affected have been accommodated as much as possible in any program for allocating any remaining essential public facility capacity.

C. A moratorium not based on a shortage of essential public facilities under subsection B of this section may be justified only by a demonstration of compelling need for other public facilities, including police and fire facilities. This demonstration shall be based on reasonably available information and shall include at least the following findings:

1. For urban or urbanizable land:

(a) That application of existing development ordinances or regulations and other applicable law is inadequate to prevent irrevocable public harm from development in affected geographical areas.

(b) That the moratorium is sufficiently limited to ensure that a needed supply of affected housing types and the supply of commercial and industrial facilities within or in proximity to the city or town are not unreasonably restricted by the adoption of the moratorium.

(c) Stating the reasons that alternative methods of achieving the objectives of the moratorium are unsatisfactory.

(d) That the city or town has determined that the public harm that would be caused by failure to impose a moratorium outweighs the adverse effects on other affected local governments, including shifts in demand for housing or economic development, public facilities and services and buildable lands and the overall impact of the moratorium on population distribution.

(e) That the city or town proposing the moratorium has developed a work plan and time schedule for achieving the objectives of the moratorium.

2. For rural land:

(a) That application of existing development ordinances or regulations and other applicable law is inadequate to prevent irrevocable public harm from development in affected geographical areas.

(b) Stating the reasons that alternative methods of achieving the objectives of the moratorium are unsatisfactory.

(c) That the moratorium is sufficiently limited to ensure that lots or parcels outside the affected geographical areas are not unreasonably restricted by the adoption of the moratorium.

(d) That the city or town proposing the moratorium has developed a work plan and time schedule for achieving the objectives of the moratorium.

D. Any moratorium adopted pursuant to this section does not affect any express provision in a development agreement entered into pursuant to section 9-500.05 or as defined in section 11-1101 governing the rate, timing and sequencing of development, nor does it affect rights acquired pursuant to a protected development right granted according to chapter 11 of this title or title 11, chapter 9. Any moratorium adopted pursuant to this section shall provide a procedure pursuant to which an individual landowner may apply for a waiver of the moratorium's applicability to its property by claiming rights obtained pursuant to a development agreement, a protected development right or any vested right or by providing the public facilities that are the subject of the moratorium at the landowner's cost.

E. A moratorium adopted under subsection C, paragraph 1 of this section shall not remain in effect for more than one hundred twenty days, but such a moratorium may be extended for additional periods of time of up to one hundred twenty days if the city or town adopting the moratorium holds a public hearing on the proposed extension and adopts written findings that:

1. Verify the problem requiring the need for the moratorium to be extended.

2. Demonstrate that reasonable progress is being made to alleviate the problem resulting in the moratorium.

3. Set a specific duration for the renewal of the moratorium.

F. A city or town considering an extension of a moratorium shall provide notice to the general public published once in a newspaper of general circulation in the community at least thirty days before a final hearing is held to consider an extension of a moratorium.

G. Nothing in this section shall prevent a city or town from complying with any state or federal law, regulation or order issued in writing by a legally authorized governmental entity.

H. A landowner aggrieved by a municipality's adoption of a moratorium pursuant to this section may file, at any time within thirty days after the moratorium has been adopted, a complaint for a trial de novo in the superior court on the facts and the law regarding the moratorium. All matters presented to the superior court pursuant to this section have preference on the court calendar on the same basis as condemnation matters and the court shall further have the authority to award reasonable attorney fees incurred in the appeal and trial pursuant to this section to the prevailing party.

I. In this section:

1. "Compelling need" means a clear and imminent danger to the health and safety of the public.

2. "Essential public facilities" means water, sewer and street improvements to the extent that these improvements and water resources are provided by the city, town or private utility.

3. "Moratorium on construction or land development" means engaging in a pattern or practice of delaying or stopping issuance of permits, authorizations or approvals necessary for the subdivision and partitioning of, or construction on, any land. It does not include denial or delay of permits or authorizations because they are inconsistent with applicable statutes, rules, zoning or other ordinances.

4. "Rural land" means all property in the unincorporated area of a county or in the incorporated area of the city or town with a population of two thousand nine hundred or less persons according to the most recent United States decennial census.

5. "Urban or urbanizable land" means all property in the incorporated area of a city or town with a population of more than two thousand nine hundred persons according to the most recent United States decennial census.

6. "Vested right" means a right to develop property established by the expenditure of substantial sums of money pursuant to a permit or approval granted by the city, town or county.

EXHIBIT "H"
COUNTY BUFFER AREA

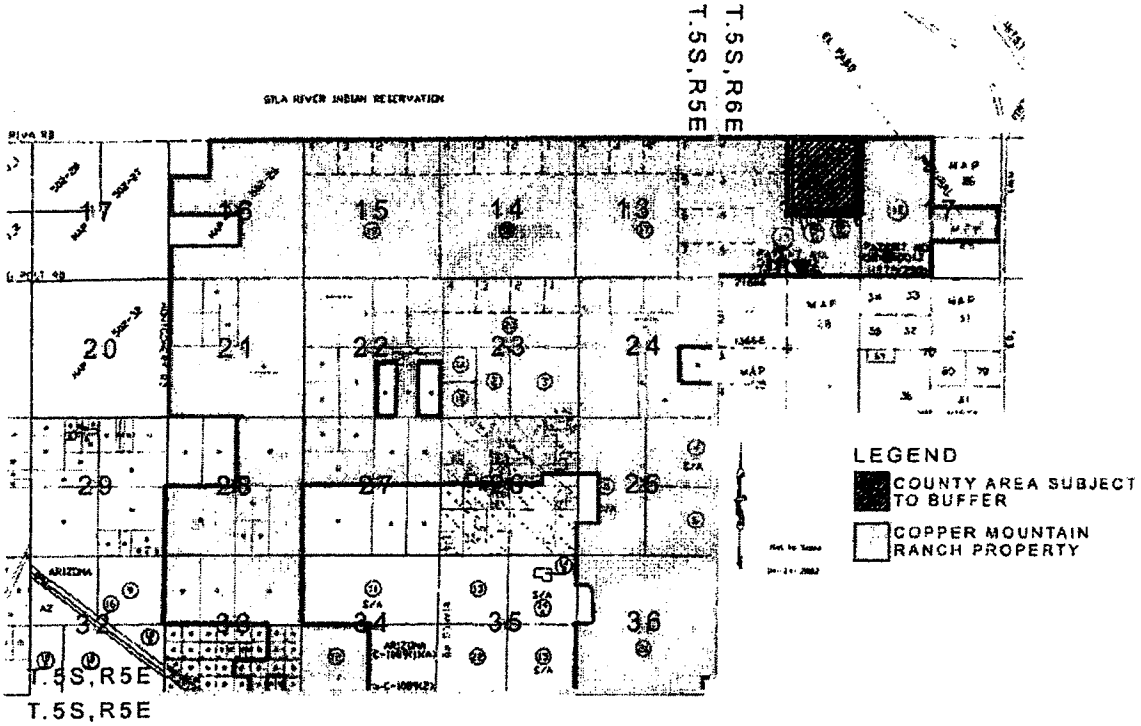
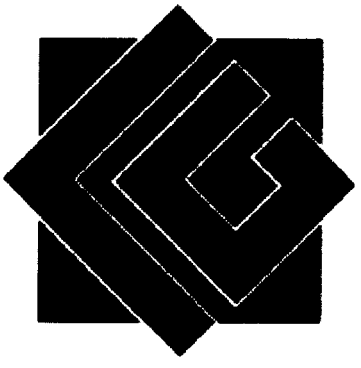


EXHIBIT 17

Reclaimed Water Use Conceptual Master Plan for the City of Casa Grande and the Arizona Water Company Pinal Valley Planning Area

Final Report
March, 2008



Larson and Associates
Water Resources Consulting

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Introduction

The City of Casa Grande updated its Wastewater Master Plan in 2006 (Carollo Engineers). The plan calls for expansion of the Kortsen Road Water Reclamation Plant to 12 million gallons per day (MGD) capacity by 2009 and upgrading the treatment level to A+ quality water suitable for open-access irrigation uses, and planning for water reclamation plant expansion at or near the existing plant site to accommodate the estimated buildout wastewater flows of 50 MGD. The plan also called for development of a plan to maximize use of available reclaimed water in the future.

This Reclaimed Water Use Conceptual Master Plan builds on the Carollo master plan. The project was a joint planning effort between the City of Casa Grande and Arizona Water Company (AWC). AWC provided in-kind services related to engineering analysis, mapping, and support services.

The objectives of this project are to:

- Provide a high level analysis of the reclaimed water use alternatives available for implementation within the planning area.
- Evaluate the potential costs, benefits, technical challenges, regulatory issues, and financing alternatives for effluent reuse options.
- Provide a recommended implementation action plan, including system funding alternatives
- Discuss and provide a potential framework for a Memorandum of Understanding between Casa Grande and Arizona Water Company designed to facilitate reclaimed water use within the service area.
- Identify additional engineering, hydrologic, and financial analyses required.

Chapter 1 – State Laws and Regulations Affecting the Use of Reclaimed Water

1.0 Overview of Regulations

The Arizona Department of Water Resources (ADWR) and the Arizona Department of Environmental Quality (ADEQ) administer multiple laws and regulations that control the discharge, management and use of reclaimed water within Arizona's Active Management Areas. This chapter summarizes the key regulations that must be complied with in order to effectively manage the City of Casa Grande's reclaimed water resources. Many of these laws and rules regulate the underground storage and recovery of effluent and the direct use of effluent for various uses. Some rules relate to restrictions on groundwater use in the Active Management Areas and are designed to encourage the reuse of effluent rather than continued discharge to stream channels. The A.R.S. statute number or ADWR or ADEQ Rule numbers are referenced below for selected topics.

1.1 Arizona Department of Water Resources – Statutes and Rules

1.1.1 Underground Storage Facility (USF) Permits (A.R.S. 45-801.01)

In order to accrue recharge storage credits, a recharge facility must be permitted as an Underground Storage Facility. There are two types of underground storage facility permits that may be obtained from ADWR. A "Constructed" USF permit allows for water to be stored in an aquifer using some type of constructed device, such as injection wells, percolation basins (spreading basins), or vadose zone wells. To be considered a constructed USF, a "body of water" must have been "designed, constructed, or altered so that water storage is a principal purpose of the body of water" (A.R.S. 45-815.01). A "Managed" USF permit allows for water to be discharged to a natural stream channel that allows water to percolate into the aquifer without the assistance of a constructed device.

With a Constructed USF permit, the permit holder can receive a storage credit for nearly all of the water discharged to the storage facility, minus evaporation and other losses and a "cut to the aquifer" of 5 percent. Generally evaporation and other losses such water uptake by plants and losses from water conveyance pipelines is less than 3 percent. Most of the approximately 60 permitted underground storage facilities in Arizona are constructed facilities. The 5 percent cut to aquifer is not deducted for effluent stored at a USF.

With a Managed USF, storage credits may be provided up to a maximum of 50 percent of the water discharged to the facility after evapotranspiration losses are deducted. For this reason, managed facilities are less common and only 6 such permits have been issued to date by ADWR.

To receive a permit, a USF permittee must demonstrate that:

- The project must be hydrologically feasible.
- The applicant must demonstrate financial and technical capability to carry out the project.
- The project will cause no unreasonable harm to land or other water users within the area of hydrologic impact of the project.
- The project must continue to be monitored to ensure water storage will not cause the migration of poor quality groundwater.

USF permits generally require the holder of the permit to, at a minimum, submit quarterly groundwater level and water quality sampling data and reports. Several monitor wells (minimum of 3) are normally required. Quarterly and annual reports are required to be filed with ADWR. USF permits list the specific water sources that are allowed to be stored at the facility. The permitting process through ADWR is relatively rigorous and is governed by A.R.S. 45-801.01 and R12-12-151. A hydrogeologic study is required to be submitted that calculates the "area of hydrologic impact" and demonstrates the facility will not cause unreasonable increasing harm to the land or other nearby well owners. The area of impact (AOI) is defined by a one-foot rise in the water table that is the result of the water recharge activity. There is a 295-day requirement for ADWR to complete a substantive review. However, in some cases, USF permits can require up to two years to obtain from the time the permit is first applied for, if questions arise regarding the technical aspects of the hydrologic modeling study.

Pilot Scale USF permits are available from ADWR for small projects in which less than 10,000 acre-feet of total aquifer storage will occur. These permits have an expedited review process and somewhat less detailed hydrologic study and monitoring requirements. Some holders of standard USF permits have begun by obtaining a pilot project permit and then converting to a standard permit after collecting more hydrologic data during operation of the storage facility.

1.1.2 Groundwater Savings Facility (GSF) Permits (A.R.S. 45-812.01)

A Groundwater Savings Facility Permit is obtained by an irrigation district. It allows the holder to utilize a renewable water supply (such as effluent or CAP water) to replace groundwater pumping thus creating groundwater savings. The renewable water source is referred to as "in-lieu" water. The operator of a GSF must agree to reduce its groundwater pumping on a gallon-for-gallon basis. The person delivering in-lieu water to a GSF is eligible to accrue long-term groundwater storage credits for later use. The Area of Impact for water stored using a Groundwater Savings Facility is considered to be the entire areal extent of the irrigation district boundaries. Approximately 20 Groundwater Savings Facilities have been permitted to date in Arizona. The following Pinal County irrigation districts have permitted GSFs and currently receive in-lieu Central Arizona Project water:

- San Carlos Irrigation and Drainage District (SCIDD)
- Maricopa Stanfield Irrigation and Drainage District (MSIDD)
- Central Arizona Irrigation and Drainage District (CAIDD)
- Hohokam Irrigation District
- Gila River Indian Irrigation and Drainage District

These facilities could potentially be used to store effluent underground and generate long-term storage credits if agreements could be established with the holder of the GSF permit. The GSF permits would likely need to be modified to include effluent as an eligible in-lieu water source.

1.1.3 Water Storage Permits (45-831.01)

A water storage permit allows the permit holder to store water at a permitted USF or GSF. In order to store water, the applicant must provide evidence of its legal right to the source water. The water storage permit creates a water storage account that is monitored and updated annually by ADWR. The holder of a USF permit must also obtain a water storage permit to store water. Annual water storage reports must be filed whether or not water was stored pursuant to the permit.

1.1.4 Long-term Storage Credits and Accounting

Operators of USFs and GSFs report to ADWR annually the amount of water stored for each storage permit holder. A long-term storage account is established by ADWR for each water storage permit holder. In order to accrue a long-term storage credit for water stored, it must be demonstrated that the water could not have been used directly, the water was not recovered in the year in which it was stored, and the water would not have been recharged naturally. Long-term storage credits may be gifted, sold, or leased to another entity by the holder of the credits. ADWR provides forms that must be filled out and submitted regarding transfers of credits to other entities.

Storage credits may be recovered using "recovery wells" from anywhere within the same AMA in which the water was stored, provided the use of the recovered water is "consistent with the AMA Management Plan." In general, this means the water is not being wasted by the user (i.e. the user is in compliance with ADWR management plan conservation requirements) and the use is generally a recognized beneficial use.

1.1.5 Recovery Well Permits and Storage Credit Recovery Issues

A recovery well permit allows the permit holder to recover long-term storage credits or to recover stored water annually. When recovered, stored water retains the legal character of the water that was originally stored (e.g. effluent remains effluent). The impact of recovering stored water must not damage other land and water users as noted in ADWR's well spacing and impact rules (R12-15-1301-1308). Existing wells operated as general service area wells by a water provider can also be permitted as recovery wells. However,

there are some restrictions on the recovery of long-term storage credits using recovery wells that limit uses of the credits. These restrictions include:

- If a proposed recovery well is located within three miles of the service area of a municipal water provider (or water company certificated area), the owner/operator of the recovery well must have the consent of the potentially impacted provider.
- If recovered outside of the modeled "Area of Impact," the existing rate of groundwater level decline in the area must not exceed 4 feet per year.

When accounting for effluent storage credits recovered from within the hydrologic Area of Impact, the use of recovered water is not counted against a water provider's gallons per capita per day water conservation requirement established through the Active Management Area (AMA) management plans. Other incentives to encourage effluent reuse in the AMAs are discussed in section 2.5.

1.1.6 Other Management Plan and Statutory Incentives for Use of Reclaimed Water

The Lakes Rule (45-131 to 45-139)

The Lakes Rule was adopted in 1987 to stop the practice of constructing artificial lakes in the AMAs using groundwater or surface water. The lakes rule does allow these sources of water to be used in lakes within public parks and other facilities open to the public and golf course lakes. It also allows reclaimed water or poor quality groundwater to be used to fill decorative lakes. Interim use permits may be issued by ADWR for use of surface water or groundwater in non-public facility lakes for up to three years or until effluent is available to fill the lake. In 2007 ADWR issued a Substantive Policy Statement defining criteria that must be met to qualify as a public facility under the statute. These criteria have significantly tightened the definition and fewer facilities will likely qualify in the future. This policy statement could have the effect of increasing the demand for reclaimed water to fill new recreational and decorative lakes in developer-built parks and common areas within AMAs.

Other Effluent Use Incentives

When irrigating golf courses and other turf facilities over 10 acres in size (facilities subject to ADWR management plan turf water conservation allotments), 1 acre-foot of effluent use is counted as only 0.6 acre-foot of use toward the annual water use target. This provides a significant incentive for effluent use at turf facilities subject to conservation targets. Effluent stored underground and recovered from wells located within the hydrologic Area of Impact also qualify for this incentive. As mentioned earlier, effluent recharged and recovered from within the AOI is not subject to the 5 percent "cut to the aquifer" that surface water storage is subject to.

1.1.7 Water Exchanges – A Tool for Reclaimed Water Management

Water exchanges, regulated under A.R.S. 45-1001, provide a useful tool to help facilitate the beneficial use of reclaimed water. The purpose of water exchange is to match the water quality required by the user with available water supplies. For example, effluent from a municipal wastewater treatment plant could be exchanged with an agricultural irrigation district or individual farmer for surface water (e.g. Gila River water), CAP water, or groundwater rights. The water quality required by the agricultural user is met by municipal effluent delivered by the municipality. The higher quality surface water or groundwater can be delivered to the municipal provider or water company to access and deliver to its customers in a cost-effective manner. Exchanges can be an effective means of minimizing the costs of water conveyance to the point of use.

Water exchange contracts between entities must be enrolled with ADWR and an exchange permit is issued to both entities. Annual reports must be filed with ADWR by both entities involved in the exchange. The permit establishes the annual exchange water volume limits that each entity must adhere to. The water received in an exchange retains the legal character of the water given in an exchange. Numerous water exchanges have been permitted by ADWR to date and the permitting process is relatively straightforward. Exchanges can also involve more than two entities. Several examples of ongoing effluent for surface water exchanges include:

- The City of Phoenix-Salt River Project (SRP)-Roosevelt Irrigation District (RID) exchange. This is a three-way exchange whereby Phoenix provides reclaimed water to RID for irrigation use, RID provides groundwater to the SRP, and SRP provides surface water to Phoenix's water treatment plant for potable use.
- The cities of Chandler and Mesa provide effluent to the Gila River Indian Community for agricultural use and the GRIC provide CAP water in exchange.

One potential disadvantage of exchanging effluent for another higher quality water source is that a discount of 10-20 percent may be requested by the entity providing the higher quality source, thereby lowering the volume of water available for use by the entity providing the lower quality source water. Both of the exchanges described above involve such a discount.

1.1.8 100-Year Assured Water Supply Rules – Value of Reclaimed Water and Underground Storage Credits

Arizona's Assured Water Supply (AWS) Rules require that within the state's Active Management Area (including the Pinal AMA), all subdivisions containing more than 6 lots must demonstrate a 100-year supply of water will be continuously available to the new homes. To demonstrate an AWS, the subdivision must be located within a water provider service area that has and maintains an "Assured Water Supply Designation" for the entire service area, or the developer must obtain an "Assured Water Supply

Certificate" for the subdivision. Most private water companies do not maintain AWS Designations but require each developer to apply for and obtain an AWS certificate from ADWR. This is the AWS model that Arizona Water Company operates under within the City of Casa Grande. With either method, it must be demonstrated that water that meets drinking water standards will be physically and legally available. The water provider must also demonstrate it has the financial capability to construct and maintain the water supply infrastructure required over the long-term. Developers may also be required to enroll the subdivision in the Central Arizona Groundwater Replenishment District (CAGRD) or pledge sufficient Irrigation Grandfathered Right extinguishment credits. The CAGRD is then responsible for replenishing the groundwater that is provided annually to each subdivision by the water provider. CAGRD accomplishes this by either:

- Purchasing existing underground storage credits stored within the same AMA as the groundwater use that is to be replenished.
- Purchasing effluent or surface water (CAP or other) and delivering it to a recharge facility located within the same AMA.

The CAGRD Plan of Operation (2006) identifies effluent as one of the primary new sources of water the CAGRD will pursue over the next five years. Projected CAGRD replenishment requirements within Pinal County and potential partnering opportunities with the City and AWC are discussed in Chapter 6.

One of the key issues for developers in obtaining an AWS certificate in the future in Casa Grande will be demonstrating physical availability of groundwater, since groundwater will continue to an important water source for Arizona Water Company (AWC). To meet this requirement, it must be shown that groundwater levels after 100 years will not exceed 1,100 feet below land surface. Recent groundwater modeling studies conducted by AWC indicate that maximum use of surface water (like use of AWC's Central Arizona Project allocation and future use of Gila River water) and maximum use of Casa Grande and Pinal AMA effluent will be important in ensuring that the physical availability requirement can be met as the City of Casa Grande and other areas develop.

In summary, direct and indirect use (recharge and recovery of storage credits) of Casa Grande's reclaimed water will continue to be of high value to: 1) developers within Casa Grande, 2) the Central Arizona Groundwater Replenishment District (CAGRD), and 3) Arizona Water Company and other private water companies.

1.2 Arizona Department of Environmental Quality (ADEQ) Reclaimed Water Permits

1.2.1 General Permit Requirements

A Reclaimed Water Individual Permit or Reclaimed Water General Permit issued by ADEQ applies to wastewater treatment facilities supplying reclaimed water and to the sites where the water is applied or used. A permit is required if you are:

- An owner or operator of a sewage treatment facility that generates reclaimed water for direct reuse.
- An owner or operator of a reclaimed water blending facility that mixes reclaimed water with other sources for distribution.
- A reclaimed water agent (an entity that receives water from a wastewater provider and distributes it to multiple end users).
- An end user of reclaimed water.
- A person who uses gray water.
- A person who directly reuses reclaimed water from a sewage treatment facility combined with industrial wastewater or combined with reclaimed water at an industrial wastewater treatment facility.
- A person who directly reuses reclaimed water from an industrial wastewater treatment facility in the production or processing of a crop or substance that may be used as human or animal food.

All wastewater treatment facilities providing reclaimed water for reuse must have an individual Aquifer Protection Permit (APP), or amend an existing APP to include certification for a particular Class of reclaimed water (A+, A, B+, B, or C). For the City of Casa Grande Phase 3 wastewater treatment plant expansion and modification to Class A+ water, the APP will be amended to Class A+ water. The new APP will require regular monitoring and reporting of reclaimed water quality to ensure that water quality limits for A+ water are met.

1.2.2 Classes of Reclaimed Water

Arizona's reclaimed water quality standards establish five classes of reclaimed water expressed as a combination of minimum treatment requirements (treatment processes) and a limited set of numeric water quality criteria. The City of Casa Grande has made the decision to make the necessary treatment process improvements during the upcoming Phase 3 plant expansion to produce A+ quality water. Class A+ water is water that has undergone secondary treatment, filtration, and disinfection. Class A reclaimed water is required for reuse applications where there is a relatively high risk of human exposure to potential pathogens in the reclaimed water (see Table 1.1 below, source A.A.C. 18-11-301). In order to produce Class A water, tertiary filtration and disinfection of wastewater is required. The + designation is given to effluent that meets a total nitrogen concentration of less than 10 mg/l. Denitrification of effluent to achieve the A+ rating

will minimize regulatory concerns over nitrate contamination of groundwater where underground storage of effluent is desired. Thus the general permits for the direct reuse of Class A+ do not include additional nitrogen removal as a condition of reuse. Having A+ quality effluent will enable Casa Grande to maximize beneficial reuse opportunities for the water.

Table 1.1 - Minimum Reclaimed Water Quality Requirements for Direct Reuse

Type of Direct Reuse	Minimum Class of Reclaimed Water Required
Irrigation of food crops	A
Recreational impoundments	A
Residential landscape irrigation	A
Schoolground landscape irrigation	A
Open access landscape irrigation	A
Toilet and urinal flushing	A
Fire protection systems	A
Spray irrigation of an orchard or vineyard	A
Commercial closed loop air conditioning systems	A
Vehicle and equipment washing (does not include self-service vehicle washes)	A
Snowmaking	A
Surface irrigation of an orchard or vineyard	B
Golf course irrigation	B
Restricted access landscape irrigation	B
Landscape impoundment	B
Dust control	B
Soil compaction and similar construction activities	B
Pasture for milking animals	B
Livestock watering (dairy animals)	B
Concrete and cement mixing	B
Materials washing and sieving	B
Street cleaning	B
Pasture for non-dairy animals	C
Livestock watering (non-dairy animals)	C
Irrigation of sod farms	C
Irrigation of fiber, seed, forage, and similar crops	C
Silviculture	C

Note: Nothing in this Article prevents a wastewater treatment plant from using a higher quality reclaimed water for a type of direct reuse than the minimum class of reclaimed water listed in Table A. For example, a wastewater treatment plant may provide Class A reclaimed water for a type of direct reuse where Class B or Class C reclaimed water is acceptable.

1.2.3 Individual Reuse Permits

An individual permit is required for the reuse of industrial wastewater that contains a component of sewage or is used in processing any crop or substance that may be used as a human or animal food. An individual permit could be required if Casa Grande effluent was delivered to agricultural growers growing food crops. This requirement does not apply to industrial wastewater that is recycled or used in industrial processes.

1.2.4 General Permits

The City of Casa Grande will most likely need to obtain or amend its existing general reclaimed water permit to deliver water to new direct users. There are several types of general reclaimed water permits:

- Type 1 General Permit does not require notification and does not expire if the general permit conditions are continually met. These permits apply to home use of residential graywater.
- Type 2 General Permit requires a Notice of Intent (NOI) be filed with ADEQ and are valid for five years.
- Type 3 General Permit requires a Notice of Intent (NOI) be filed with ADEQ and are valid for five years. Type 3 General Permits are issued to reclaimed water blending facilities, reclaimed water agents, and users of gray water (not treated wastewater from a municipal water treatment plant). If the City sold water to an end user who then redistributed or sold water to other users as a delivery agent, a Type 3 permit would be required of the delivery agent.

Delivery of Class A+ effluent from the City's wastewater treatment plant to multiple direct users will require a Type 2 General Permit for Class A+ water. Each end user of the water has the responsibility of meeting all permit requirements such as signage and containment of the water on the site. The general requirements for this type of permit can be found in ADEQ rule R18-9-712. This rule states the following: Type 2 Reclaimed Water General Permit for Direct Reuse of Class A+ Reclaimed Water

- A Type 2 Reclaimed Water General Permit for Direct Reuse of Class A+ Reclaimed Water allows any direct reuse application of reclaimed water listed in 18 A.A.C. 11, Article 3, Appendix A, if the conditions in this Article are met.
- Record Maintenance. A permittee shall maintain records for five years that describe the direct reuse activities. The records shall be made available to the Department upon request.
- A permittee shall post signs as specified in R18-9-704(H).
- No lining is required for an impoundment storing Class A+ reclaimed water.

1.2.5 End User Signage Requirements for Reuse of Class A+ Water

Direct use of Class A+ water in some cases requires signage notifying the public that reclaimed water is in use on the site as follows:

- All hose bibs: signage required.
- With residential irrigation: Front yard, or all entrances to a subdivision if the signage is supplemented by written yearly notification to individual homeowners by the homeowner's association.
- School-ground irrigation: Signage on premises visible to staff and students.
- Other open access irrigation sites (e.g. public parks or open space): No signage required.
- Restricted Access Irrigation (e.g. golf courses, cemeteries): No signage required.
- Mobile Reclaimed Water Dispersal: Signage on back of truck or tank.

1.3 Water Quality Impacts on Long-term Use of Reclaimed Water

1.3.1 Effluent Total Dissolved Solids Content

Arizona's reclaimed water use standards are among the most stringent of any state. Therefore, standards are not anticipated to become more stringent in the foreseeable future. However, the higher salinity level of reclaimed water versus fresh water is an issue that must be managed in relation to long-term use of reclaimed water for irrigation and industrial uses. In general, municipal wastewater is 200 mg/l to 300 mg/l higher in total dissolved solids (TDS) content than the potable source water. Salt buildup in the soil must be managed properly by periodically applying excess irrigation water to flush the salts through the root zone of the grass in order to maintain healthy turf. Some turf grasses are more salt tolerant than others, with Bermuda grass being among the more salt tolerant species. The total dissolved solids content of quarterly effluent samples from the Casa Grande Water Reclamation Plant from 2005 through 2007 is shown in Table 1.2.

The data indicates that Casa Grande effluent averages approximately 1000 to 1100 mg/l TDS. This level of salt content is acceptable for most irrigation uses, including irrigation of Bermuda grasses. However, the data indicates there may be an increasing trend in salt levels over the three-year period. If salt content continues to increase, some potential uses for reclaimed water could be negatively impacted at some point in the future. The increasing trend (if the trend bears out) could be due to variations in levels of TDS in the potable source water or additional salt loads being discharged to the wastewater stream. Additional salt loading could be due to factors such as: 1) increasing use of water softeners, 2) increasing industrial salt loads, or 3) lower levels of residential or commercial interior water use due to water conservation efforts, particularly in new homes meeting the existing low-flow plumbing codes. Other central Arizona communities have experienced increasing TDS levels in wastewater over the last decade (e.g. the City of Phoenix). It is recommended that the City of Casa Grande continue to monitor quarterly or monthly TDS levels and trends.

Table 1.2
Casa Grande Effluent Total Dissolved Solids Concentrations

	1Q 2005	2Q 2005	3Q 2005	4Q 2005	Avg.
TDS mg/L	1100	1000	1000	1000	1025
	1Q 2006	2Q 2006	3Q 2006	4Q 2006	Avg.
TDS mg/L	970	960	990	1000	980
	1Q 2007	2Q 2007	3Q 2007	4Q 2007	Avg.
TDS mg/L	1100	1100	1100	730	1008

1.3.2 Emerging Contaminants

There are several potential emerging contaminant issues that could impact future Aquifer Protection Permit water quality standards and the ability (and cost) to recharge reclaimed water in the future. The current water quality parameters and constituents of concern include:

- Endocrine disruptors/pharmaceuticals and personal care products. Ultra-Violet (UV) or Ozone treatment may be required in the future to reduce the occurrence of these chemicals in effluent.
- NDMA – California currently has an action level of 20 ng/l. UV oxidation can reduce NDMA levels in effluent.
- Perchlorate
- Total Organic Carbon – This is a potential issue for recharge, particularly recharge using injection or vadose zone wells. Other states currently have more stringent standards than Arizona (e.g. California). Advanced treatment with Granular Activated Carbon and or enhanced coagulation may be considered in the future.
- Arsenic – the standard of 10 ug/l must be met.
- Salinity issues could become a consideration in the future.
- The Phase 3 Plant Expansion will use Chlorine as the primary disinfection agent. Therefore, the formation of disinfection byproducts (Trihalomethanes) is a concern related to meeting APP permit water quality requirements when considering direct injection as a recharge method. If direct injection is the chosen method of recharge, advanced oxidation processes using a UV-peroxide system will likely be needed to remove TTHMs to below drinking water standards.

It is possible that as more data becomes available on the occurrence of these and other constituents in wastewater effluent and the health effects of low concentrations of the

chemicals, EPA may implement standards for some constituents that will require advanced treatment systems to be installed by wastewater providers.

1.4 Central Arizona Association of Governments (CAAG) Resolution No. 2007-9

In November of 2007, CAAG adopted Resolution No. 2007-9 regarding new policies on wastewater management planning within Pinal and Gila Counties. In this resolution, the agency adopted the following standards that will impact future effluent management decisions by the City of Casa Grande:

- Cooperation with local jurisdictions to foster and create Regional solutions to water quality issues.
- The creation of Regional wastewater treatment facilities, rather than numerous smaller facilities or large on-site collection systems, where feasible.
- The elimination of package plants where feasible.
- The reclamation of effluent for reuse or recharge, rather than discharge.
- In the event of necessary or unavoidable discharge, treating effluent to A or A+ quality standards.
- The reduction of discharge points, and ensuring discharges are beneficial, or at a minimum, not destructive or harmful to adjacent areas.
- The avocation of all municipalities providing sewer service to become Designated Management Agencies.

This policy statement indicates the preference of Pinal County and CAAG for maximizing the reuse of reclaimed water as opposed to continued discharges to stream courses. However, this policy does not minimize the importance of having viable discharge options and permits for use during periods when adequate reuse alternatives are not available, during periods of wet weather, or during distribution system emergencies when deliveries to reuse customers is not possible.

Chapter 2 – Reclaimed Water Use in Selected Arizona Cities

2.0 Overview

Arizona is one of the leaders among states in water reuse. This chapter provides a summary of how selected Arizona communities and water providers are using or are planning to use reclaimed water. This information is provided as background information useful in shaping future reclaimed water use decisions by the City of Casa Grande.

2.1 Town of Gilbert

Since 1986 the Town of Gilbert has used 100 percent of its reclaimed water, operating an extensive water reclamation system that delivers water to over 26 direct users, including golf courses, parks, schools, HOA common areas, decorative lakes, wildlife habitat areas, and industrial facilities. Gilbert also operates several spreading basin recharge facilities (18 ponds), including the 110-acre Riparian Preserve, a multi-use recharge and wildlife preserve which opened in 1999. Recharge basins comprise 70-acres of the Preserve. The facility also provides amenities such as trails for hiking, bicycling, and equestrian uses; campsites and picnic ramadas; wetland areas that create wildlife habitat and viewing opportunities; a 5-acre urban fishing lake filled with recovered reclaimed water; an environmental education center (planned); and a police substation. Water storage credits recovered using recovery wells in the shallow aquifer are also used to provide water to several water ski lakes.

In 2004, Gilbert delivered 6,983 acre-feet of effluent to direct users, and recharged 5,229 acre-feet of effluent. The total reuse amount equaled 30 percent of Gilbert's 2004 potable water deliveries. The water reclamation facility (WRF), with a capacity of 11 million gallons per day (MGD), treats water to Class A+ standards. A second WRF has been constructed in partnership with the City of Mesa and the Town of Queen Creek that will treat 16 MGD in its initial phase, with Gilbert's capacity being 7 MGD.

Developers of new communities and businesses are financially responsible for building the infrastructure needed to connect to Gilbert's backbone reclaimed water distribution system. There are no plans to require individual homeowners to use reclaimed water. The Town's water conservation ordinance, adopted in 2000, is designed to encourage reclaimed water use in new developments several key features of this ordinance are:

- Landscaping in common areas of new single family and multifamily developments shall be limited to 10 percent of the turfed area, unless irrigated with reclaimed water. If irrigated with reclaimed water, 50 percent turf is allowed.
- For commercial developments, water-intensive landscaped area is limited to 10,000 square feet plus 20 percent of the landscaped area, unless reclaimed water is used at the site. If irrigated with reclaimed water, up to 50 percent of the landscaped area may be water-intensive landscaping.

2.2 City of Flagstaff

Reclaimed water is produced by both of Flagstaff's WRPs. Treated effluent from the Wildcat Hill Plant provides Class B effluent to golf courses and recreational areas on the east side of town. Effluent from the Rio de Flag WRP supplies Class A+ water to schools and parks, a golf course, cemeteries, and public landscapes, and several residences. Over 1.4 MGD of effluent (AAD) is supplied each year for irrigation. The City maintains over 5 miles of distribution mains.

Flagstaff also provides effluent at four water hauling stations for use in vehicle washing, street and sidewalk cleaning, dust control, livestock watering and other uses. The guidelines for water hauling include adequate signage on water trucks. Billing is done on the honor system, with customers agreeing to log and pay for each load.

2.3 City of Mesa

The City of Mesa produces over 40,000 acre-feet per year of reclaimed water from 3 water reclamation plants. Most of the effluent Mesa produces is used for groundwater recharge and for agricultural irrigation. To date, Mesa has accrued over 70,000 AF of long-term storage credits. Effluent from the Northwest WRP (capacity 18 MGD) is discharged to two recharge sites and the Salt River. Effluent from this plant is also used to irrigate a nearby golf course and for landscape irrigation along the 202 Freeway. The Southeast Water Reclamation Plant (8 MGD capacity) produces Class A+ water for golf course irrigation, pond replenishment, and agricultural irrigation.

The City of Mesa jointly owns the new Greenfield Road WRP (16 MGD capacity) with the Towns of Gilbert and Queen Creek. Mesa's portion of the effluent from this plant will be delivered to the Gila River Indian Community (GRIC) for agricultural irrigation as part of water exchange. Mesa's contract allows up to 29,400 AF/YR of effluent to be delivered to the GRIC in exchange for 23,530 AF/YR of CAP water. The ultimate capacity of this plant is slated to be 52 MGD, with Mesa owning 24 MGD of the total. (Reference: City of Mesa Website).

2.4 City of Tucson

The City of Tucson, one of the leaders in water reuse in Arizona, began operating its water reclamation system in 1984. Today, Tucson provides over 12,000 acre-feet/year of reclaimed water for direct use to over 900 customers, including: 14 golf courses, 35 parks, and 47 schools (the University of Arizona and Pima Community College included). Tucson maintains approximately 100 miles of reclaimed water Distribution mains. Tucson's reclaimed water plant at Roger Road near I-10 has been producing Class A effluent for 23 years. Reclaimed water makes up about 8 percent of the water delivered to customers each year.

The remainder of the water produced at its reclamation plant or obtained from the Pima County WWTP (about 6,000 acre-feet/year) is recharged and stored seasonally at its Sweetwater groundwater recharge facility (a multi-use wetlands-spreading basin facility) and recovered through recovery wells for delivery to reclaimed water customers during the high-demand summer period.

Tucson provides effluent for residential use to only two subdivisions. However, in calendar year 2003, only 1.6 percent of the total reclaimed water delivered to direct use customers went to single family residences. Tucson does not actively seek out additional subdivisions for residential use because of difficulties experienced in the past with: 1) maintenance of reclaimed water notification signs and 2) performance of periodic cross connection tests has been difficult in one of the subdivisions because residents have been uncooperative. Therefore, in many cases the backflow inspector must visit sites several times to complete the inspection. Because of the relatively small lot sizes, placement of the required backflow device and reclaimed water warning sign has been problematic. Tucson will make reclaimed water available to subdivisions that request the service on a case-by-case basis if the homeowners pay all costs of installation of facilities and ongoing maintenance costs.

Tucson water charges $2.13/1000 gallons for reclaimed water service. Tucson and Pima County have ordinances that require new golf courses to irrigate with reclaimed water. Tucson requires all new turf facilities 10 acres and larger to be served with reclaimed water. The Tucson water resources plan calls for full use of available effluent resources in the future. (References: City of Tucson Website; Reclaimed Water – Is it for Everyone? Tom Clark, and Karen Dotson, Tucson Water; Sweetwater Recharge Facilities: Serving Tucson for 20 Years, John P. Kmiec, Tim M Thomure, Tucson Water).

2.5 City of Peoria

The City of Peoria developed a water reuse master plan in 2005. This plan calls for development of an extensive water reclamation system broken up into 3 distinct planning areas of the City, each served by its own water reclamation facility. Currently, Peoria delivers effluent from its Jomax Road WRP (0.75 MGD capacity) to direct users for turf and landscape irrigation of golf courses, parks, and schools within the Vistancia development. This facility will be expanded to 9 MGD and will continue to supply new turf users. Construction of a groundwater recharge facility to recharge excess effluent is also planned.

The central area of Peoria is served by the 4 MGD capacity Beardsley Road WRP and related aquifer recharge facilities. This facility is planned for ultimate expansion to 8 MGD by 2025. The southern portion of Peoria is served by the new Butler Drive WRP (10 MGD). Peoria plans to recharge effluent from this plant in the Salt River Project's "NAUSP" spreading basin recharge facility located about 2 miles south of the WRP. In addition, Peoria plans to connect direct users (turf facilities and industrial users) located in close proximity to the effluent transmission main. In the near-term (through 2010), the

plan calls for Peoria to: 1) expand its recharge facilities at the Beardsley Road WRP, 2) expand direct use deliveries to large turf users from the Jomax Road WRP to new developing subdivisions, 3) initiate a public involvement process regarding direct use of effluent from the City's other WRPs, and 4) finalize reuse policies, ordinances, and standard customer agreements. Peoria's plan calls for connecting additional direct use customers in all planning areas after 2011. The total projected demand for direct use by 2025 is 12.2 MGD, or approximately 60 percent of total projected effluent available by that date. (Reference: City of Peoria Water Reuse Master Plan Executive Summary – June, 2005).

2.6 City of Phoenix

The City of Phoenix reuses its effluent in several ways, including:

- Delivery to the Roosevelt Irrigation District (RID) or agricultural irrigation. This is accomplished in a three-way water exchange that includes the Salt River Project (discussed further below).
- Sale to the Palo Verde Nuclear Generating station for cooling water.
- Direct delivery to large turf users for irrigation needs.
- Habitat restoration and habitat enhancement in the Tres Rios Wetlands facility.

RID-SRP-Phoenix Effluent Exchange – RID Groundwater Savings Facility

In this exchange, Phoenix provides RID with up to 30,000 AF/YR of effluent from the 23rd Avenue WRP. In exchange, RID pumps up to 20,000 AF/YR of groundwater into SRP's canal system for use in meeting irrigation demands. SRP then provides Phoenix with up to 20,000 AF/YR of Salt River surface water supplies for treatment at Phoenix's potable water treatment plants. Additional effluent (up to 30,000 AF additional), can be provided to the RID for indirect groundwater recharge in its Groundwater Savings Facility (GSF).

Palo Verde Nuclear Power Plant (PVNPP) Deliveries

Effluent deliveries from the regional 91st Avenue waste water treatment plant (WWTP) to the PVNPP began in the 1970s. Annual deliveries average approximately 75,000 AF/YR.

Tres Rios Constructed Wetlands Project

Historically, effluent from the 91st Avenue WWTP that could not be used directly by PVNPP was discharged to the Salt River under a NPDES permit. Increasing costs of compliance with more stringent water quality standards for discharge led Phoenix and the other Valley cities that own the plant to look for alternative uses for effluent. The remote location of the plant in relation to existing potential direct users of effluent makes direct use for irrigation very costly.

As a result, the Tres Rios constructed wetlands was built in the late 1990's to test the feasibility of a large scale flood control, habitat restoration, and wastewater treatment plan downstream of the 91st Avenue WWTP. After a successful test of the pilot scale treatment, the full scale Tres Rios project is now under construction. This project will improve and enhance a 7-mile long, 1500-acre section of the Salt and Gila Rivers in southwestern Phoenix. The project consists of a flood protection levee, effluent pump station, emergent wetlands, and riparian corridors and open water marsh areas to replace existing non-native salt cedar in the river. The Tres Rios Full Scale Project is being 65% funded by the U.S. Army Corps of Engineers. The primary goals of the project are flood protection for the local residents and habitat restoration for the native animals. (Reference: City of Phoenix Website).

Agua Fria Linear Recharge Project

Phoenix is in the feasibility study phase regarding a groundwater replenishment project called the Agua Fria Linear Recharge Project. Incidental opportunities for providing passive recreation and/or enhancing native habitat along the Agua Fria River are also being investigated. Most of the reclaimed water from the 91st Avenue WWTP is currently reused for ecosystem habitat restoration, agricultural irrigation and industrial purposes. However, an estimated 13 to 20 billion gallons of this water currently is not used for these purposes and is discharged annually to the Salt River. The current Agua Fria Linear Recharge Project conceptual plan is based on in-stream recharge. This type of recharge project usually involves discharging water into a dry riverbed or wash and allowing the water to seep into the bed of the river. This conceptual plan uses the in-stream recharge method with an option of discharging water into the Agua Fria channel at several locations. This multiple discharge is called linear recharge. The proposed study area for linear recharge extends from Indian School Road to Bell Road along the Agua Fria River. (Reference: City of Phoenix Website).

Cave Creek WRP Direct Uses and Recharge

The Cave Creek WRP is located in developing northeast Phoenix, north of the CAP canal (capacity 8 MGD). This plant produces Class A+ effluent for delivery to large turf users and for groundwater recharge. Recharge is accomplished through a Managed USF facility in Cave Creek and through on-site vadose zone wells. Phoenix City Code requires all new turf facilities large than five acres to be irrigated with reclaimed water and developers must provide reclaimed water infrastructure to supply effluent. Developers must construct effluent distribution lines to connect to the City's backbone system. If it is not cost-effective to provide reclaimed water due to the distance from the City's reclaimed water system, the facilities must be built to facilitate future conversion to reclaimed water (e.g. purple pipe is installed initially). Another water reclamation plant is planned in the future to serve northwest Phoenix that will also provide water for direct use and groundwater recharge.

2.7 City of Scottsdale

The City of Scottsdale is a golf course mecca. Scottsdale provides Class A+ effluent for irrigation uses at approximately 22 golf courses through the City's Reclaimed Water Delivery System (RWDS). Golf courses pay all the costs to receive reclaimed water for irrigation through the RWDS. The RWDS is the largest reclaimed water system in the Valley, with a peak delivery capacity of 20 MGD. The system delivers effluent and some untreated CAP water during peak demand months to all golf courses along Pima Road north of the Loop 101. City policy requires that any future golf courses must provide their own renewable surface water supply in order to locate in Scottsdale.

The Scottsdale Water Campus, a state-of-the-art facility that treats wastewater to irrigation standards, went into service in 1999. In winter, when golf course irrigation needs are low, the effluent is further purified to drinking water standards using reverse osmosis technology, and recharged using a system of approximately 28 vadose zone wells having an average capacity of 500 gallons per minute (gpm). In recent years, Scottsdale recharged about 6,000 acre-feet (1,955,106 gals) of reclaimed water and CAP water at the Water Campus. Stored water credits are recovered through the City's existing potable well system. Approximately half of the reclaimed water produced at the plant (Plans call for the Water Campus and its recharge capacity to be expanded to meet growth needs). At buildout capacity, the plant will have the capacity to meet all existing golf course peak-day demands. Scottsdale requires all new golf courses, landscaping, and park turf areas to be irrigated with non-potable water to the greatest extent possible. (References: City of Scottsdale Website, Scottsdale Integrated Water Resources Master Plan, 2005, Malcolm Pirnie)

2.8 Arizona American Water (AAW)

AAW is the largest private water company in Arizona and one of the few private water providers that provides wastewater treatment and water reuse facilities. AAW is the service provider for the Sun Cities area and the Anthem development north of Phoenix. AAW operates the Northwest Valley WRP (5 MGD capacity) located in Sun City West. The Class A+ effluent produced at this facility is used entirely for groundwater recharge. The recharge is accomplished using a series of approximately 12 spreading basins located on land adjacent to the plant. In the future, plans call for some of the reclaimed water to be delivered to a local golf course for direct use.

At the Anthem development, a relatively new master planned community of approximately 8,500 homes and businesses, AAW operates a microfiltration water reclamation plant. Anthem was planned for total reuse of all wastewater. Class A+ effluent blended with untreated CAP water is delivered for turf irrigation at golf courses, parks, and schools, and roadway medians. In the winter months, excess effluent is recharged using a trench-type recharge facility and long-term storage credits are recovered through potable system wells.

2.9 Summary – Common Themes in Effluent Utilization

Most cities in Arizona's Active Management Areas and across the state have taken decisive steps to maximize the beneficial use of effluent. This summary of reclaimed water use among communities shows differences in approach from city to city. However, several common themes and strategies can be identified that relate to common circumstances and situations facing the providers. These common elements include:

- Several cities have constructed extensive distribution systems to deliver water to direct turf users and utilize the majority of reclaimed for turf irrigation (Note Flagstaff, Tucson, Scottsdale, Gilbert). However, to make this type of reuse cost-effective, most communities either implemented the programs early during the development of the city so reclaimed water mains could be constructed when developments were being built, or other reuse opportunities (i.e. groundwater recharge) were limited (e.g. Flagstaff due to geology of the region).
- Even in communities where direct uses predominate, groundwater recharge plays a key role in maximizing effluent reuse potential. In most cases, long-term storage credits are recovered using potable water wells, but in one case, recovered water was delivered to turf facilities through the reclaimed water distribution system (Tucson).
- The predominant recharge method is use of spreading basins where the local geology permits. Where not feasible, injection wells and vadose zone wells are used. Two providers (Phoenix and Peoria) have used stream channel recharge to accomplish recharge.
- In relatively built-out cities where constructing an effluent distribution system through developed areas would be expensive and disruptive to the community (e.g. Mesa, Phoenix, Sun Cities), groundwater recharge or providing effluent in water exchanges in return for another water source is the predominant approach. This is also the preferred approach in situations where the water reclamation plant is located remote from potential users.
- In new developing areas of the community, most cities require new golf courses and large turf facilities (larger than either 5 acres or 10 acres) to be irrigated with effluent. An effort is made to maximize cost-effective direct uses and recharge is used as a supplemental reuse strategy.

Chapter 3 – Projected Effluent Available for Use by Casa Grande and Within the Pinal AMA

3.0 Chapter Overview

This chapter presents wastewater flow projections and the projected quantities of effluent that may be available for reuse from the City of Casa Grande Kortsen Road Water Reclamation Plant (WRP) and from other Pinal AMA wastewater treatment plant locations. Projections are provided for the following primary wastewater providers in the AMA: City of Casa Grande, City of Eloy, City of Coolidge, and Arizona Sanitary District. The current uses of reclaimed water and the future reuse plans of the non-Casa Grande entities are briefly discussed. The locations of the existing WRPs of these entities are shown in Figure 3.1. Information for the non-City of Casa Grande entities was derived from the wastewater master plans, 208 Amendment Applications of the entities, or personal communications with staff.

Currently, the relatively large distances between the WRPs in the Pinal AMA make partnering on joint recharge projects unlikely in the near-term. Future partnering between entities related to effluent recharge activities may be more feasible in the future as reclaimed water distribution networks are built enabling effluent to be conveyed in the direction of neighboring WRPs.

3.1 City of Eloy

The City of Eloy completed a master plan update in 2007 and made application to CAAG for a 208 Water Quality Management Plan Amendment and Designated Management Agency (DMA) Area Amendment (Carollo Engineers, 2007). Eloy currently operates an existing WWTP with a peak flow capacity of 2.0 MGD and an annual average daily flow (AADF) capacity of 0.74 MGD. The plant currently produces class B effluent which is recharged in basins located on the WWTP site. The Master Plan calls for the existing Eloy WWTP to be expanded to a capacity of 10.5 MGD in 3 expansion phases. The Phase 1 expansion to 4 MGD AADF is scheduled for construction in 2008. The Phase 2 expansion to 7 MGD is projected to be on-line by 2010. With this expansion, the plant tertiary treatment (filtration) will be added to produce Class A+ water.

3.1.1 Eloy DMA Future Regional Wastewater Treatment and Reuse Strategy

The proposed Eloy DMA area encompasses 158 square miles and is shown on Figure 3.1. The total buildout population of the DMA is 628,484 with a buildout wastewater flow of 65.3 MGD. Eloy's Master Plan calls for developers to construct small first phases (less than 2 MGD) of 8 separate regional water reclamation plants (WRPs) serving a defined sub-area of the DMA. These facilities are projected to be brought on-line between 2010 and 2015, after which they will be turned over to Eloy for operation and maintenance. The construction schedule of the plants will depend on the development schedule of the lead developer constructing the plants. The regional facilities will then be expanded by the City as population in the collection areas grow. The projected buildout capacity of

these regional facilities ranges from 3.2 MGD to 9.3 MGD. All regional plants will be constructed to produce class A+ water to enable open access irrigation uses.

3.1.2 Eloy Regional Effluent Projections

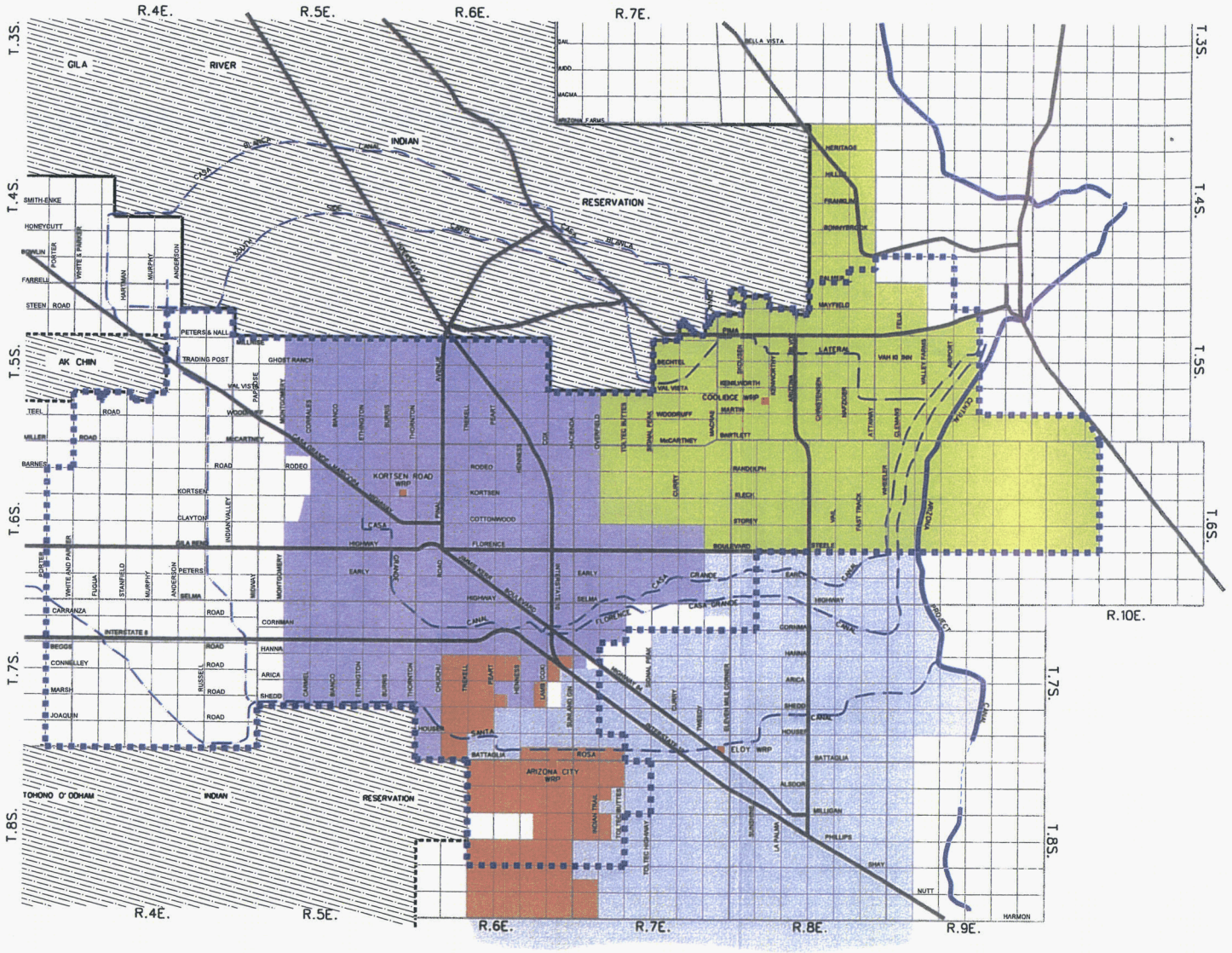
The effluent from each of Eloy's planned WRPs will be used for irrigation of large turf areas, community lakes and groundwater recharge. The WRPs will be located close to water reuse opportunities to facilitate reuse. Projected wastewater flows and effluent availability are shown in Table 3.1. The buildout flow of 65.3 MGD exceeds the buildout flow projected for the City of Casa Grande Planning area. (Reference: City of Eloy CAAG 20 Water Quality Management Plan Amendment and Designated Management Agency (DMA) Area Amendment; Carollo Engineers, 2007)

Table 3.1
City of Eloy Wastewater Flow and Effluent Projections
(MGD)

Year	2010	2020	2030	Buildout
Existing Plant	4.0	7.0	10.4	10.4
Sub-Areas Composite	0	14.0	42.4	54.9
Total	4.0	21.0	52.8	65.3

3.2 City of Coolidge

The City of Coolidge operates a lagoon type wastewater treatment plant located about 2 miles west of the downtown area. The plant produces Class C effluent that is delivered to farms south of the plant for agricultural irrigation of City-owned and privately owned land. The plant was expanded in 2007 from 1.35 MGD capacity to 2.0 MGD. Currently, the plant treats approximately 750,000 gal/day of flow on an average annual basis. It is estimated that it will be 4-5 years before another plant expansion in needed. In 2005, CAAG approved Coolidge's 208 Water Quality Plan Amendment application to expand the plant to 12 MGD and convert the plant to a mechanical plant. No schedule has been developed for this plant expansion due to the recent slowdown in housing construction in the Coolidge area. (References: Coolidge website and personal communication, Bob Flatley, City Manager).



ARIZONA WATER COMPANY PINAL VALLEY WATER SYSTEM PLANNING AREA BOUNDARY

INDIAN RESERVATION

CITY OF ELOY PLANNING AREA

CITY OF COOLIDGE PLANNING AREA

CITY OF CASA GRANDE PLANNING AREA

ARIZONA CITY SANITARY DISTRICT DMA

WATER RECLAMATION PLANTS

NTS

Pinal Valley Water Reclamation Facilities and Planning Area

Figure 3.1

3.3 Arizona City Sanitary District

The Arizona City Sanitary District operates a wastewater treatment plant that currently produces Class B effluent. The existing rated capacity of the plant is 1.5 MGD. Average annual daily (AAD) flow in 2007 was 0.85 MGD. Projections indicated that by 2014, the AAD flow at the plant will be 1.2 MGD. Currently, the effluent is delivered at no cost to the Arizona City Golf Course (Avg. annual delivery of 350,000 gal./day), with the remainder delivered to a nearby farmer and discharged to a wash via an AZPDES permit.

Arizona City is in the process of permitting a spreading basin recharge facility located on 7 acres of District-owned land located about ½ mile northwest of the plant adjacent to the agricultural land that now receives effluent. The facility has been permitted through ADWR as an Underground Storage Facility (USF) with a permitted capacity for Phase 1 of the project of 250,000 gal./day. The facility consists of 3, 1-acre recharge basins. It is estimated the 7-acre site could ultimately support the recharge of 1.5 to 2.0 MGD.

The DMA of the District was updated in 2005 to include approximately 42 square miles. The District plans to complete an update of its master plan within the next two years. The District's current plan is to expand the existing plant capacity to 3.3 MGD as growth in the area dictates. Another "satellite" plant is planned to be located southwest of the current plant to serve several proposed new developments in the area. A plant location has not yet been selected (Reference: Personal Communication, Gary Boileau, District Plant Superintendent).

3.4 City of Casa Grande

3.4.1 Wastewater Master Plan Update and Plant Expansion Plans

In 2006, the City of Casa Grande contracted with Carollo Engineers to complete a Conceptual Wastewater Master Plan and Wastewater Feasibility Study. The wastewater flow projections done for the City's existing wastewater plant in the Carollo plans are used as the basis of the effluent projections presented in this Reclaimed Water Use Conceptual Master Plan. It should be noted that the Carollo projections in near-term (next 5 years) may be somewhat aggressive in light of the slowdown in housing construction that has occurred in 2007 and is continuing in 2008. Thus the near-term effluent flow projections in this plan should also be considered on the high side and may not occur until 2 or 3 years further out than shown in this plan.

The Carollo plans evaluated four different alternatives for expansion of the City's wastewater treatment plant capacity beyond the current 12 MGD Phase III expansion at the existing Kortsen Road plant. These alternatives included building one or more new regional treatment plants in the eastern and western parts of the planning area and expanding the treatment capacity at or near the current plant site on Kortsen Road. The selected alternative (Alternative 4), calls for the area west of Montgomery Road to be served by Global Water. Wastewater from the remainder of the service area beyond the 12 MGD capacity of the Phase III plant expansion will be collected and treated at a new regional WRF plant to be constructed at or near the existing plant. This approach will promote centralized wastewater treatment and use of reclaimed water. Constructing the regional plant at or near the existing site will likely require modifying the treatment train from the existing extended aeration and aerobic digestion process trains to either a conventional secondary clarification and filtration train or membrane bioreactors.

In this plan it is assumed that all reclaimed water will be produced at the current plant location for distribution to water users. The design of the Phase III Plant expansion is 95 percent complete. This expansion, scheduled to be in service by late 2009, will bring the plant capacity to 12 MGD and increase the level of treatment to A+ quality water. (Reference: City of Casa Grande Wastewater Feasibility Study – Summary Report; Carollo Engineers, Sept. 2006)

3.4.2 Current Casa Grande Effluent Uses and Contracts

Currently, the City of Casa Grande provides effluent to two major users of effluent: the municipal golf course and the Reliant Energy Desert Basin Power Plant. A third customer, Frito-Lay Inc., is expected to begin using water in the summer of 2008.

3.4.2.1 SRP - Reliant Energy Desert Basin, LLC Effluent Sales Agreement and Current Use and Operation of Effluent Delivery Facilities

This agreement, executed in 2001, covers the terms and conditions of effluent sales by the City to the SRP power plant located on Burris Road approximately ½ mile from the

Kortsen Road Plant. The effluent delivery facilities consist of a pump station located on west end of the WRP's effluent storage pond. The station has two 2,250 gpm pumps. A 20" HDP pipe delivers water from the pump station to the Reliant Energy Plant where the water is mixed with CAP water deliveries. The annual percentage mix of CAP water and effluent is currently about 60/40. The effluent pump station is automatically controlled by float level controllers in the storage pond located at the Reliant Plant. As the plant needs more cooling water, the pumps start.

The daily use of effluent by the plant in 2007 varied from 0 MGD to 1.8 MGD with wide day-to-day variances possible depending on SRP power generation needs (based on 2007 daily water use data). SRP recently purchased additional land adjacent to the existing power plant for possible construction of additional power generation facilities. There are no immediate plans for power plant expansion, but it is likely this site will be expanded within 5-15 years as Pinal County power needs increase. Therefore, there is a high likelihood of increasing long-term demand for additional cooling water demand at the Reliant plant. (Personal Communication: Shawn Grant, Senior Engineer, SRP Desert Basin Generating Station).

The key provisions of the agreement are as follows:

- Term of Contract – 40 years with SRP able to execute up to 4, 5-year extensions upon written notice to the City.
- The maximum daily amount of effluent that may be delivered is 3.2 MGD.
- The initial "Average Daily Amount" of delivery set in the contract was 1.4 MGD. This was to be the basis of take-or-pay billing provisions of the contract.
- The initial price of the water was $0.50/1000 gallons. This price may be adjusted annually by the City based on the Consumer Price Index (CPI) for the preceding year.
- The City may reopen the negotiation of the price of the effluent to "market rates" if the City has received a bona fide offer from a third party for the purchase of effluent at a price in excess of the effluent payment. If a renegotiated price cannot be agreed to, the City may terminate the agreement with ten years notice to SRP.
- The City may give written notice to SRP that the Annual Average Daily Amount will increase first to 2.1 MGD, then to 2.8 MGD. Within two weeks of receiving written notice, SRP shall order the equipment needed to enable it to take the additional water. (The existing pump station and 20" effluent pipeline already have the capacity to take these potential amounts).
- SRP has the right to reduce the Annual Average Daily Amount (AADA) if its use of water is less than 85 percent of the then current AADA. Six months after such notice, the AADA shall be reduced to equal the actual SRP plant use. The plant has been using only about 0.6 MGD since 2005, therefore the AADA in effect has been reduced.
- The delivery point is the SRP Plant.
- The City owns the pump station and the 20" HDP pipeline. SRP is responsible for operation and maintenance of the pump station and pipeline.

- Daily variances in effluent deliveries from the AADA may not exceed 100 percent of the AADA (but may not exceed the Maximum daily amount of 3.2 MGD).

3.4.2.2 Summary of Frito-Lay Effluent Sales Agreement

This agreement, executed May 17, 2005, covers the terms and conditions of the City's sale of effluent for agricultural irrigation uses to Frito-Lay. The water will be used during the summer months as supplemental irrigation of alfalfa on a parcel of land adjacent to the treatment plant. The Frito-Lay pump station and pipeline are currently under construction and are scheduled to be in-service by April, 2008 for the start of the irrigation season. The pump station will have two variable speed drive pumps capable of a maximum output of 1,800 gpm (2.6 MGD). The station will be capable of remote operation from the Frito-Lay plant. The effluent will be used as a supplemental source in addition to Frito-Lay plant process reject water and SCIDD water. Effluent use will peak in June and July as irrigation needs peak. The company has no plans to deed the pump station and pipeline to the City within the foreseeable future. Within the next 2-3 years, Frito-Lay plans to increase its ability to recycle plant water by adding additional water treatment facilities at the plant. When this project is complete, the plant will reduce the acreage of alfalfa irrigated for the purpose of water disposal. When this happens, it is likely that Frito-Lay's demand for effluent will decrease to less than the 500 acre-feet per year now anticipated. (Reference: Personal communication, Tyler Mummert, Frito-Lay). The key provisions of the agreement are as follows:

- The term of the agreement is 10-years, with automatic renewal for 3 consecutive option terms of 10-years, unless either party notifies the other that it does not wish to renew the agreement or the parties are unable to agree on a renegotiated effluent unit price. (Total possible term – 40 years).
- The base price of effluent shall remain $0.40/1000 gallons for the initial 10-year term (beginning in 2005 with execution of the agreement).
- The effluent unit price may be opened and renegotiated by the City upon providing notice to Frito-Lay at least 18-months prior to the end of the initial contract period.
- Frito-Lay is responsible for construction of the pump station (located on City property) and pipeline needed to deliver effluent from the delivery point to its property. Frito-Lay will operate and maintain the facilities. They have the option of deeding the facilities to the City, subject to acceptance by the City.
- Frito-Lay may take water and the City is obligated to provide effluent only during the summer months, defined as April 15th through October 15 of each calendar year.
- Frito-Lay must submit a Purchase Notice to the City for the "receiving period" (not more than 12-months duration) 30 days prior to the start of the first receiving period. After the first period, Purchase Notices must be submitted to the City at least 6 months prior to the commencement of the receiving period.

- The City will make available up to 500 acre-feet per of effluent through the year 2015. After that, 600 acre-feet per year must be made available if Frito-Lay requests the water.
- Once the Purchase Notice is given, Frito-Lay must pay for the effluent whether it uses it or not (take-or-pay). Charges for effluent ordered but not taken are due at the end of the receiving period.
- Frito-Lay may submit requests for additional request for more effluent for the receiving period, but the City is not obligated to provide the increased amount, but may provided it if available.
- The contract does not discuss monthly, or daily delivery limits.

3.4.3 Projected Casa Grande Effluent Production

The projected average annual daily flows generated by Carollo Engineers served as the starting point for projecting the amount of reclaimed water that would be available from the Kortsen Road WRF in the future. The Carollo AAD flows shown in Table 3.2 were used to project average annual and monthly average daily wastewater flows and effluent available for existing and new uses for each projection year. The monthly effluent budgets are based on monthly peaking factors derived from the 2005-2007 reclaimed water deliveries to existing uses shown in Table 3.3. The projected monthly average daily flows for each year were used to create monthly budgets for use in determining the amount of effluent projected to be available in the future to existing users and that which could be made available to new direct uses and to groundwater recharge facilities under different scenarios. Existing uses include deliveries to the Casa Grande Municipal Golf Course for irrigation, the Salt River Project's Desert Basin Power Plant for cooling water, and discharges to the North Branch of the Santa Cruz Wash.

Frito-Lay's anticipated use was projected based on discussions with Frito-Lay staff. In 2001, Casa Grande signed a contract with Frito-Lay, Inc. to sell effluent for agricultural irrigation. These deliveries are expected to begin in the spring of 2008 and are considered part of current effluent commitments in the effluent budgets. Also included as a current use are in-plant uses and evaporation losses from the three effluent storage basins totaling 120-acres.

Table 3.2
Projected Average Annual Daily Wastewater Flows
(MGD)

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	Buildout
Projected Annual AAD	4.3	4.9	5.5	6.2	7.0	8.1	9.6	11.0	12.6	19.6	50.0

Source: City of Casa Grande Wastewater Feasibility Study – Summary Report; Carollo Engineers, Sept. 2006

Table 3.3
Historical Reclaimed Water Deliveries by Month
(MG)

	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Total Mg
Wash	77.5	56	52.7	60	37.5	15	6	38.75	6.5	6.82	60	85.25	**502.02**
Golf	1.89	0	10.32	20.7	19.86	25.64	39.46	22.94	26.47	24.64	18.15	6.49	**216.56**
SRP	40.25	40.4	38.72	1.9	31.43	26.44	23.31	28.41	9.37	25.46	20.74	12.16	**298.59**
Total	119.64	96.4	101.74	82.6	88.79	67.08	68.77	90.1	42.34	56.92	98.89	103.9	1017.17
%	0.118	0.095	0.100	0.081	0.087	0.066	0.068	0.089	0.042	0.056	0.097	0.102	1.000

	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Total Mg
Wash	83.7	77	108	62.5	62	51	55.2	62	90	93	97.5	108.5	**950.4**
Golf	9	11.04	9.07	21.63	26.38	32.59	29.24	21.15	10.66	24.35	15.65	9.62	**220.38**
SRP	17.6	12.44	0.61	4.15	8.39	16.98	21.36	19.63	15.14	4.15	9.45	12.09	**141.99**
Total	110.3	100.48	117.68	88.28	96.77	100.57	105.8	102.78	115.8	121.5	122.6	130.21	1312.77
%	0.084	0.077	0.090	0.067	0.074	0.077	0.081	0.078	0.088	0.093	0.093	0.099	1.000

	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Total Mg
Wash	124	105	124	105	62	45	77.5	77.5	75	62	105	113.78	**1075.78**
Golf	5.93	5.96	15.94	16.01	32.8	33.57	29.47	21.93	22.8	25.22	15.38	10.09	**235.10**
SRP	8.14	9.37	4.9	6.23	22.15	22.18	20.39	27.01	29.29	34.03	5.98	12.68	**202.35**

3.4.4 Conclusions - Future Effluent Availability for Current and New Uses

Annual and monthly effluent budgets were produced for the following projections years: 2008 to 2015, 2020, and buildout of the service area. Effluent budgets for average annual day (AAD), and budgets for January average day and June average day of each projection year are shown in Tables 3.4, 3.5, and 3.6. Projected effluent available for new uses in years 2008, 2010, 2015, and 2020 is also shown graphically in Figures 3.2, 3.3, 3.4, and 3.5. The following conclusions can be drawn from the data regarding the availability of effluent for new uses after existing contract obligations and losses are met:

1. During the peak summer demand period in 2008, there is currently little or no effluent available for new uses or recharge. By 2010, there is projected to be 1.03 MGD available in June, growing to over 6 MGD by and by 2015.

2. During the winter low-demand period (January), there is currently over 3 MGD of effluent available for recharge or new direct uses. By 2010, there is projected to be over 5 MGD available.

3. On an annual basis, if all effluent projected to be available could be used directly or recharged, the following amounts of additional water resources could be generated for the planning area: 2008 – 2,600 AF; 2010 – 4,100 AF; 2015 AF – 11,300 AF; 2020 – 19,100 AF; Buildout – 53,100 AF.

4. Wastewater flows and effluent production is lowest in the summer months when irrigation and power plant demands are the highest. During the winter months, effluent production peaks when irrigation water needs are lowest. This pattern emphasizes the need to have groundwater recharge facilities in place to beneficially use effluent produced in the winter months. It is not viable to create enough turf facility irrigation demand to use all effluent available during the winter without creating extremely high summer irrigation demands that cannot be met with effluent and must be heavily supplemented with potable water.

5. A groundwater recharge facility having 10 MGD capacity could be fully utilized during the winter months by 2015.

6. At buildout, the average annual daily amount of effluent available for direct use or recharge is projected to be 47.46 MGD. During January, approximately 53 MGD is projected to be available. In June at buildout, approximately 36 MGD is projected to be available.

Chapter 4 discusses and evaluates various alternatives that could be implemented to utilize the effluent projected to be available.

Table 3.4

Projected Annual Average Daily Effluent Water Balance and Availability for Reuse (MGD)											
Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2020**	**Buildout**
Projected AAD Flow	4.3	4.9	5.5	6.2	7.0	8.1	9.6	11.0	12.6	19.6	50.0
Existing User/Contracts											
In-Plant Uses/Loss	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
SRP Power Plant	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Frito Lay	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Municipal Golf Course	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
Remaining for New Uses	1.76	2.36	2.96	3.66	4.46	5.56	7.06	8.46	10.06	17.06	47.46
Acre-feet Available	1,969	2,644	3,316	4,100	4,996	6,228	7,908	9,476	11,269	19,110	53,162

Table 3.5

Projected Effluent Water Balance and Availability for Reuse – January Avg. Day (MGD)											
Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2020**	**Buildout**
Projected Annual AAD	4.3	4.9	5.5	6.2	7.0	8.1	9.6	11.0	12.6	19.6	50.0
Projected Jan. AD Flow	4.7	5.3	6.0	6.8	7.6	8.8	10.5	12.0	13.7	21.4	54.5
Existing User/Contracts											
In-Plant Uses/Loss	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
SRP Power Plant	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Frito Lay	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Municipal Golf Course	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Remaining for New Uses	3.38	4.03	4.69	5.45	6.32	7.52	9.15	10.68	12.42	20.05	53.19

Table 3.6

Projected Effluent Water Balance and Availability for Reuse – June Avg. Day (MGD)											
Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2020**	**Buildout**
Projected Annual AAD	4.3	4.9	5.5	6.2	7.0	8.1	9.6	11.0	12.6	19.6	50.0
Projected June AD Flow	3.46	3.94	4.42	4.98	5.63	6.51	7.72	8.84	10.13	15.76	40.20
Existing User/Contracts											
In-Plant Uses/Loss	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
SRP Power Plant	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frito Lay	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Municipal Golf Course	1.06	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Remaining for New Uses	0.50	0.01	0.47	1.03	1.67	2.56	3.77	4.89	6.18	11.81	36.25

Figure 3.2

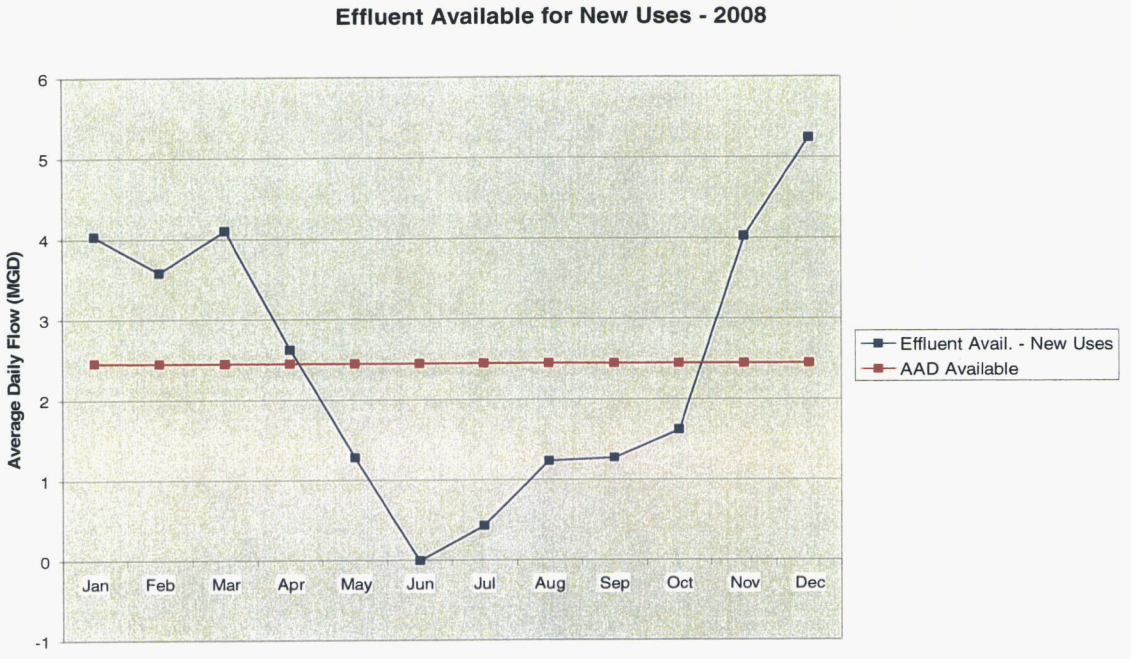


Figure 3.3

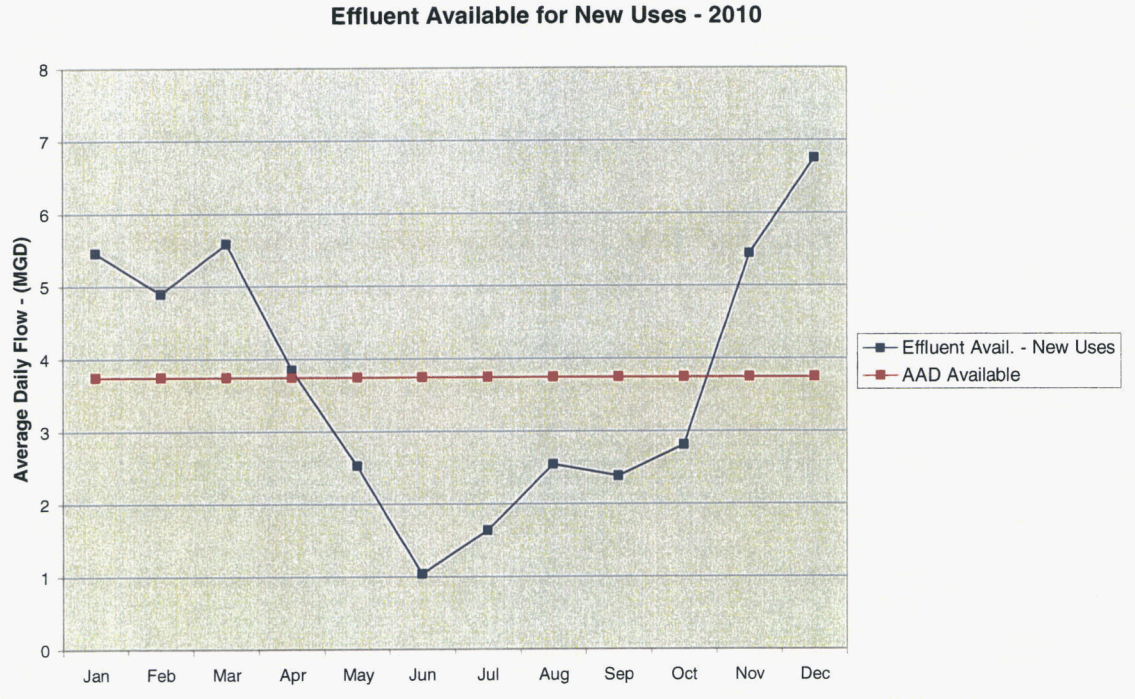


Figure 3.4

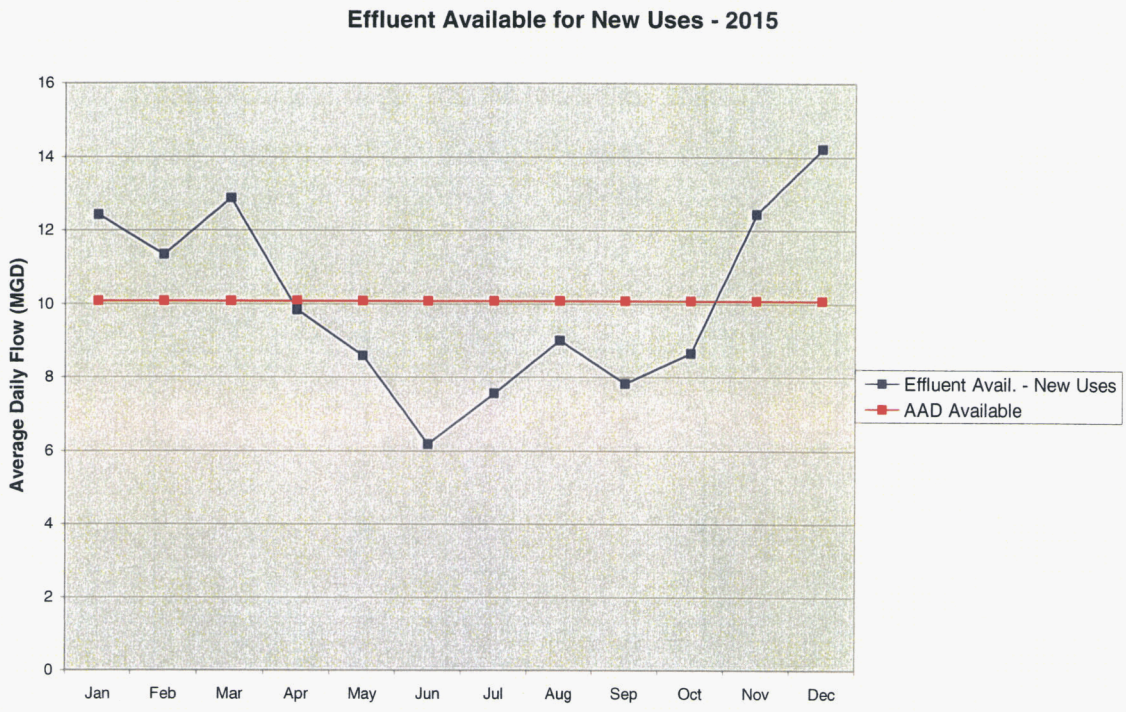
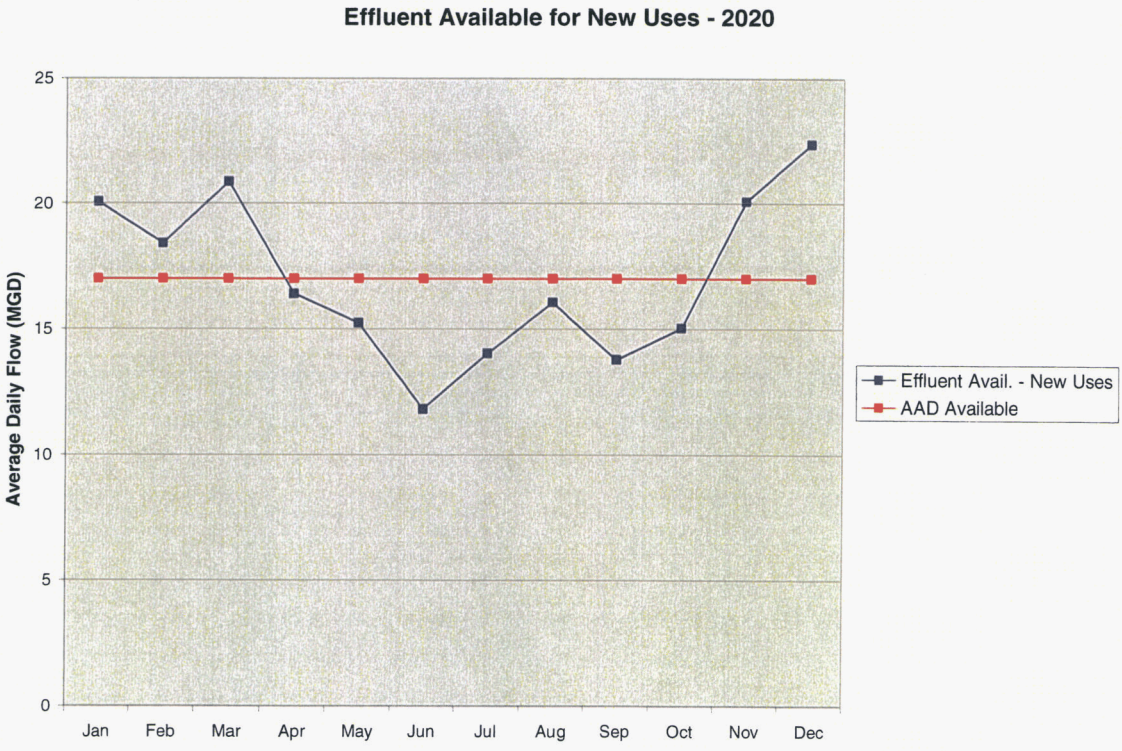


Figure 3.5



Chapter 4 – Analysis of Casa Grande Effluent Use Alternatives

4.0 Chapter Overview

The effluent budgets presented in Chapter 3 indicate that a significant volume of effluent will be available at the Kortsen Road WRP for beneficial uses as the City grows. The overall water reclamation program objective is to maximize beneficial use of effluent and minimize future effluent discharges to the North Branch of the Santa Cruz Wash. Chapter 4 summarizes conceptual level analyses of the advantages and disadvantages, costs, potential benefits, and institutional and regulatory constraints associated with various effluent use alternatives. Conceptual level project cost estimates are based on the facility and unit costs provided in Appendix 1. Any projects considered further for implementation will require more detailed planning and engineering studies to assess project feasibility and cost.

To place recharge projects and water exchange projects on an equal footing for cost comparisons, cost estimates for all alternatives except where noted, are based on constructing pump stations, pipelines, and recharge facilities of 10 MGD capacity. The 10 MGD capacity was selected because it would enable reuse of the projected average annual day flow available for reuse in 2015 and nearly all winter time flows available for reuse in 2015. However, any of the projects could be implemented at either larger or smaller capacities or facilities could be phased to reduce up-front capital costs. Aquifer testing, modeling, permitting and agreement negotiation costs are not included in the analysis but would apply to all alternatives. A summary of the comparison of the alternatives is shown in table 4.4.

The water reuse alternatives listed below were selected for analysis based on existing contractual agreements, the results of the Clear Creek Inc. recharge study (summarized in this chapter), and discussions with Casa Grande staff. Projects 1-5 are groundwater recharge projects and projects 6-12 are projects involving water deliveries for direct irrigation uses or exchanges for surface water supplies. Projects are not listed in order of preference.

1) Pipeline to Santa Rosa Canal for delivery to Maricopa Stanfield Irrigation and Drainage District Groundwater Savings Facility (GSF).

1b) 16-inch pipeline to Casa Grande Canal for delivery to SCIDD Groundwater Savings Facility.

2) Pipeline to Casa Grande Airport and construct Vadose Zone wells.

3) Pipeline to Casa Grande Airport and construct injection or aquifer storage and recovery wells.

4) Pipeline west from WRP to Montgomery Road and construct spreading basin recharge facility.

5) A "Managed" underground storage recharge facility in the North Branch of the Santa Cruz Wash downstream of Kortsen Road WRP.

6) New reclaimed water distribution system for direct use at existing park, schools in central Casa Grande (11 users).

6b) New reclaimed water distribution system for direct use at existing park, schools, and golf course in central Casa Grande (12 users).

7) Developer-constructed direct delivery to system to large turf facilities in new developments (e.g. Desert Color)

8) Construct pipeline north to Gila River Indian Community (GRIC) Southside Canal for agricultural uses and exchange with GRIC for CAP water.

9) A dual distribution system (purple pipe system) in new developments for outdoor irrigation uses at individual residences and large turf facilities.

10) Interim Direct Delivery of Effluent to Individual Farms (no costs developed).

11) Provide Effluent to Contractors for Use as Construction Water and for Dust Control (no costs developed).

12) Provide Effluent for Irrigation Needs of Planned Linear Parks and Trail Corridors (no costs developed).

Direct potable reuse of effluent was not evaluated as part of this report. While the water treatment technology exists to treat wastewater to potable standards, state regulations currently prohibit direct potable reuse. In addition, public acceptance of direct potable reuse is currently lacking. However, it is generally recognized that at some point in the future, direct potable reuse may become a viable alternative for use of Casa Grande's reclaimed water supplies.

4.0.1 Clear Creek Associates Recharge Siting and Prioritization Study - Summary

The locations of the recharge project alternatives presented for analysis here are based on the recommendations of the 2007 study by Clear Creek Associates. This reconnaissance level study of the Casa Grande planning area prioritized the most favorable areas for future groundwater recharge activities. The study area encompassed 368 square miles. A matrix approach was used based on the evaluation of seven criteria influencing recharge potential. These criteria were:

- Proximity to mines and environmentally sensitive areas
- Well impacts (proximity to existing wells)
- Thickness of the Lower Conglomerate Unit
- Distance from the WRP
- Depth to top of the Lower Unit
- Mapped extent of the perched aquifer
- Aquifer hydraulic conductivity.

The study determined that siting of a recharge facility at or in close proximity to the WRP is not practical due to poor surface percolation rates, an extensive subsurface clay unit that creates a perched aquifer in the area, and relatively shallow bedrock (less than 1000 feet below land surface) below the perched aquifer. These factors result in a high probability of future water mounding problems associated with recharge activities. The study report included a map illustrating the most favorable locations for recharge within the planning area (see Appendix 2). The most favorable areas for recharge closest to the WRP include:

- Most locations west of Montgomery Road
- Most locations northwest of the WRP, including the Airport property
- Some locations east of I-10, between Rodeo Road and Peters Road

The study recommended that the City identify specific parcels of land within these areas for performing site specific investigations to further determine suitability for recharge facility construction. These investigations would include surface percolation tests to determine suitability for surface spreading facilities, and borings to 200 to 300 feet to determine groundwater depth and aquifer geologic characteristics. If necessary, the analysis should include deep borings to characterize the deeper geologic units. Well injection and recovery tests may also be required to determine the feasibility of recharge and recovery using injections wells or aquifer storage and recovery wells (ASR well).

This study provides the city with a good tool with which to prioritize areas for more detailed hydrogeologic study. It should be noted that areas that are rated somewhat lower than "most favorable" may also be suitable for recharge. It is recommended that consideration of an area for further site specific analysis and potential recharge operations should not be ruled out if other attributes of the area are favorable, for example, along the corridor of an existing or planned reclaimed water distribution line.

4.1 Alternative 1: Pipeline to Santa Rosa Canal for Delivery to Maricopa Stanfield Irrigation and Drainage District (MSIDD) Groundwater Savings Facility

This alternative involves delivery of effluent to the Santa Rosa Canal, operated by the Central Arizona Irrigation and Drainage District (CAIDD) and the MSIDD. Effluent would be delivered as "in-lieu" water to the Groundwater Savings Facilities (GSFs) operated by either of the districts. Long-term storage credits would be generated through

these deliveries and credits could be sold to: 1) water providers for use in maintaining Assured Water Supply Designations, 2) developers for use in obtaining Assured Water Supply Certificates, or 3) the Central Arizona Groundwater Replenishment District (CAGRD) for meeting its groundwater replenishment obligations.

The Santa Rosa Canal is now used to deliver a combination of CAP water and groundwater for agricultural uses in the district. Currently, no potable water treatment plants receive water from the canal. However, there may be interest in the future by Arizona Water Company or other water providers in constructing water treatment plants on or near the canal. Future potable water plant deliveries using the canal are a potential constraint on deliveries of effluent to these districts due to regulatory and public perception concerns.

4.1.1 Cost Estimate

This project would involve constructing a 10 MGD capacity pump station and 8.5 miles of 24-inch pipeline south from the WRP to the Santa Rosa Canal. Estimated capital and operation and maintenance costs are as follows:

Pipeline	$11.1 million
Pump Station	2.2
Total Capital Cost	$13.3 million

Operation and Maintenance Cost - $40/AF
Revenue from sale of in-lieu water - $20/AF

4.1.2 Advantages (Pros) and Disadvantages (Cons) of Alternative

Pros

- GSF facility is already permitted
- No technical uncertainties with ability to recharge water, minimal permitting costs
- Market exists for sale of storage credits

Cons

- Curtailed groundwater pumping is not in close proximity to the central Casa Grande planning area and AWC well fields.
- Winter demand for agricultural water may be low when available effluent is at a peak.
- GSF capacity to accept effluent will be reduced in the future as lands are urbanized.
- A long-term contract with the District may not be possible due to potential for potable water treatment plant.

4.1.3 Alternative 1b: Construct a 16-inch Pipeline to Casa Grande Canal for delivery to San Carlos Irrigation and Drainage District Groundwater Savings Facility (GSF) or for Exchange of Gila River Water

This alternative involves construction of a 16-inch effluent main in the Burris Road alignment to deliver water to the Casa Grande canal at Peters Road. Other delivery points on the SCIDD canal and lateral system and direct deliveries to individual farms are also possible along this route. A 5 MGD capacity 16-inch main is evaluated here because the capacity of the SCIDD system at the tail end of delivery system to use the full 10 MGD capacity is unknown. A pipeline in the Thornton Road alignment could also be used to accomplish this connection.

Delivery of effluent to SCIDD could be done as in-lieu water deliveries to the GSF or as part of an exchange for Gila River Water for sale and delivery to Arizona Water Company's planned Pinal Valley surface water treatment plant. However, the first phase of AWC's plant is being designed to treat CAP water and will have limited ability to treat a blend of Gila River water (poorer quality water) and CAP water. Any delivery of water to SCIDD would likely provide only a short-term effluent reuse option (10-20 years) because there are only approximately 6-8 sections of SCIDD agricultural lands downstream of the delivery point. Much of this land is likely to urbanize in the next 20 years.

At this conceptual level of analysis, the Burris Road alignment is likely the preferred alignment over the Thornton Road alignment for a pipeline to the south. The Burris Road alignment would place the pipeline closer to the Francisco Grande resort and closer to the most favorable recharge areas west of Montgomery Road. Additional study of potential pipeline alignments is needed to determine the best alignment if these reuse options are to be considered further.

4.1.4 Cost Estimate – SCIDD GSF Delivery

This project would involve constructing a 5 MGD capacity pump station and 3.5 miles of 16-inch pipeline south from the WRP in the Burris Road alignment to the Casa Grande canal at Peters Road. Estimated capital and operation and maintenance costs are as follows:

Pipeline	$3.20 million
Pump Station	1.75
Total Capital Cost	$4.95 million

Operation and Maintenance Cost - $40/AF
Revenue from sale of in-lieu water - $20/AF

4.1.5 Advantages (Pros) and Disadvantages (Cons) of Alternative

Pros

- GSF facility is already permitted
- No technical uncertainties with ability to recharge water, minimal permitting costs
- Market exists for sale of storage credits

Cons

- Winter demand for effluent may be low when available effluent is at a peak.
- Limited GSF capacity at end of SCIDD system to accept effluent will be reduced further over next 10-15 years as lands are urbanized.
- Ability of SCIDD to accept water at end of system must be evaluated further to determine viability of this alternative.

4.2 Alternative 2: Pipeline to Casa Grande Airport and Construct Vadose Zone Wells

This alternative involves constructing a pump station and 3.8 miles of 24-inch pipeline from the SRP to the airport in the Thornton road alignment (including 0.5 miles within the airport property), and constructing 23 vadose zone recharge wells. This alternative would require additional hydrogeologic study of the airport area to determine aquifer characteristics and suitability for recharge at this location. Vadose zone wells are typically 48-inch diameter wells to a maximum depth of 180 feet. Depth is limited by the augur technology used to drill the large diameter wells. The advantages of vadose zone wells are that if fine materials that would impede percolation rates of spreading basin recharge facilities are present, they can be avoided. Underground Storage Facilities using vadose zone wells are easier to permit than injection or ASR wells and should not require advanced treatment to remove organics. Of the 38 constructed Underground Storage Facilities in the Phoenix Active Management Area, 15 of the facilities utilize vadose zone wells.

4.2.1 Cost Estimate

Vadose zone wells in central Arizona typically are able to recharge from 250 to 350 gpm. It is assumed for this analysis that the average recharge capacity for each well is 300 gpm. The cost of each well, including engineering and administration, is assumed to be $230,000 per well. Well spacing is assumed to be a minimum of 100 feet. Vadose zone wells are subject to clogging and reduced capacity over time. For the purpose of this analysis, the average life expected for each well is assumed to be 10 years, though some reduction in well capacity can be seen much sooner. Therefore, it is assumed that wells will need to be replaced once during the 20-year capital cost amortization period.

Implementing this project would involve the following estimated capital and O&M costs:

Pipeline	$ 5.0 million
Pump Station	2.2
Vadose Zone Wells	10.6
Total Capital Cost	$17.8 million

Pumping Operation and Maintenance Cost	$40/AF
Vadose Zone Well Maintenance Cost	$9/AF

4.2.2 Advantages (Pros) and Disadvantages (Cons) of Alternative

Pros

- Initially, lowest capital and O&M cost of constructed recharge alternatives.
- Small land requirements, City already owns land.
- Simple technology, easier permitting than injection wells.
- Does not require advanced treatment of effluent to remove organic contaminants.
- Low community impact compared to spreading basins.
- Pipeline could be extended north to deliver water to GRIC exchange.
- Desert Color effluent pipeline could be oversized by the City to accommodate deliveries to recharge facilities, thereby reducing costs.

Cons

- Limited life of wells due to clogging will likely require replacement after 7-10 years.
- Clay lenses below 180 feet could limit use of vadose zone wells.

4.3 Alternative 3: Pipeline to Airport – Construct Injection or Aquifer Storage and Recovery (ASR) Recharge Wells

This alternative is similar to Alternative 4.2 except that injection wells or ASR wells would be constructed. Injection wells are constructed similar to a high capacity water production well drilled to a similar depth (usually greater than 1000 feet). Water is introduced into the well under pressure and the water is "injected" directly into the water table within the aquifer. This method of recharge is generally used where subsurface geology will not allow the use of surface spreading basins or vadose zone wells due to the occurrence of impermeable strata in the subsurface that impede the flow of water downward resulting in water mounding problems that limit recharge capacity. ASR wells have the added capability of being operated in injection mode or as a production well to recover the injected water on either a seasonal basis or during drought years. ASR wells could be operated conjunctively with a reclaimed water distribution system delivering water to direct irrigation customers. Water could be stored underground during the winter months when irrigation demands are low and recovered and delivered to irrigation customers during the peak summer demand period.

One disadvantage of using direct injection wells or ASR wells is that the A+ effluent produced at the Kortsen Road WRP will likely require the addition of advanced treatment facilities to reduce the concentrations of organic compounds such as Total Organic Carbon (TOC) and Trihalomethanes (TTHMs) created as disinfection by-products during the wastewater treatment process. One commonly used method of treatment to break down these compounds is the use of an Ultra-Violet-Peroxide system. Planning level costs for UV-Peroxide treatment of $500,000 per MGD of capacity are therefore included in the cost estimate provided for this alternative. Due to the high cost of additional treatment, this alternative may be better suited to future implementation in the event that aquifer water quality standards become more stringent and advanced treatment of effluent is also required for surface spreading and vadose zone wells.

4.3.1 Cost Estimate

Estimated capital and operation and maintenance costs for this alternative are as follows:

Pipeline	$5.0 million
Pump Station	2.2
UV- Peroxide System	5.0
Injection Wells	9.1
Total Capital Cost	$21.3 million
UV Peroxide O&M Cost -	$200,000/Yr/MGD of capacity, $182/AF
Pumping O&M Cost	$40/AF

4.3.2 Advantages (Pros) and Disadvantages (Cons) of Alternative

Pros

- Small land requirements, City already owns land.
- Low community impact compared to spreading basins.
- Pipeline could be extended north to deliver water to GRIC exchange.
- Wells not subject to clogging like vadose zone wells.

Cons

- Requires expensive advanced treatment to remove organics.
- More difficult permitting process than other recharge alternatives.
- High initial cost.

4.4 Alternative 4: Pipeline West to Montgomery Road – Construct Spreading Basin Recharge Facility

This alternative would involve constructing 5.0 miles of 24-inch pipeline west from the WRP in the Kortsen Road alignment to at least Montgomery Road. Several areas west

of Montgomery Road were rated as "most favorable" for recharge in the Clear Creek study. These areas are also located far enough from the Casa Grande Municipal Airport that potential constraints related to Federal Aviation Administration bird strike regulations should not be a factor. Thus a spreading basin recharge facility may be feasible in this area, pending detailed hydrogeologic testing. Land would need to be acquired for construction of a spreading basin facility and is included in the cost estimates below.

A variation on this alternative is to locate a spreading basin facility (or vadose zone well complex) west of the Francisco Grande Resort in conjunction with building a pipeline to deliver water for irrigation of the Francisco Grande golf course and park.

4.4.1 Cost Estimates

The cost assumptions used in this analysis for spreading basins are based on the actual costs of four recharge facilities constructed by the Central Arizona Project from 2001 through 2006. Costs were inflated to 2008 dollars and expressed on the basis of a cost of $171,500 per acre of recharge basin. In sizing the facility for 10 MGD capacity it was assumed that the average infiltration rate is 1.2 ft/day. Also, it was assumed that only half of the basins would be wetted at any one time and that 1.5 times the basin acreage needed would be acquired to accommodate berms, roads, and buffers for the facility. Based on these assumptions, a total of 76.8 acres is assumed to be required for the construction of 51.2 acres of spreading basins. Land cost was assumed to be $75,000 per acre.

The estimated costs for this project are as follows:

Pipeline	$6.6 million
Pump station	2.2
Land	8.8
Spreading Basin Facilities	5.8
Total Capital Cost	$23.4 million

4.4.2 Advantages (Pros) and Disadvantages (Cons) of Alternative

Pros

- Recharge basins are based on simple technology if geology is suitable.
- Does not require advanced treatment of A+ effluent to gain APP approval.
- Maximum additional treatment in soil profile thus easiest to permit from an Aquifer Protection Permit perspective.
- Pipeline in Kortsen Road, if extended 2 miles to the south, could be used to deliver water to Francisco Grande golf course and park.
- Alternative project location west of Francisco Grande could be combined with pipeline in Burris Road that delivers effluent to SCIDD and/or MSIDD GSF.

Cons

- Most difficult type of recharge project to locate to avoid surface clay layers that impede water flow.
- Difficult to site near airports due to FAA bird strike concerns.
- Large land requirements and associated costs.
- Potential vector control issues require careful water management and may be a concern to nearby residents.

4.5 Alternative 5: Managed Underground Storage Facility in North Branch of Santa Cruz Wash Downstream of WRP

Managed underground storage facilities permitted by the Arizona Department of Water Resources do not utilize constructed recharge basins or wells. In managed facilities, recharge is carried out by discharging water to a natural waterway. Of the approximately 55 permitted USFs in central Arizona, only 5 are Managed USFs involving effluent (City of El Mirage, City of Tucson (2 facilities), City of Phoenix - Cave Creek, and Prescott Valley). A Managed USF can also be used to convey water to the location of a constructed USF facility, thus combining the two concepts. For example, a Managed USF in the Santa Cruz Wash could be used to convey water downstream to a facility west of Montgomery Road.

By statute, Managed USFs may generate a maximum long-term storage credit volume of 50 percent of the water calculated as reaching the aquifer, after evaporation, transpiration losses from riparian vegetation, and any downstream diversions are subtracted. In addition, during periods when rainfall events cause significant natural stream discharges to the managed USF stream reach, ADWR does not allow credits to be generated. Permits include requirements for monitoring these types of flows and reporting the data in required quarterly and annual reports. Permits also include groundwater level alert levels that trigger a condition where no storage credits will be generated. For example, the City of El Mirage USF permit states that when groundwater levels rise to 30 feet below land surface or less, the USF permit is in "Prohibition Status" and no recharge credits shall accrue until water levels subside to below the limit.

In the case of the Santa Cruz wash, natural flows are relatively infrequent, generally less than 20 days per year. When all water loss factors are considered, the amount of storage credits that are likely to be generated can be considerably less than 50 percent of the flow discharged to the stream. For the purposes of this cost analysis, it is assumed that 35 percent of the effluent discharged to the stream channel would generate long-term storage credits (based on 50 percent eligibility for 70 percent of the total effluent discharged).

Managed USF facility permits often require one or more monitoring wells to record groundwater level changes at intervals along the stretch of stream channel over which the water infiltrates. Production wells in the area may also be used if the entity has regular access to the well. Currently, Casa Grande discharges to the wash flow approximately 7 miles downstream (2 miles past Montgomery Road) before fully infiltrating. Another unknown that could affect the ADWR permitting of a managed USF is the presence of

the perched aquifer conditions at the WRP plant site and downstream for approximately 4-5 miles along the Santa Cruz wash channel. The presence of a high water table in the area could preclude the permitting of a managed USF.

4.5.1 Cost Estimates

For the purposes of this analysis it is assumed that a maximum of 7 monitor wells would be required to be constructed along the 7-mile course of the stream channel at a cost of $20,000 per well. This cost could be reduced if existing production wells can be used as monitor points. Other improvements that may be required include lining the discharge channel to the outfall at the wash and construction of a new outfall and flow measurement station at an estimated cost of $150,000.

The estimated costs of this project are as follows:

Monitor Wells	$140,000
Channel lining	75,000
Outfall facility	75,000
Total Capital Cost	$290,000

Monitoring and Reporting Operation and Maintenance Cost $100,000/yr

4.5.2 Advantages (Pros) and Disadvantages (Cons) of Alternative

Pros

- Minimal capital cost.
- Would maintain existing riparian habitat.
- Ease and quickness of permitting unless high water table present.
- Good short-term inexpensive way to get started on recharge.

Cons

- May not meet CAAG policy goal of no discharge for future discharges resulting from population growth.
- Maximum of 50 percent long-term storage credits allowed after evapo-transpiration losses.

4.6 Alternative 6: Direct Delivery to Existing Parks, Schools in Central Casa Grande for Turf Irrigation

There are a number of existing parks and schools in central Casa Grande having significant turf irrigation demands. These facilities could potentially be served with reclaimed water instead of potable water now provided by Arizona Water Company or private wells. To determine the feasibility of constructing a distribution system to deliver effluent from the Kortsen Road WRP to these facilities, a conceptual level analysis was

conducted. This analysis identified potential users, the approximate number of acres of turf irrigated, and estimated annual and peak-daily turf water demand at each facility. Two cost estimates were developed for two different distribution system configurations to deliver effluent to the facilities. The parks and schools identified and approximate annual and peak daily water demands of each facility are shown in Table 4.1. Table 4.1 also includes the existing private golf courses of Francisco Grande (and related park), and the Palm Creek Golf/RV Resort. The locations of the potential users and effluent distribution system are shown on Figure 4.1. Approximately 2,481 acre-feet per year of potable water could be conserved if effluent could be delivered to all of these facilities. It should be noted the level of accuracy of these conceptual level demand calculations is plus or minus 25 percent.

4.6.1 Cost Estimates

Conceptual level capital and operation and maintenance cost estimates were developed for two alternative distribution systems to deliver effluent to central Casa Grande facilities. In Alternative 6, eleven (11) of the parks, schools and private facilities shown in Table 4.2, located within approximately 1300 feet of the proposed alignment of the effluent distribution main described below were identified, and the water demands totaled. The total peak-day and annual water demand for these facilities is 1.22 MGD and 528 AF/YR respectively. These facilities could be served by a 12" main constructed from the WRP along Kortsen Road to Pinal Avenue, an 8" main in Kortsen Road from Pinal Avenue to Casa Grande Road, then continuing south to Florence Boulevard.

The conceptual level capital cost estimate for this system, including turf facility on-site metering and connection costs is $3.2 million, with annual operation and maintenance costs of approximately $50,000. The 20-year annualized capital and operation and maintenance costs for such a system would be approximately $371,000 per year. This cost represents the amount of revenue each year the sales of reclaimed water would need to collect annually to pay off the cost of the system in 20 years (assumes the system capital cost is financed over 20 years at approximately 6 percent). To collect this much revenue annually, assuming 528 AF/YR of water sold, the effluent would need to be priced at $2.16/1000 gallons ($702/AF). This cost is almost 1.5 times higher than the 2007 Arizona Water Company potable water rate of $1.49/1000 gallons.

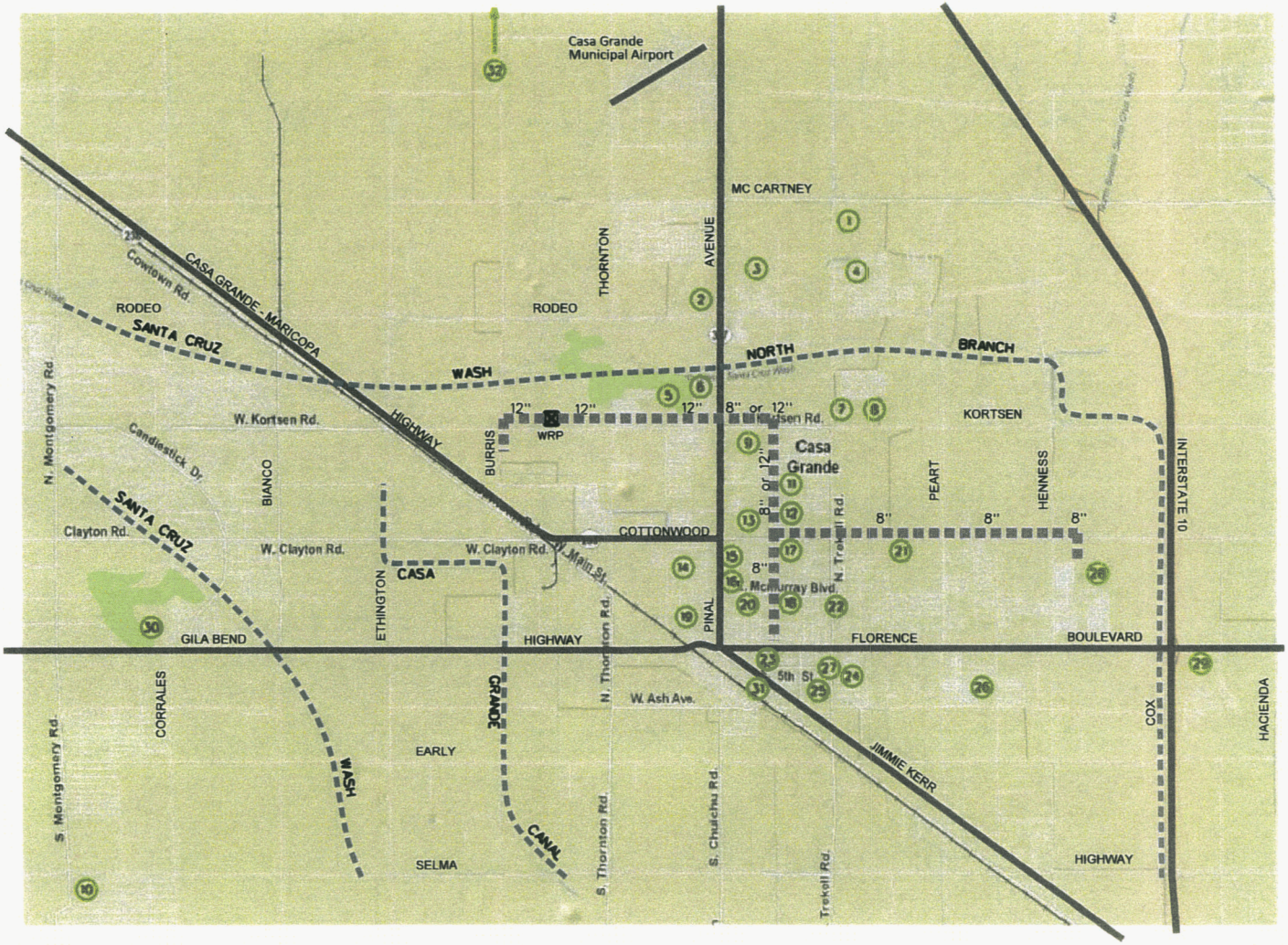
In Alternative 6b, the Palm Creek Resort golf course demand was added to the Alternative 6 system in an effort to increase annual effluent sales and revenue, and make the system more cost-effective. An 8" main would be extended 2.5 miles in Cottonwood Avenue from Casa Grande Avenue to the Palm Creek Resort.

Table 4.1
Existing Parks and Schools in Central Casa Grande

	Type (Turf/Ind)	Acres of Turf	Peak Use MGD	Annual Use (AF)	Map Ref. #
Potential Users					
Casa Grande Union H.S.	T	14	0.16	67.2	1
Coyote Ranch Park	T	5	0.06	24	3
Rancho Grande Park	T	3	0.03	14.4	4
Paul Mason Sports Complex	T	14	0.16	67.2	2
Francisco Grande Golf Course	T	120	1.33	576	30
Francisco Grande Park	T	20	0.22	96	30
Casa Grande Lakes Dev.	T	30	0.33	144	6
College Park	T	10	0.11	48	9
O'Neil Park	T	10	0.11	48	13
Burrus Park	T	5	0.06	24	11
Carr McNatt Park	T	25	0.28	120	18
Ward Park	T	2	0.02	9.6	20
West Park	T	3	0.03	14.4	19
Cruz Park	T	5	0.06	24	14
Frank Gilbert Park	T	5	0.06	24	22
Pearl Park	T	8	0.09	38.4	23
Eastland Park	T	3	0.03	14.4	27
Mosely Park	T	8	0.09	38.4	24
Palm Creek Golf/RV Resort	T	90	1.00	432	28
Mission Royal Golf Club	T	90	1.00	432	29
Ironwood Elementary School	T	4	0.04	19.2	21
Cactus Wind/Casa Verde H.S.	T	5	0.06	24	17
Cactus Middle School	T	7	0.08	33.6	8
Cholla Elementary School	T	4	0.04	19.2	7
Mesquite Elementary School	T	4	0.04	19.2	26
Palo Verde Elementary School	T	4	0.04	19.2	25
Cottonwood Elementary School	T	4	0.04	19.2	12
Casa Grande Middle School	T	7	0.08	33.6	16
St. Anthony School	T	4	0.04	19.2	31
Saguaro Elementary School	T	4	0.04	19.2	15
Total Potential Use		517.00	5.74	2481.60	

Table 4.2
Turf Facilities within 1300 feet of Potential Effluent Distribution System

	Type (Turf/Ind)	Acres of Turf	Peak MGD	Annual Use (AF)	Map Ref. #
Turf Facilities Within 1300' of Mainline					
Casa Grande Lakes Dev.	T	30	0.33	144	6
College Park	T	10	0.11	48	9
O'Neil Park	T	10	0.11	48	13
Burrus Park	T	5	0.06	24	11
Carr McNatt Park	T	25	0.28	120	18
Cottonwood Elementary School	T	4	0.04	19.2	12
Pearl Park	T	8	0.09	38.4	23
Ward Park	T	2	0.02	9.6	20
Saguaro Elementary School	T	4	0.04	19.2	15
Cactus Wind/Casa Verde H.S.	T	5	0.06	24	17
Casa Grande Middle School	T	7	0.08	33.6	16
Total Potential Use			1.22	528.00	



POTENTIAL RECLAIMED WATER USER LIST

Map No.

1. Casa Grande Union H.S.
2. Paul Mason Sports Complex
3. Coyote Ranch Park
4. Rancho Grande Park
5. Dave White Golf / Park
6. Casa Grande Lakes Development
7. Cholla Elementary
8. Cactus Middle School
9. College Park
10. Casa Grande Golf & RV Resort
11. Burrus Park
12. Cottonwood Elementary
13. O'Neil Park
14. Cruz Park
15. Saguaro Elementary
16. Casa Grande Middle School
17. Cactus Wind - Casa Verde H.S.
18. Carr McNatt Park
19. West Park
20. Ward Park
21. Ironwood Elementary
22. Frank Gilbert Park
23. Pearl Park
24. Mosely Park
25. Palo Verde Elementary
26. Mesquite Elementary
27. Eastland Park
28. Palm Creek Golf/ RV Park
29. Mission Royale Golf Club
30. Francisco Grande Golf / Park
31. St. Anthony School
32. Desert Color

MAP LEGEND

- Potential User - Turf or Industrial Facility
- City of Casa Grande Water Reclamation Plant
- Potential Reclaimed Water Distribution Main

Potential Reclaimed Water Users and Distribution System

Figure 4.1

The results of this addition is that the estimated system capital cost increases to $4.8 million and the 20-years annual capital and O&M cost increases to $476,000. However, the total annual effluent sales would increase to just over 1000 AF/YR, reducing the price of the effluent to $1.60 per/1000 gallons ($522/AF). This price is just slightly higher than the current potable rate of $1.49/1000 gallons.

4.6.2 Advantages (Pros) and Disadvantages (Cons) of Alternative

Conclusions and recommendations arising from the results of this conceptual level cost analysis are:

Pros

- Direct use of effluent provides the greatest hydrologic benefit to the aquifer than recharge alternatives because it results in lower potable water demands from existing potable water wells, preserving groundwater levels in existing well fields.
- Least potential aquifer water quality impact.

Cons

- Constructing a new effluent distribution system to existing parks and schools is the most expensive reuse alternative on a per acre-foot basis compared to recharge alternatives, and compared to the current price of potable water if user fees were to pay for the cost of the system.
- The unit cost of reclaimed water would be considerably higher that the current $0.50 /1000 gallons charged by Casa Grande to existing effluent users.
- User fees could not support the annual capital and O&M cost of the system and costs would have to be offset by revenue from other sources, such as wastewater user fees or impact fees charged to new development.
- The cost of the reclaimed water delivery system approaches a break-even cost compared to current potable water rates if a large user, such as a new or existing golf course located within 1 to 2 miles (Palm Valley in this example) can be added to the system.
- The Palm Valley Golf Resort and other similar users that now pump groundwater pursuant to Type 1 or Type 2 rights will likely require a financial incentive to switch to reclaimed water. The ability of the City's current effluent sales price of $163/AF ($0.50/1000 gal.) to provide an incentive would need to be evaluated on a case-by-case basis.
- Most utilities in Arizona and other states price effluent water at a rate discounted from the local potable water costs. Effluent unit pricing typically varies from 40 percent to 80 percent of the potable water unit price to encourage the use of this lower quality water source.
- Other issues need to be carefully considered related to constructing an effluent distribution system to existing users. These issues include: 1) community disruption from construction of distribution mains, and 2) potential community perceptions and concerns related to the introduction of reclaimed water on

public parks and school grounds, 3) financial issues related to Arizona Water Company's lost revenue associated with decreased water sales when facilities convert to reclaimed water supplied by Casa Grande.

4.7 Alternative 7: Direct Delivery to Large Turf Facilities in New Developments

4.7.1 Desert Color Development Agreement and Future Effluent Use

The Desert Color conceptual master plan includes numerous turf facilities, including golf courses, regional parks, and numerous small neighborhood parks that could be irrigated with effluent. The total potential effluent water demand and the timing of the demand by development phase is not known by the developer at this time. The City of Casa Grande has executed a development agreement with the 8,000+ acre master planned community of Desert Color. This agreement includes provisions regarding the future provision by the City of effluent for turf irrigation at parks, common areas and schools, construction uses, lakes, and monument features. Specifically, the agreement includes the following provisions:

- The development is entitled to effluent in the amount of its wastewater flow contribution to the City's WRP, less "normal amounts of processing loss."
- The developer is responsible for constructing an effluent distribution system to convey the effluent from the WRP to the development and to users. The design of the facilities must be approved by the City.
- The facilities shall be eligible for public improvements of the Community Facilities District (CFD).

4.7.2 Potential for Effluent Use on New Large Turf Facilities in Casa Grande

Irrigation of large turf facilities (golf courses, parks, schools, decorative lakes) is a widely practiced and accepted form of effluent reuse in Arizona and other states. As discussed in Chapter 2, many cities in Arizona require large turf facilities in new developments to be irrigated with reclaimed water. Requirements vary, but generally developers are required to install all on-site and offsite reclaimed water delivery system infrastructure, connect to mainlines that have already been installed by the city, or provide on-site reclaimed water piping for later connection to the reuse system when the city constructs mains into the area.

To examine the feasibility of requiring new large turf facilities within Casa Grande to be irrigated with effluent, a projection of potential turf facility irrigation demand in new developments was developed for the Casa Grande planning area. This projection was then compared to the projected availability of effluent for new uses presented in the effluent budgets presented in Chapter 3. The assumptions used to develop the turf demand projection are based on the following Casa Grande Planning Department requirements and discussions with Casa Grande staff:

- The average open space area of new planned developments is 18% (minimum requirement is 15%).
- Though not a requirement, assume 25 % of the open space will be landscaped in turf for recreational uses (includes regional and neighborhood parks, and retention areas).
- Though not a requirement, assume each 640 acres of development will contain one school site that has an average of 7 acres of turf.
- Turf facility demand is 4.8 AF/AC/YR based on ADWR turf allotments.

Based on these assumptions, for every 640 acres of land developed, it is projected that 36 acres of turf will be developed that results in an annual water demand of 172.8 AF/YR (based on 4.8 AF/AC). This equals an AAD demand of 0.15 MGD and a June AAD demand of 0.25 MGD. Using a 10 percent annual residential growth rate, the projected number of new homes constructed annually is approximately 2,500 per year. Assuming an overall density of 2.8 homes/acre based on the Casa Grande General Plan, the number of new acres developed annually would be 893 acres. Using 893 acres of new development annually and the above assumptions, the projected annual demand increase for reclaimed water is 0.21 MGD (AAD) and a peak June day water demand increase of 0.35 MGD.

New development turf water demand projections were then compared to the projected availability of effluent derived from the water budgets. These comparisons are shown in Table 4.3 beginning in 2010 because it is assumed that it will take a minimum of two years for new developments (including Desert Color) to fully develop new turf uses on reclaimed water. The comparisons indicate sufficient effluent should be available on an average annual basis and a peak-day basis to supply large turf areas in new developments, should Casa Grande elect to implement such a requirement. However, there is very little surplus effluent projected during the summer high demand period until about 2015. Until that time, peak summer demands may need to be supplemented with potable water or other sources. The large difference between the AAD demand and peak-day demand emphasizes the importance of having recharge facilities in place to utilize effluent during the winter months when turf irrigation needs are low. The availability of effluent to meet new large turf demand also assumes that SRP does not expand its power plant and require additional effluent, and that no new private or municipal golf courses are irrigated with effluent over the next 5-7 years. If either of those new water demands develop there would likely be a shortage of available effluent during the summer months until after 2015.

Over the long-term through buildout of the service area, development of 2,500 additional homes per year is projected to produce 0.49 MGD of wastewater flow annually (2.8 persons per dwelling unit x 70 gal. per person). When associated commercial and industrial wastewater flows are added, there will be sufficient effluent generated through buildout to provide for peak summer demands in common areas, schools, and parks, with a significant surplus available for other direct uses, including golf course irrigation, industrial uses and groundwater recharge.

Table 4.3
Potential Large Turf Water Demand in New Developments versus Reclaimed Water Available after Current Uses (MGD)

Year	2010	2011	2012	2013	2014	2015	2020	Buildout
Effluent Available June	1.03	1.67	2.56	3.77	4.89	6.18	11.81	36.25
June AAD Turf Demand	0.34	0.69	1.03	1.36	1.72	2.04	3.74	12.3
Surplus/Def.	0.69	0.98	1.53	2.41	3.17	4.14	8.07	23.95
Effluent Available (AAD)	3.66	4.46	5.56	7.06	8.46	10.06	17.06	47.46
AAD Turf Demand	0.21	0.42	0.63	0.84	1.05	1.26	2.31	7.5
Surplus/(Def.)	3.45	4.04	4.93	6.22	7.41	8.8	14.75	39.96

4.7.3 Advantages (Pros) and Disadvantages (Cons) of Alternative

Pros

- Developers can be required to fund a substantial portion of the construction of the mainline and on-site water distribution system.
- Fewer community and public perception issues than requiring direct use at facilities now irrigated with potable water.
- Widely accepted practice, few regulatory issues and constraints with Class A+ water
- Greatest hydrologic benefit – use replaces potable groundwater use.
- Least impact to groundwater quality compared to recharge alternatives.
- Distribution system could also be used to deliver water to recharge facility west of Montgomery Road.

Cons

- Potentially high initial cost to City of building large diameter pipelines in advance of development unless facility construction is phased.

4.8 Alternative 8: Delivery to the Gila River Indian Community (GRIC) in Exchange for CAP Water

This alternative involves constructing a pump station and pipeline approximately 9.25 miles north from the WRP in the Burris Road alignment to deliver water to the Southside Canal, located on the GRIC reservation approximately. The GRIC would use the water for agricultural irrigation and in return, provide CAP water to the City by executing a water exchange contract and enrolling the exchange with the Arizona Department of Water Resources. The City would then sell the water to Arizona Water Company for treatment at AWC's planned Pinal Valley Water Treatment Plant or direct delivery of untreated CAP to industrial or irrigation users within Casa Grande. The GRIC currently has two such effluent CAP water exchanges in place. The City of Mesa contract allows Mesa to deliver a maximum of 29,400 AF/YR of effluent in exchange for 23,520 AF/YR of CAP water. The City of Chandler also exchanges effluent with the GRIC. In these exchanges, the cities receive 4 acre-feet of CAP water for every 5 acre-feet of effluent provided to GRIC.

4.8.1 Cost Estimates

The estimated cost of the facilities required to implement the exchange include:

Pipeline	$12.2 million
Pump Station	2.2
Total Capital Cost	$14.4 million

Pumping Operation and Maintenance Cost $40/AF

CAP water for the purposes of this analysis is valued in terms of the estimated cost to acquire main-stem Colorado River water rights at $2,000 per AF, plus the cost to wheel the water through the CAP system (CAP capital charges, OM&R, and pumping costs).

In addition, the annualized capital and O&M cost of treating the CAP exchange water at an expansion of AWC's planned Pinal Valley WTP must be included in the analysis, even though it is not a direct cost to the City. This cost is estimated at approximately $500/AF ($100 per AF operation and maintenance costs; and $400/AF annualized capital cost based on 50 percent of the per AF capital cost of Phase I of the Pinal Valley WTP of $75 million for 10 MGD capacity plant).

4.8.2 Advantages (Pros) and Disadvantages (Cons) of Alternative

Pros

- Providing additional surface water source to the service area will directly offset future groundwater pumping and results in greatest hydrologic benefit.
- No permitting issues/uncertainties associated with recharge alternatives.
- As the cost of Colorado River supplies increases, cost per acre-foot for this alternative becomes more competitive with other alternatives.

Cons

- Dependent on successful completion of surface water treatment plant to implement.
- May require lengthy negotiations to execute exchange and water sale to AWC.
- High per acre-foot cost when cost of potable water treatment considered.

4.9 Alternative 9: Dual Distribution System (Purple Pipe System) to Deliver Effluent to Individual Residences for Outdoor Irrigation Use

Effluent delivery to individual residences for outdoor irrigation uses is not a common practice in Arizona or other western states. Deliveries to large turf irrigation customers and groundwater recharge are generally the most cost-effective water reuse strategies. However, the costs and benefits of providing reclaimed water to all customers in new subdivisions was evaluated and presented here for comparison to other alternatives.

Post Ranch, a 640-acre development located at east of Overfield Road and south of Florence Boulevard, was selected as a fairly typical new subdivision for which to evaluate this alternative. Post Ranch was not selected because of its geographical location. Location of a subdivision had no bearing on this analysis because only the costs of reclaimed water mains within the development were included. Capital and annual operation and maintenance costs were developed for a complete dual distribution system designed to deliver effluent to large turf users, common area landscaping tracks and each of 1,655 individual residences within the development. It is estimated that a dual

distribution system for the development would enable direct use of a maximum of approximately 420 acre-feet of effluent annually if all homeowners used effluent exclusively for outdoor irrigation uses. This figure is based on ADWR Third Management Plan outdoor residential use target of 131 gallons per housing unit per day for new development and 4.8 AF/AC for common area landscaping and parks and schools. The annual projected effluent demands break out as follows:

Park	30 AF
School	30 AF
Open Space	122 AF
Residences	238 AF
Total	420 AF

This level of use is considered optimistic, as some homeowners can be expected to prefer using potable water due to its higher quality and due to perception issues related to reclaimed water. Maps showing the potential reclaimed water system for Post Ranch are found in Appendix 3.

4.9.1 Cost Estimates

The costs for a complete dual reclaimed water distribution system for the Post Ranch development would require the following estimated capital expenditures, in addition to the costs of the potable water system for the development.

Reclaimed Water Mains (93,000 ft of 8,6,and 4-inch)	$4.8 million
Reclaimed Water Pump Station	1.5
Reclaimed Water Services and backflow preventers	1.8
Total Estimated Capital Cost	$8.1 million

In addition to relatively high capital costs for only 420 AF/YR of effluent use, significant annual operation and maintenance costs for the effluent distribution system within the development must also be considered. These cost estimates include:

Annual RP Backflow test ($50 per test)	$ 83,000
Service replacements (12 @ $2,500)	270,000
Valve maintenance	154,000
Meter reading (monthly)	23,000
Blue Stake	12,000
Meter Change outs	5,000
Annual pumping cost/pump maintenance	50,000
Total Estimated Annual O&M Cost	$597,000

Note: (Cost estimates provided by Arizona Water Company)

4.9.2 Advantages (Pros) and Disadvantages (Cons) of Alternative

Pros

- Maximizes direct use of effluent

Cons

- Very high capital and annual operation and maintenance cost per AF compared to other alternatives
- Potential health concerns with unregulated misuse of reclaimed water at individual residences.
- Difficulties in enforcing backflow prevention practices at residences and potential for cross-connection and contamination of potable water system.
- Availability of effluent throughout development at a lower unit cost than potable water could promote the establishment of high landscape water demands.
- Potable water unit rates for consumers may increase significantly because annual potable water sales would decrease significantly but overall cost to potable system capital and maintenance costs would not decrease significantly.

4.10 Alternative 10: Interim Direct Delivery of Effluent to Individual Farms

Effluent could be delivered to individual farms located along pipelines that would be constructed to deliver water to either constructed recharge facilities, groundwater savings facilities, or to supply other direct users. This alternative is considered to be an incidental interim use because the farms located closest to the Kortsen Road WRP will likely be urbanized within the next 10-15 years. No cost estimate is provided for this alternative due to the individual nature of each agricultural grower's situation. However, costs should be minimal when the farmland is located adjacent or near planned effluent pipelines. The additional infrastructure needs would consist of installing valve and metering stations, and a pressure reduction valve to enable discharge to the farm's irrigation ditch network. It is recommended that the potential for agricultural deliveries of this type be evaluated during detailed project engineering for selected reuse project alternatives.

4.11 Alternative 11: Provide Effluent to Contractors for Use as Construction Water and for Dust Control

Class A+ effluent is suitable for use in construction for ground settling, dust control and other activities. The City could construct stations for filling of water trucks. The City of Flagstaff currently maintains four such water stations. Stations could be established at the WRP plant site and at strategic locations along the alignment of any effluent distribution system constructed to deliver water to either recharge facilities or to supply direct irrigation users. One potential constraint for general contractors using reclaimed water for dust control is that water trucks may not be used for potable water use unless disinfected using approved methods. While construction water and dust control water

use are not a large use currently (approximately 50 AF/YR), dust control issues in Pinal County are increasing, and water for dust control is likely to be a growing need. One additional benefit of providing effluent for dust control is encouraging community attitudes regarding the importance of water conservation.

4.12 Alternative 12: Provide Effluent for Irrigation of Planned Linear Parks and Trail Corridors

The City's Trail System Master Plan was reviewed and evaluated for opportunities for reclaimed water use. The plan calls for the construction of a system of regional multi-use trails that will have landscape elements requiring irrigation water for desert-type trees and shrubs and perhaps turf.

"Linear Parks" are defined as 100' wide open-space corridors that include paved pathways, trails, native and constructed landscapes, rest areas, and other amenities. In some areas the parks may be as wide as ¼ mile. The Casa Grande Linear Park will run along the North Branch of the Santa Cruz Wash north of the Kortsen Road WRP, then south along Burris Road for several miles. This park could be served by potential effluent distribution mains along Burris Road or Thornton Road that deliver effluent to a future recharge facility at the Municipal Airport, and/or the main that delivers water to the turf users within the Desert Color development. In addition, a "Resource and Trail Park" that may have significant irrigation demands is planned along Burris Road at Camino Grande Road north of the WRP. There is also a major "Community Trail" corridor planned for almost the entire length of the Montgomery Road alignment within the municipal planning area. This trail could be provided effluent from mains constructed west to a future recharge facility and/or to deliver effluent to the Francisco Grande Resort.

It is recommended that the City's Planning and Parks and Recreation Departments be consulted during future reclaimed water main planning activities to determine the timing of construction of trails and near-term and longer-term opportunities for reclaimed water use at these facilities.

4.13 Alternative 13: Multi-Use Groundwater Recharge Facility

Several cities in central Arizona have constructed multi-use groundwater recharge facilities that include spreading basin recharge facilities combined with features such as constructed wildlife habitat and recreational amenities like hiking trails, wildlife viewing platforms, picnic areas, fishing lakes, and educational kiosks and centers. The Town of Gilbert's Riparian Reserve is a prime example of a popular facility that is visited and enjoyed by tens of thousands of people each year. However, a spreading basin recharge facility that provides other benefits to the community in association with effluent recharge can go a long way to facilitate acceptance by the local community. No cost/benefit analysis is provided for this type of facility because projects of this nature can include any combination of facilities and resulting costs. However, multi-use projects are typically very expensive. As an example, the total construction budget for

the City of Chandler – Chandler Heights Recharge Project on 103 acres, exceeds $22 million (Source: City of Chandler Utilities Department). However, other City Departments are contributing a significant amount of capital funding toward the project.

4.14 Comparison of Effluent Use Alternatives

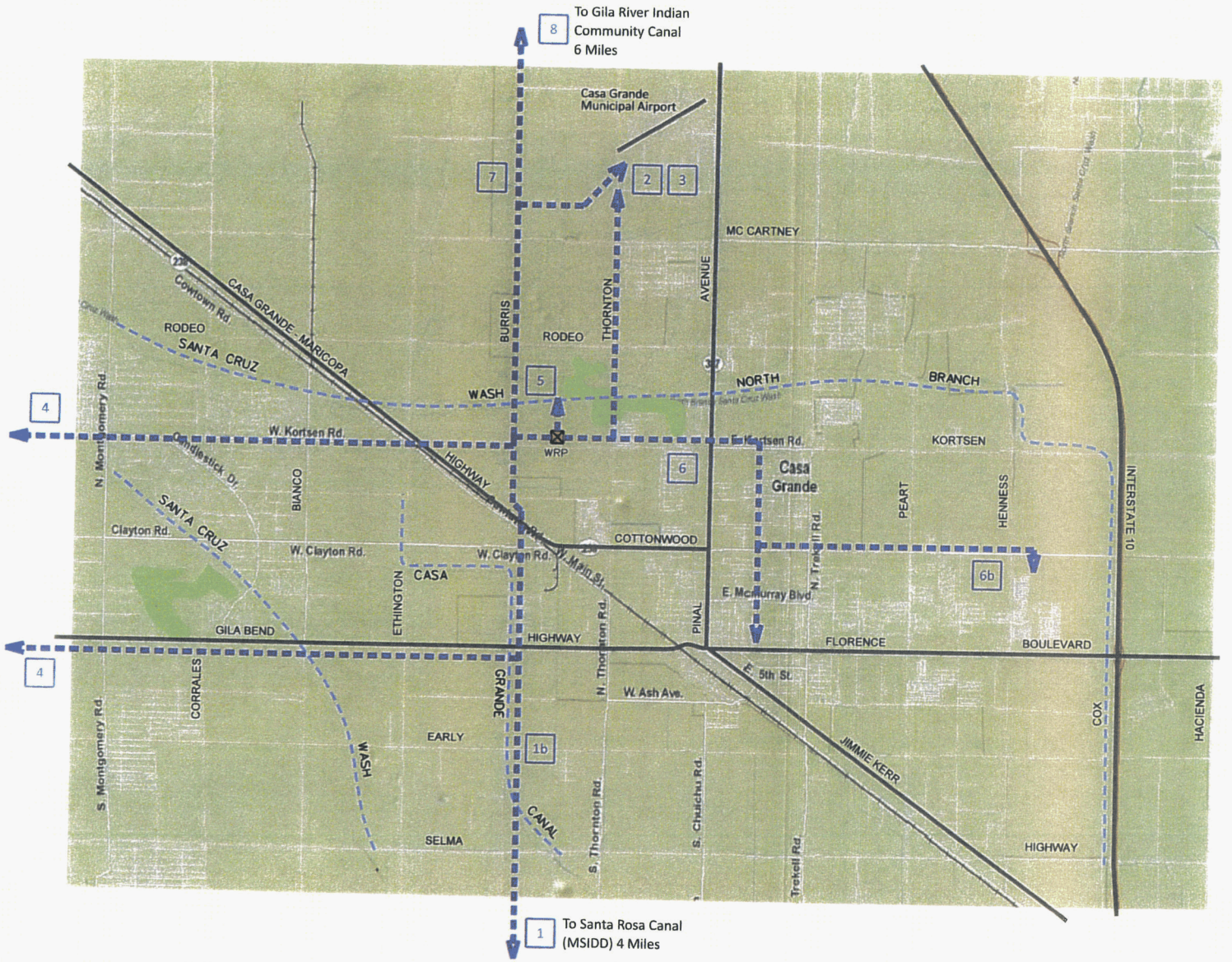
There are numerous effluent use alternatives available to the City of Casa Grande, each with different estimated costs, benefits, water resources and hydrologic benefits, and potential regulatory and institutional constraints. Table 4.4 summarizes these factors for each alternative. The estimated capital costs, O&M costs, potential revenues from the sale of effluent or long-term storage credits, and the annual net cost per acre-foot of water sold or recharged are provided. The hydrologic benefits to the local aquifer from which Arizona Water Company provides water to the City of Casa Grande are rated for each alternative on a scale of 1 to 3 (1 being greatest benefit). Finally, the potential institutional and regulatory constraints to implementation are rated from 1 to 3 (1 being the fewest constraints). Figure 4.2 shows the location of the various effluent use projects and pipeline alternatives.

Recharge/Water Exchange Alternatives

Cost/Benefit: The estimated capital costs of recharge alternatives vary widely, from $23.4 million for a spreading basin facility located west of Montgomery Road (Alt. 4) to only $0.4 million for a managed recharge facility in the Santa Cruz Wash (Alt. 5). After accounting for potential revenue for sale of long-term storage credits at $200/AF, the annualized cost per acre-foot of water recharged varies from $418 per acre-foot for injection wells located at the airport (Alt. 3) to a negative $171 per acre-foot (net benefit) for a managed recharge facility in the Santa Cruz Wash (Alt. 5).

Providing effluent to the GRIC in exchange for CAP water is the most expensive of the recharge/exchange alternatives due to the added cost of treating the CAP water for potable use.

Hydrologic Benefit: Providing effluent to the GRIC in exchange for and direct use of CAP water by Arizona Water Company would provide the greatest hydrologic benefit of any alternative because it would directly offset groundwater pumping by AWC. From the perspective of hydrologic benefit to the aquifer, recharge at the airport should provide the greatest immediate benefit of the recharge alternatives because water would be recharged in an area closest to existing and planned potable water production well fields of Arizona Water Company and in an area where the perched aquifer conditions do not exist. Recharge carried out in facilities constructed west of Montgomery Road or in-lieu recharge done in the MSIDD or SCIDD GSF facilities would benefit the aquifer serving Casa Grande in a more indirect and long-term manner.



1"= 1 Mile

RECLAIMED WATER USE ALTERNATIVES

1. Pipeline to Santa Rosa Canal for Delivery to MSIDD GSF

1b. 16" Pipeline to Casa Grande Canal for Delivery to SCIDD GSF

2. Pipeline to Airport - Construct Vadose Zone Wells

3. Pipeline to Airport - Construct Injection Wells

4. Pipeline West to Montgomery Road - Construct Spreading Basins

5. Managed Recharge Facility in Santa Cruz Wash

6. Direct Delivery to Existing Parks and Schools (11 Users)

6b. Direct Delivery to Existing Parks, Schools, and Golf Courses (12 Users)

7. Direct Delivery to new Users (I.E. Desert Color)

8. Delivery to Gila River Indian Community in Exchange for CAP Water

MAP LEGEND

- Reclaimed Water Use Alternatives
- City of Casa Grande Water Reclamation Plant
- Potential Reclaimed Water Distribution Main

Reclaimed Water Use Alternatives

Figure 4.2

Institutional/Regulatory Issues: Alternative 2 - vadose zone wells located at the airport, has the fewest regulatory (permitting) and institutional constraints and uncertainties of the recharge alternatives. All other recharge or water exchange alternatives have more significant permitting, community issues, or institutional uncertainty associated with the projects.

Direct Use Alternatives

Cost/Benefits: Of the direct use alternatives studied, Alternative 9 – Dual Distribution System (Purple Pipe System) to deliver effluent to individual residences for outdoor irrigation use is by far the least favorable from a cost/benefit perspective. This alternative, with a net cost $3,068/AF, is approximately five to ten times more expensive than other direct use alternatives. Alternative 6 – Construction by the City of a distribution system to deliver effluent to 11 existing parks and schools, is the next least favorable from a cost/benefit perspective (net cost $538/AF). When a major golf course user is added to the system (Alternative 6b) the economics become more favorable, but the net cost is still $323/AF. Alternative 7 – Delivery to new users through a system constructed largely by developers and operated by the City would have a lower cost-benefit than Alternative 6b if a substantial part of the effluent delivery system is constructed by developers at their cost.

Institutional/Regulatory Issues:

Irrigation of large turf facilities using effluent is a common practice in Arizona and other states. However, constructing an effluent distribution system to existing parks and schools in central Casa Grande was rated as having the greatest potential for institutional constraints to implementation. These issues include: traffic disruption during construction, water pricing challenges to implementation, and relations issues in switching to reclaimed water. These issues are significantly less in relation to reclaimed water use on large turf facilities in new developments (golf courses, parks, and schools) at the inception of the development and should not deter implementation of direct use for large turf facility irrigation in new developments. Constructing a dual distribution system to deliver effluent to all homeowners was also rated a having the greatest potential for regulatory issues related to potential misuse of water by homeowners and cross-connection potential with the potable system.

Table 4.4
Comparison of Effluent Use Alternatives

Effluent Use Strategy	Total Capital Cost ($mil)	Pipe Cost ($mil)	Pump Station Cost ($mil)	Other Cost ($mil)	Rech. Facil. Cost ($mil)	Annual O&M Cost	GSF Water Sale Revenue	Total Annual Cost per AF (1)	Cost/AF after Sale or Exchange (4)	Hydro. Benefit (2)	Instit. Regul. Issues (3)
(1) Pipeline to Santa Rosa Canal for Delivery to MSIDD GSF	**$13.3**	$11.1	$2.2	$0.0	$0.0	$440,000	$220,000	$141	**-$59**	3	3
(1b) 16" Pipeline to Casa Grande Canal for Delivery to SCIDD GSF	**$5.0**	$3.2	$1.8	$0.0	$0.0	$220,000	$110,000	$110	**-$90**	3	3
(2) Pipeline to Airport - Construct Vadose Zone Wells	**$17.8**	$5.0	$2.2	$0.0	$10.6	$540,000	$0	$211	**$11**	1	1
(3) Pipeline to Airport - Construct Injection Wells	**$21.3**	$5.0	$2.2	$5.0	$9.1	$2,465,000	$0	$418	**$218**	1	2
(4) Pipeline West to Montgomery Rd. - Construct Spreading Basins	**$23.4**	$6.6	$2.2	$5.8	$8.8	$540,000	$0	$262	**$62**	2	1
(5) Managed Recharge Facility in Santa Cruz Wash	**$0.3**	$0.0	$0.0	$0.3	$0.0	$100,000	$0	$29	**-$171**	2	2
(6) Direct Delivery to Existing Parks, Schools (11 users)	**$3.2**	$1.7	$1.0	$0.5	$0.0	$50,000	$0	$701	**$538**	1	3
(6b) Direct Delivery to Existing Parks , Schools, Golf C.(12 User)	**$4.8**	$2.6	$1.5	$0.7	$0.0	$60,000	$0	$486	**$323**	1	3
(7) Direct Delivery to New Users (e.g. Desert Color) (8)	**NA**	NA	NA	NA	$0.0	$60,000	$0	$486	**$323**	1	1
(8) Delivery to GRIC in Exchange for CAP Water (6)	**$16.6**	$14.4	$2.2	$0.0	$0.0	$440,000	$0	$191	**$266**	1	3
(9) Dual Distribution System for use at Individual Residences (7)	**$8.1**	$4.9	$1.5	$1.8	$0.0	$597,000	$0	$3,350	**$3,187**	1	3

Notes

(1) Cost less revenue derived from delivery to facility
(2) Hydrologic benefits based on location of recharge in relation to current and projected areas of groundwater declines - 1 = greatest benefit
(3) Institutional and regulatory constraints - 1 = fewest potential constraints to implementation
(4) Assumptions: Long-term Storage Credit value$200/AF, direct delivery price $0.50/1000 gal ($163/AF), CAP exchange water value $425/AF based on $2,000/AF cost to purchase Colorado R. rights and additional cost to wheel through CAP system
(5) Capital costs assumed amortized over 20 years at 6% interest.
(6) Includes annualized capital and O&M cost of water treatment plant expansion
(7) For delivery of 420 AF/YR effluent to 1624 homes and large turf areas in Post Ranch Development
(8) General capital costs based on those developed for alternative 6b

Chapter 5 – Recommended Reclaimed Water Use Action Plan

5.0 Overall Recommendations

As described in Chapter 2, most municipalities and many private wastewater providers in Arizona use a combination of direct and indirect effluent use strategies to achieve full or near-full beneficial reuse of effluent. Based on the analysis of alternatives for the City of Casa Grande presented in Chapter 4, several viable effluent use alternatives exist that, if implemented, could achieve full use of projected effluent volumes while providing long-term water management benefits to the area and financial benefits to the City.

This chapter provides recommendations regarding the alternatives that appear the most favorable for further evaluation, including a recommended action plan for implementation of selected alternatives. A combination of direct effluent use alternatives and recharge project implementation is recommended. Recommendations are divided into Near-term (2008-2010) and Long-term (2011-2015).

5.1 Near-Term Action Plan (2008-2010)

The following are actions recommended in the 2008-2010 period:

1) Pursue permitting in 2008-09 of a managed underground storage facility (USF) in the North Branch Santa Cruz Wash as an interim, low-cost recharge solution.

2) Begin discussion as soon as possible with the Central Arizona Groundwater Replenishment District (CAGRD) leading to a Memorandum of Understanding regarding a long-term agreement for sale of long-term storage credits to CAGRD.

3) Implement a policy/ordinance requiring new golf courses and large turf facilities in new developments (where cost-effective) to be irrigated with reclaimed water. Require developers to construct the necessary reclaimed water infrastructure, for ownership and operation by the City. As part of this policy, develop a standard effluent pricing structure for all future customers.

4) Consider contributing capital toward over-sizing of effluent transmission mains and pump stations constructed by developers. Over-sizing would facilitate development of a back-bone system capable of delivering effluent to new developments located north, west, and south of the Kortsen Road WRP.

5) Evaluate the Burris Road alignment south and Highway 84 west for sizing and construction of a back-bone effluent transmission main to deliver effluent potentially to: Francisco Grande Resort, a constructed recharge facility west of the resort, in-lieu water to SCIDD and MSIDD canals, and deliveries to other large turf users in new developments (e.g. the Legends golf course).

6) Pursue studies leading to the implementation of a 10 MGD capacity constructed underground storage facility located at either the Airport (using vadose zone wells) or west of Montgomery Road (either spreading basins or vadose zone wells). As a first step, conduct detailed hydrogeologic studies, to include conducting ring infiltrometer tests, and drilling shallow and deep test holes at the Airport and at selected areas west of Montgomery Road (west of Francisco Grande Resort) to evaluate recharge potential at selected locations.

7) Meet with representatives of the Maricopa Stanfield Irrigation District (MSIDD), the Central Arizona Irrigation and Drainage District (CAIDD), and the San Carlos Irrigation and Drainage District (SCIDD) to evaluate the potential quantity of effluent that could be delivered as in-lieu water to the Groundwater Savings Facilities operated by those entities.

8) Consider contributing capital to over-size the Burris Road effluent main to be constructed by the Desert Color development to enable effluent deliveries to a future airport recharge facility, other direct users, or to a potential effluent/CAP water exchange with the GRIC.

9) Initiate discussions with the Central Arizona Groundwater Replenishment District (CAGRD) leading to an agreement in 2008 involving effluent sales to CAGRD and some form of CAGRD financial, technical or operations involvement in a Managed and/or Constructed Underground Storage Facility.

10) Based on the results of the hydrogeologic studies and effluent pipeline studies, develop a 6-year water reclamation capital improvement program budget for the 2010-2015 period.

11) Based on the CIP budget, implement a Water Reclamation Development Impact Fee to new development to be used in funding the capital needs of the projects selected for implementation.

12) Negotiate a Memorandum of Understanding with Arizona Water Company (AWC) regarding: 1) AWC's future operation and maintenance of City-owned reclaimed water distribution and recharge facilities, and 2) Cooperation regarding future planning activities designed to maximize the beneficial use of reclaimed water.

13) Evaluate the potential to use El Paso Natural Gas Company's abandoned 12" steel gas pipeline in the Burris Road alignment as an interim conveyance method for effluent. This pipeline extends both north and south from Kortsen Road for several miles.

5.1.1 Studies Needed to Facilitate Implementation of 2008-2010 Action Plan Recommendations

1) Hydrogeologic modeling study and permitting assistance to implement a managed underground storage facility in the North Branch of the Santa Cruz Wash (Estimated Budget: $20,000 to $30,000).

2) Hydrogeologic testing program (including test drilling) to evaluate the viability of two recharge facility locations: the Municipal Airport and an area west of the Francisco Grande Resort (Estimated Budget: $175,000 to $200,000).

3) Reclaimed water distribution system planning study to develop a back-bone distribution system plan to serve turf facilities in new developments, planned linear parks and trail corridors, and deliver water to planned recharge facilities and selected irrigation and industrial users (Estimated Cost: $50,000 to $75,000).

4) Conduct a consultant or in-house study to develop a water reclamation impact fee component as part of the sewer develop impact fee (Estimated cost: $30,000 to $50,000).

5.2 Long-term Action Plan (2011-2015)

The following are actions recommended in the 2011-2020 period:

1) By 2014, construct a 10 MGD capacity recharge facility at either the Airport location or a location west of Montgomery Road. Depending on the growth rate of effluent production over the 2008-2014 period and the growth of direct use customers, construction of the recharge facility capacity could be phased.

2) Construct the first phase of a back-bone reclaimed water transmission system to deliver water to new large turf users, linear parks, industrial users, and recharge facilities.

3) Evaluate the feasibility, costs, and benefits of reducing the size of the existing 120-acre effluent holding pond to reduce evaporation losses and increase the availability of effluent for direct deliveries and underground storage. For example, downsizing the ponds to 20 acres would reduce annual evaporation losses by approximately 500 AF/YR. If sold at $200/AF, this would generate an additional $100,000 per year in revenue. Downsizing the ponds could also free up land for the construction of future treatment plant expansions beyond the Phase III expansion capacity of 12 MGD.

4) Develop additional direct and indirect reclaimed water use plans to enable beneficial use of all additional effluent flows projected through buildout.

Plans should be based on the assumption that additional discharges to the Santa Cruz Wash beyond current AZPDES permit limitations of 6 MGD may not be possible in the future, except under emergency conditions.

Chapter 6 – Water Reclamation System Funding Alternatives

6.0 Overview

Construction of a major reclaimed water distribution system and groundwater recharge facilities to achieve full use of available effluent will require significant capital resources over the next 5-6 years. The cost estimates for the reuse alternatives studied indicate potential costs in the range of $20 million to $30 million over the next 6 years. This Chapter summarizes alternative mechanisms for funding the planning, design, and construction of reclaimed water distribution facilities. The alternatives discussed here include:

- Development Impact Fees
- Wastewater Rate Increases
- Developer-Construction of Facilities
- Developer Contributions toward the City-constructed Facilities
- Central Arizona Groundwater Replenishment District (CAGRD) contributions to funding facilities in association with an effluent purchase contract

6.1 Development Impact Fees

The City currently collects a sewer development impact fee of $4,116 per unit for a ¾" water meter and $6,914 for a 1" water meter. The sewer fee levels were increased in September, 2007, primarily in the Collection category. Proportionally higher fees are charged for multi-family and commercial developments purchasing larger meter sizes. The total fee is partitioned into the following categories comprising the indicated percentage of the total fee: Treatment (37.2%), Collection (59.96 %), Equipment (2.7%), and Studies (0.04%). In calendar year 2007, approximately $3.85 million in sewer impact fees were collected. Of that total, $2.4 million (62.3%) was related to single family residential permits and $1.45 million (37.7%) was related to commercial impact fees. These totals reflect the lower sewer impact fees that were in effect for most of 2007 and are based on 1005 single family permits issued in 2007. Approximately 71 commercial permits and 1 public building permit were issued.

A potential means of funding the study, design, and construction of reclaimed water facilities would be to implement a "Water Reclamation" category to the existing sewer development fee. This section presents a high-level analysis to evaluate how much the sewer impact fee would potentially need to be increased to fund some of the alternative projects identified in this plan. The following assumptions provide the basis of the "what-if" analysis:

- Potential capital needs of $30 million over the 2010 to 2015 period. This figure might potentially include the cost of some or all of the following facilities: 1) one major 10 MGD recharge facility, 2) a managed recharge facility in the Santa Cruz Wash, 3) a 10 MGD reclaimed water pumping station and

transmission main, and 4) some participation in over-sizing of reclaimed water mains constructed by developers.

- A return to an average new single family home construction rate of 2,000 units per year that contribute impact fees.
- Additional commercial impact fees revenues at recent historical percentages of residential impact fees.

Based on the above distribution of single family unit versus commercial unit sewer impact fees collected in 2007, implementing a water reclamation impact fee at various levels would result in the estimated annual revenues shown in the Table 6.1 below.

Table 6.1
Potential Annual Water Reclamation Impact Fee Revenues

Potential SF Unit Recl. Fee	Potential Revenue SF Units	Potential Revenue Com. Units	Total Potential Revenue
$250	$500,000	$302,000	$802,000
$500	$1,000,000	$604,000	$1,604,000
$750	$1,500,000	$906,000	$2,406,000
$1,000	$2,000,000	$1,208,000	$3,208,000
$1,500	$3,000,000	$1,812,000	$4,812,000

For example, annual fee revenues of $2.4 million could, in theory, pay for the annual debt service on approximately $24 million in capital improvements related to a new water reclamation program, if projects are financed over 20 years at approximately a 6 percent interest rate.

6.2 Central Arizona Groundwater Replenishment District (CAGRD) Funding

The Central Arizona Groundwater Replenishment District (CAGRD) has expressed a desire to purchase effluent from the City and other operators of wastewater treatment plants to meet its Plan of Operation targets for acquiring long-term water supplies. The Plan of Operation currently identifies replenishment obligations of approximately 11,000 AF/YR by the year 2020 in the Pinal AMA. However, with recent changes to the state's Pinal AMA Assured Water Supply Rules, it is anticipated that more developments within the AMA will need to enroll in the CAGRD, thereby increasing the long-term replenishment obligations well beyond 11,000 AF/YR.

A meeting was held with Mr. Cliff Neal and Mr. Tom Harbour of the CAGRD on January 23, 2008 to discuss the CAGRD's interest in pursuing an agreement with the City of Casa Grande regarding purchase of effluent or purchase of long-term storage credits. Several topics and alternatives for cooperation between the City and CAGRD were discussed, including:

- CAGRD's long-term water needs in Casa Grande and Pinal County

- Projected effluent available for recharge from Korsten Road WRP (and current uses).
- Potential for CAGRD to provide up-front funding for design and construction of reclaimed water conveyance distribution and recharge facilities in return for a 100-year commitment by the City to provide a specific volume of credits annually.
- Interest and ability for CAGRD to provide staff expertise related to design and construction of facilities.
- Potential ownership and operation of recharge facilities by CAGRD.
- Potential joint ownership of recharge facilities.

6.2.1 Meeting Outcomes and Conclusions Regarding Most Feasible CAGRD-City of Casa Grande Partnering Opportunities

Based on the discussion at the meeting, the following are recommendations regarding the most feasible framework for an agreement with CAGRD.

- The CAGRD need for long-term water supplies exceeds the amount of effluent projected to be available for recharge through the year 2015. CAGRD would be interested in purchasing as much storage credit as could be produced at a 10 MGD Casa Grande recharge facility.
- CAGRD would prefer to enter into a long-term contract with the City for purchase of storage credits generated at City-owned and operated facilities. For meeting ADWR assured water supply criteria, CAGRD would prefer a contractual commitment of 100-years.
- In return for a long-term commitment, CAGRD is prepared to discuss providing a significant up-front capacity payment for each acre-foot of effluent storage credit provided. In addition, an annual charge for each acre-foot of water recharged would be paid by CAGRD to the City (i.e. an operation and maintenance charge).
- If an agreement can be reached, CAGRD may be willing to provide technical assistance to the City in the pre-design study, design and permitting phases of bringing a recharge facility on-line.
- It will take 4-5 years to design and construct a constructed recharge facility, when all pre-design studies, land acquisition, design, permitting, and construction are considered. It was discussed that a first step to take to begin recharging effluent as soon as possible (within the next 18 months) would be to implement a Managed facility in the North Branch of the Santa Cruz Wash. This could enable CAGRD to begin purchasing storage credits and make an initial capital contribution toward implementing the Managed facility and potentially toward the planned constructed recharge facility.
- Though not discussed with CAGRD at the meeting, it is recommended the City require that any storage credits sold be reserved by CAGRD to meet groundwater replenishment obligations of developments within the City of Casa Grande.

Potential Revenue Generation

If a contract for 1,000 acre-feet/year of effluent storage credits were made to the CAGRD at a cost of $2,000 per acre-foot, this would generate $2 million in up-front funding to the City for design, permitting and construction of groundwater recharge facilities. This value was selected for this example because it approximates the current value per acre-foot of the 100-year CAP water leases secured by cities from the Gila River Indian Community (GRIC) as part of the GRIC Water Rights Settlement in 2006. Table 3.4 indicates that in 2008, approximately 2,644 AF of effluent will be available to deliver to an underground storage facility on an average annual basis. If this volume of effluent was delivered to a "Managed" USF in Santa Cruz Wash, approximately 925 AF of long-term effluent storage credits could be generated if 35 percent of the water discharged to the wash were counted as credits by ADWR.

In addition to paying a capital charge, CAGRD would pay an annual operation and maintenance fee for each acre-foot of water that generated a storage credit. This fee would be based on the annual cost to operate and maintain the effluent distribution system from the plant to the recharge site, plus the cost to operate and maintain the recharge facility (including permit maintenance, testing and regulatory reporting).

6.3 Wastewater Rate Increases

The potential impact on wastewater rates (or user fees) of funding the capital and operation and maintenance costs of an effluent distribution system and recharge facility was investigated. The following data for 2007 was used in this analysis, provided by the City of Casa Grande Finance Department:

- Total residential sewer connections – 12,209
- Total commercial sewer connections – 616
- Average residential monthly sewer bill - $11.68, which generates approximately $1.71 million per year in revenue.
- Assume annual inflation adjustment increases in sewer rates pay for other Departmental capital costs and operation cost increases.
- Assume average commercial sewer connection pays $50/month in user fees and generates $0.37 million per year in revenue.
- Total revenue collected in 2007 approximately $2.08 million

Conclusions

In order to potentially fund a $30 million water reclamation capital program ($3.0 million in potential debt service) solely with increases in user fees would require approximately a 150 percent increase in sewer fees. It is therefore doubtful that sewer rate increases are a feasible alternative to generate anywhere near the full capital revenue needs of the projects discussed in this plan. However, rate increases in the range of 10 to 15 percent could generate additional revenues in the range of $200,000 to $300,000 to pay for annual operation and maintenance costs of new reclaimed water distribution and recharge

facilities. In addition, the annual sale of long-term storage credits to the CAGRD, developers, or water providers should generate enough revenue to cover operation and maintenance costs and could be priced to generate a net positive cash flow for the City.

Sale of effluent for direct irrigation uses to large turf areas could also generate significant additional annual revenues for the City. For example, at the current price of $163/AF charged to the SRP's Desert Basin power plant, sale of each additional 1,000 AF/YR of effluent would generate $163,000 per year and pay for a significant portion of the projected annual O&M cost of a reclaimed water distribution system. It may be possible in the future to increase the rate charged for direct sale of effluent. While each city's situation is unique, several cities in central Arizona currently sell effluent at rates that are significantly higher than $163/AF, some as high as $500/AF to $600/AF.

6.4 Developer-Constructed Facilities and Developer Contributions to City Constructed Effluent Transmission Facilities

6.4.1 Developer-Constructed Facilities

Several cities having extensive effluent distribution networks require new developments containing golf courses, parks, schools, or common areas exceeding a certain acreage of turf to install the effluent distribution mains to the turf areas at the developer's cost (usually 12" and smaller mains) from the city's backbone effluent distribution system. This policy allows the reclaimed mains to be installed at the time the development installs streets, potable water, and sewer mains and avoids later disruptions. The city's capital improvement program is then responsible for paying only for the pumping, storage, and larger transmission mains.

Some developers of large master planned communities having extensive reclaimed water demands may wish to develop in advance of the City of Casa Grande's CIP program schedule for constructing large effluent transmission mains into the area. In such a case, the City may wish to contribute funding through a development agreement toward the developer's construction of the main to "over-size" the pipe above the developer's needs to provide for planned future regional needs. This can be a cost-effective way of building a system over time. Another variation of this approach is to have the developer pay up-front for the full cost of the larger pipe and receive payback through credits on the water reclamation impact fee (assuming there is a fee in place).

6.4.2 Developer Contributions Toward City-Constructed Facilities

This approach has been used in Scottsdale, where 22 golf courses receiving effluent from the city's system were required to contribute an up-front proportional share of the capital cost of the system (per MGD of delivery capacity). In addition, developers were required to build their own connecting main. This approach is well-suited where a few large users are the primary customers of the system.

6.5 Funding Options – Conclusions and Recommendations

There are several feasible alternatives available to the City of Casa Grande to fund the construction and operation of new reclaimed water use projects. Use of a combination of the approaches discussed in this chapter is recommended. It is recommended that the City consider implementing some combination of the following funding approaches:

- After developing a 6-year water reclamation capital improvement program budget, implement a water reclamation impact fee component to the existing sewer impact fee to fund reclamation program capital needs.
- Enter into discussions with the Central Arizona Groundwater Replenishment District toward a Memorandum of Understanding involving an up-front capital contribution from CAGRD in return for a long-term commitment for sale of long-term storage credits.
- Consider future sewer rate increases to pay for annual water reclamation operation and maintenance costs that cannot be covered by annual revenues from sale of effluent and long-term storage credits to users.
- Consider increasing the rates charged for direct effluent sales in the future, within the constraints of current contracts.
- In the future, when the City's backbone effluent transmission system has been planned, implement an ordinance requiring developers of large turf facilities to construct and dedicate smaller diameter mains to connect to the City' system.
- Consider City financial participation in developer-constructed pipelines.

Chapter 7 - Framework for City of Casa Grande-Arizona Water Company Memorandum of Understanding (MOU)

7.1 Overview

The City of Casa Grande (the "City") currently does not operate pressurized water delivery systems within the City. That responsibility has been carried out for many years by Arizona Water Company ("AWC"). In addition to operating its Casa Grande water system, AWC operates the Coolidge, Arizona City, Apache Junction, Superior, Oracle, San Manuel, Stanfield and Tierra Grande water systems in Pinal County, as well as other systems in 7 other counties in Arizona. Both entities recognize the importance of maximizing the beneficial use of effluent as a component of meeting projected long-term water resources needs within the Pinal Active Management Area. Toward that goal, the City staff and AWC have agreed to explore feasible alternatives for a formal Memorandum of Understanding with the overall objective of maximizing the cost-effective, beneficial use of effluent produced at the Kortsen Road WRP. This chapter describes several alternatives regarding how the entities might work together to share responsibilities and create synergies that serve to promote cost-effective effluent use opportunities. Discussion is provided regarding a potential framework for the MOU that would lay out the responsibilities of the two entities with respect to:

- Planning of reclaimed water use facilities
- Design and permitting of facilities
- Construction Management
- Operation and maintenance of facilities
- System funding and ownership
- Effluent pricing strategies
- Establishing service to new effluent customers

7.2 Planning Activities for Reclaimed Water Use Programs

Both entities have a vested interest in developing programs and policies that maximize effluent use within the City of Casa Grande and the Pinal AMA. AWC recently conducted a water resources planning study for its Pinal Valley water service areas that identifies that even with total reuse of available effluent, additional renewable water resources will need to be secured to meet the build-out water needs of the area. This study underscores the importance of achieving full use of effluent. AWC's involvement in reclaimed water management planning is important to ensure that effluent groundwater recharge and recovery activities are carried out in locations that do the most to maintain water levels within the well fields from which AWC pumps groundwater to serve Casa Grande. In addition, recharge should be carried out in locations that do not negatively impact the water quality of AWC's groundwater wells.

For these reasons, it is appropriate that the MOU include a commitment from both entities for staff participation and cooperation in future reclaimed water use planning studies conducted by either entity.

7.3 Design and Permitting of Facilities

Cooperation by both entities in the design and permitting of reclaimed water distribution and recharge facilities is advantageous for the following reasons:

- Should AWC be the entity that operates and maintains facilities (discussed in section 7.5), effluent pumping stations and transmission facilities are designed in a manner consistent with AWC's current water distribution facilities. AWC participation in the design process will help ensure facilities can be operated and maintained without significant additional training of staff.
- Health regulations require that reclaimed water mains maintain a minimum of 6 feet of separation from potable water mains. AWC involvement in project design and construction management will ensure this is carried out.
- AWC has an Engineering Department experienced in the design and design review process for pump stations and pressurized water transmission systems.
- AWC is experienced in filing annual water use reports with the Arizona Department of Water Resources (ADWR). It therefore would be advantageous for AWC to be responsible for filing quarterly and annual ADWR reports on future recharge facilities, especially if AWC operates and maintains the facility.
- If AWC operates and maintains recharge facilities, AWC involvement in design of the facilities is appropriate to ensure seamless operations.

Therefore, the MOU could include requirements and commitments that the City and Arizona Water Company cooperate on reclaimed water facility design and permitting. A project design review committee could be established consisting of engineering staff of both entities. Both entities would commit to devote adequate staff to the design and permitting process.

7.4 Construction Management of Facilities

As in the case of engineering design and permitting, cooperation by both entities in construction management will be advantageous in constructing facilities capable of being operated and maintained in the most cost-effective way possible. For example, construction management of reclaimed water main projects bid by the City could be managed by Arizona Water Company under a contract with the City. Projects could also be jointly managed by the City and AWC. For major pipeline, pump stations, or recharge facilities, a third party construction management firm could be contracted with by either the City or AWC. Since each project is likely to have different construction management needs, it is recommended the MOU discuss several possible approaches and provide flexibility to respond to varying project needs.

7.5 Operation and Maintenance of Facilities – Meter Reading and Customer Billing

The City does not currently have staff experienced with the operation and maintenance of pressurized water delivery systems. If the City was to operate and maintain new

reclaimed water delivery and recharge facilities, it would be necessary for the City to hire a significant number of additional staff. In contrast, AWC currently has a staff in excess of 75 employees serving the operations, maintenance, and meter reading needs of its Casa Grande, Coolidge, Arizona City, Stanfield and Tierra Grande system alone. In addition, staff in the AWC Corporate Office in Phoenix carries out regulatory reporting (ADEQ, ADWR, and Arizona Corporation Commission) and billing activities. AWC staff is therefore well-positioned to provide for the cost-effective operation, maintenance, permit compliance, and billing needs of a future reclaimed water system serving the City of Casa Grande. AWC staff is experienced in the day-to-day activities required to operate and maintain a pressurized water system, including:

- Pump repair and maintenance
- Electrical and SCADA system maintenance
- Water line and service leak repair
- Water line valve exercise, repair, and maintenance
- Service and meter installation
- Backflow device maintenance and annual testing
- Meter reading
- Customer billing
- Regulatory reporting

AWC's long-term experience and significant local staffing capability to carry out these functions should enable AWC to provide cost-effective operation and maintenance of future reclaimed water systems serving the City. It is therefore recommended that the MOU explore as one option, a contractual framework under which AWC would provide a full range of services to operate and maintain future reclaimed water systems and provide effluent service to customers. Under this framework, the City would maintain ownership of the effluent, reclaimed water system and effluent storage credits. Under this contractual framework, AWC would bill effluent customers under rates established to encourage and promote effluent use, and accomplish the City's and AWC's goals of maximizing the cost-effective, beneficial use of effluent produced at the Kortsen Road WRP. Another option to be considered, of course, is for the City to design, own, operate and maintain all effluent facilities and provide effluent service to customers. As indicated earlier in this section, however, the City would need to hire a significant number of additional staff under this option. Under either option, however, the City could be able to apply the benefits of effluent storage credits to those customers to which long-term storage credits are sold (e.g. the CAGRD).

7.6 Reclaimed Water System Ownership

An important question to be addressed in the MOU is ownership of reclaimed water infrastructure and how the construction of the infrastructure is funded. Ownership and funding sources are interrelated issues. Three options for ownership of planned reclaimed water distribution and recharge facilities are: 1) Ownership, operation and maintenance of all reclaimed water and recharge facilities by AWC and sale of effluent to AWC by the City at the plant for delivery and sale to AWC's customers, 2) Ownership, operation and

maintenance of all reclaimed water and recharge facilities by the City with the City selling effluent to its customers; and 3) Ownership of all reclaimed water and recharge facilities by the City, with operation and maintenance of the reclaimed water and recharge facilities by AWC with effluent sales by AWC to its customers. Each option has advantages and disadvantages, and present separate issues that impact the feasibility of implementing each such option. It is recommended that the City and AWC meet and confer to establish the appropriate option to pursue.

Considerations that impact the feasibility of the three alternatives include:

1) Under existing zoning authority, the City has the ability to pass ordinances requiring reclaimed water use on large turf facilities in new developments. AWC could not independently require such reclaimed water use by its customers and would need to seek approval from the Arizona Corporation Commission for the appropriate effluent tariffs, including rate tariffs.

2) The City currently charges a significant sewer development impact fee to pay for new facilities construction. It is a logical extension to increase this fee to pay for water reclamation facilities construction because beneficial reuse of effluent will provide additional water resources for new development within the City.

3) The City currently has contracts with two major effluent users (SRP and Frito-Lay) and must meet those contractual obligations. Keeping ownership of the system would allow the City to plan for and secure the funding necessary regarding deliveries to new users and recharge facilities.

4) Ownership of the system by AWC would require AWC to obtain approval from the ACC of tariffs for reclaimed water user rates and connection fees to pay for the capital costs of the system. This option may increase the cost of effluent service, and discourage its use.

5) Reclaimed water rates must be priced below potable water rates in order to encourage or promote the use of reclaimed water. It is critical, therefore, that the primary source of funding will need to be developer contributions either in the form of: 1) impact or connection fees for all new homes, or 2) large financial contributions from developments containing large turf facilities such as golf courses, parks, schools, and common areas that are reclaimed water customers.

7.7 Potential Framework for a Memorandum of Understanding

The discussion of issues in this chapter provides a potential framework to begin discussion between the City of Casa Grande and Arizona Water Company regarding the negotiation of a Memorandum of Understanding that would include but not be limited to consideration and resolution of the following items:

1) Ownership of and capital funding of future reclaimed water delivery and recharge facilities.

2) Water reclamation facility operation and maintenance permit maintenance, meter reading and billing responsibilities.

3) Establishment of the sources of capital funding for system construction, including consideration of: a) Casa Grande impact fees, b) developer contributions to either Casa Grande or AWC, or c) Arizona Water Company connection fees per a new tariff approved by the ACC.

4) Establishment of appropriate reclaimed water rates and rates for sales of effluent storage credits.

5) A potential commitment from both entities for staff participation in future reclaimed water use planning studies conducted by either entity.

6) Potential cooperation and joint participation regarding reclaimed water facility design and permitting. It is recommended that a project design review committee be established consisting of engineering staff of both entities. Both entities would commit to devote adequate staff to the design and permitting process.

7) Potential Arizona Water Company involvement in construction management activities.

Appendices

Appendix 1 – Conceptual Level Facility Unit Cost Assumptions

Pipelines ($/ft) DIP

8"	$60
12"	$90
16"	$175
24"	$250

Pump Stations

1.5 MGD to 2.0 MGD	$1,500,000
4.0 MGD	$1,750,000
8.0 MGD	$2,000,000
12.0 MGD	$2,200,000

Recharge Facility Costs

Spreading Basin Facility

Land - @ $75,000 per acre
Design/Construction Cost per basin acre - $171,500/acre
(Based on actual cost of 4 CAP facilities inflated to 2008 $, Tonapah, Hieroglyphics Mtn., Agua Fria, Lower Santa Cruz)

Assume 1.2 ft/day percolation rate (conservative), assume half of basins out of service for drying, assume 1.5 basin area = total land need (accounts for buffers, access roads, berms)

Recharge Wells

Vadose Zone Wells (48" diameter, PVC casing and screen) – Assume 250-350 gpm capacity per well, assume maximum depth of 180 ft. Assume life of 7 years due to clogging. Note: Scottsdale wells still operational after 14 years (RO water). Minimum spacing recommended is 100 ft. between wells. (Source; Personal communication, Sheila Ehlers, HydroSystems, Inc.)

Estimated Costs

Well Construction cost	$125,000
Above ground, Electrical/SCADA	75,000
Engineering/Project Management	30,000
Total	$230,000

Retrofit of existing production wells for injection use	$500,000
New injection/ASR well	$1,300,000

Assume 1000 gpm/well

Well sites – 0.25 acres @ $75,000/acre

Test Borings

200' to 300' using hollow-stemmed auger	$5,000 per boring
Deeper borings to 1000' using mud rotary drill rig	$50,000 per boring

Appendix 2
Map of Recharge Areas Prioritized

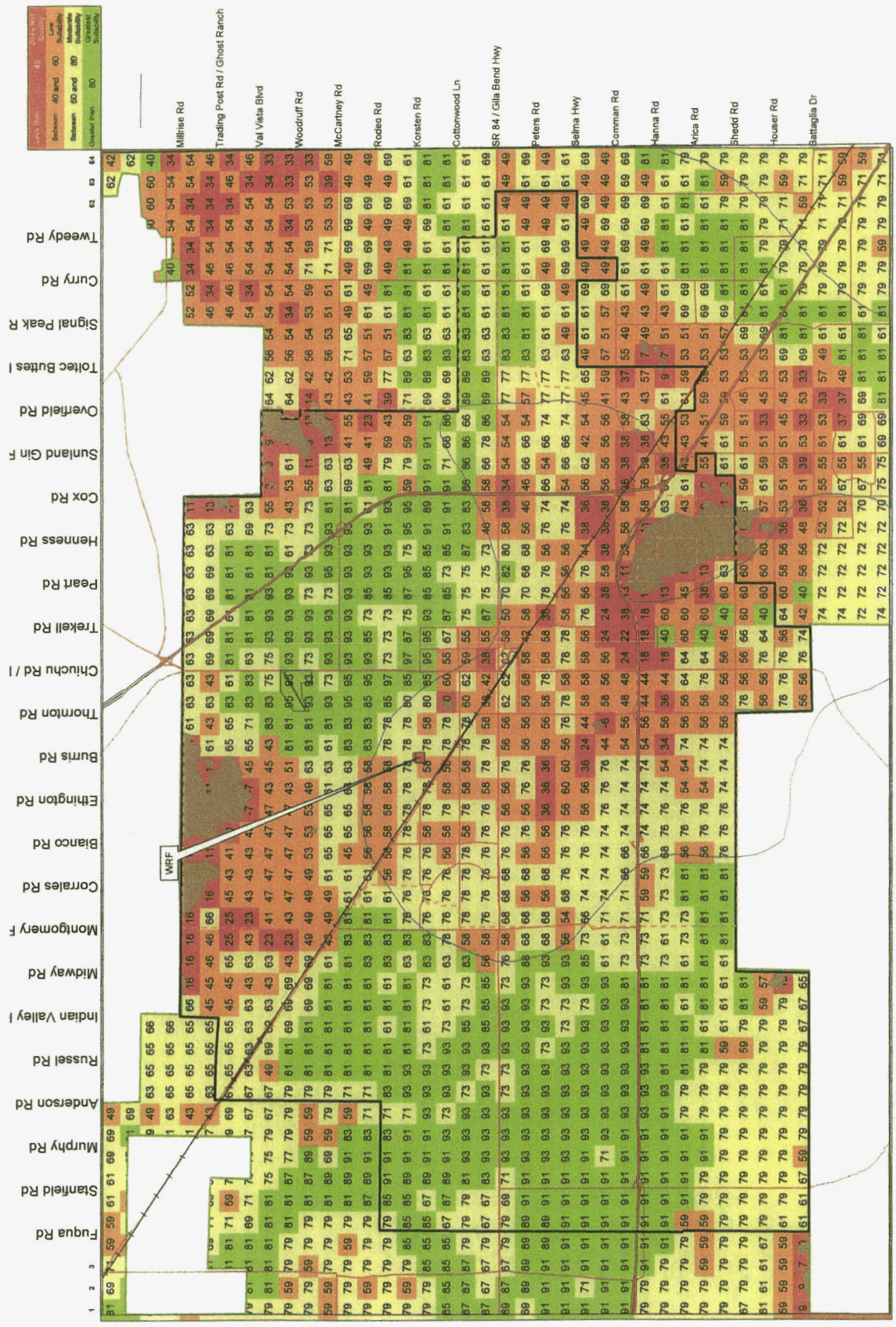


Figure 14
Prioritization Matrix
City of Casa Grande
Recharge Siting Matrix

November 8, 2007

CLEAR CREEK ASSOCIATES

1"= 600'

EFFLUENT PIPE TO EVERY HOME

16,743 LF of 8" C-900 PVC Main

26,004 LF of 6" C-900 PVC Main

50,000 LF of 4" C-900 PVC Main

Appendix 3
Map of Dual Distribution System
Post Ranch Development

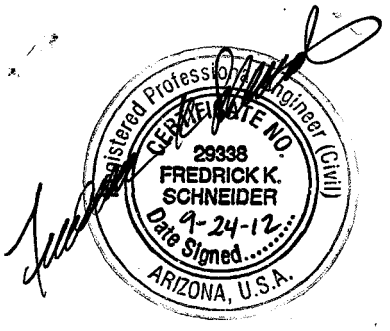
Effluent Pipe to Every Home

EXHIBIT 18

COPPER MOUNTAIN RANCH
RECLAIMED WATER MASTERPLAN

Prepared By: Arizona Water Company
3805 N. Black Canyon Highway
Phoenix, AZ 85015

Date: September 21, 2012



Exp 9-30-13

Table of Contents

Exp 9-30-13

1.0 Introduction and Purpose

Arizona Water Company (the "Company") is applying for Certificates of Convenience and Necessity ("CCN") extension to provide potable water service to the Copper Mountain Ranch development ("CMR"). As part of the application requirements the Arizona Corporation Commission (the "Commission") requires the Company to describe any plans for reclaimed water use within the CCN extension area. Currently, the use of reclaimed water is planned for irrigation of large turf areas, recreation centers and one 18-hole golf course within CMR.

The purpose of this report is to assess the reclaimed water needs and supply availability for CMR and to recommend infrastructure needed to provide reclaimed water to CMR.

2.0 Description of Copper Mountain Ranch

The CMR development is located within portions of Township 5 South, Ranges 5 and 6 East, between Highway 238 and Highway 387, northwest of downtown Casa Grande, Arizona (Figure 1).

The total area of CMR is approximately 3,500 acres and is predominantly developed as residential with some commercial and mixed use. At build out, the property will include approximately 13,000 residential units. In addition, a school site with fields and buildings, multiple recreational centers, community parks, and other large turf areas are planned for a total turf area of approximately 178 acres. Table 1 is a breakdown of the anticipated turf areas.

The CMR development will also include an 18-hole golf course; however, at the time of this analysis the developer has not determined the total area for the golf course. Section 3 further discusses identifies the plans for irrigation on the 18-hole golf course.

Table 1 – Turf Areas within CMR

Location	Area (Acres)
Commercial	20
Town Center	37.6
Community Parks	24
Recreational Facilities	16.8
School	58.4
Golf Clubhouse	20.8
TOTAL TURF AREA	**177.6***

*Does not include Golf Course

3.0 Reclaimed Water Demand Requirements

In March, 2008 a report titled *Reclaimed Water Use Conceptual Master Plan for the City of Casa Grande and the Arizona Water Company Pinal Valley Planning Area*, ("Reclaimed Water Masterplan") was prepared by Larson and Associates Water Resources Consulting for the City of Casa Grande ("City") and the Company. One objective of the Reclaimed Water

Masterplan was to analyze turf demands. Table 4.1 in Section 4.6 of the Reclaimed Water Masterplan outlined existing turf areas and water demands.

The Reclaimed Water Masterplan shows the average demand per acre of turf is approximately 4.8 acre-feet per year ("AFY") with a per acre peak of 0.011 million gallons per day ("MGD"). Comparing the per acre demand to the proposed turf areas planned for CMR the average reclaimed water demand is approximately 852 AFY, which is equivalent to 0.76 MGD, and a peak of 2 MGD. Table 3 shows the reclaimed water demands for the turf areas planned in CMR based on the demand per acre calculation determined from Table 2.

Table 2 – Reclaimed Water Demands of Turf Areas Planned for CMR

		Reclaimed Water Demands	
Location	**Area (Acres)**	**Average (AFY)**	**Peak (MGD)**
Commercial	20	96	0.22
Town Center	37.6	180	0.41
Community Parks	24	115	0.26
Recreational Facilities	16.8	81	0.18
School	58.4	280	0.64
Golf Clubhouse	20.8	100	0.23
TOTAL	**177.6***	**852***	**1.94***

*Does not include Golf Course

Proposed CMR Golf Course

The 18-hole golf course proposed for CMR is assumed to be designed similar to other desert, hillside golf courses in Pinal County and the State of Arizona. Three such golf courses and their associated demands were previously identified in the Reclaimed Water Masterplan and summarized in Table 3. Additionally, the Company also reviewed its 2011 annual report, prepared for the Arizona Department of Water Resources, summarizing deliveries to turf-related facilities for the Company's Apache Junction system. In this report there were three golf courses similar to the desert, hillside type golf course assumed for CMR. The annual demands for the three Apache Junction golf courses are also summarized in Table 3. Since this is an annual report of the total usage the peak demands were not presented; however, based on the Company's experience with desert and hillside type golf course, the peak demands for such golf courses are typically 1.0 to 1.3 MGD.

Table 3 – Summary of Desert-Type Golf Course Irrigation Demands

Golf Course Name	Reclaimed Water Demands	
	Average (AFY)	Peak (MGD)
Francisco Grande Golf Course	576	1.33
Palm Creek Golf Course	432	1.00
Mission Royale Golf Club	432	1.00
Gold Canyon Golf Resort*	943	1.0-1.3
Mountainbrook Golf Club*	538	1.0-1.3
Apache Creek Golf Course*	545	1.0-1.3
AVERAGE	**578**	**1.0-1.3**

*From 2011 Annual Report for turf-related deliveries in Apache Junction System

As previously stated the assumed design of the 18-hole golf course for CMR is a desert, hillside golf course similar to those presented in Table 3; therefore the demands are similar. For the purpose of this analysis a demand of 580 AFY, equivalent to 0.5 MGD, with a peak of 1.3 MGD is assumed for the CMR golf course.

The total estimated reclaimed water demands for CMR are 1.26 MGD; 0.76 MGD for the various turf areas within the development and 0.5 MGD for the proposed 18-hole golf course, with a peak of 3.3 MGD.

4.0 Reclaimed Water Supply Source

The City owns and operates the Kortsen Road Water Reclamation Plant ("Kortsen WRP") located in the vicinity of Kortsen Road and Burris Avenue. The Kortsen WRP is the nearest water reclamation plant to the CMR development. The Kortsen WRP was recently expanded to an average treatment capacity of 12 MGD with a peak treatment capacity of 19.8 MGD. In addition to the expansion, the effluent water quality level was upgraded to A+. Having A+ quality effluent means the water is available for a wide variety of direct irrigation uses, including food crops and residential landscaping.

According to the Reclaimed Water Masterplan the Kortsen WRP currently supplies reclaimed water to three major users. The users and their demands are shown in Table 4.

Table 4 – Current Users of Kortsen WRP Effluent and Associated Demands

Reclaimed Water Users	Demands (MGD)
Reliant Energy Desert Basin Power Plant (Salt River Project)	3.2
Frito-Lay Inc.	2.6
City's Municipal Golf Course	0.6
TOTAL	**6.4**

Based on the 12 MGD capacity of the Kortsen WRP there is a surplus of 5.6 MGD. Currently, this surplus is discharged into the North Branch of the Santa Cruz Wash for recharge purposes; however, there is not a minimum supply requirement for the wash. Therefore, this excess water is available for any new direct reclaimed water uses.

As determined in Chapter 4.0 above the total reclaimed water demand for CMR is estimated at 1.26 MGD, with a peak of 3.25 MGD, which is less than the surplus water available from the Kortsen WRP. Therefore, the Kortsen WRP is capable of supplying the average and peak CMR reclaimed water demands.

5.0 Infrastructure Requirements

The infrastructure required to supply effluent to CMR will consist of two booster pump stations, one booster pump station constructed at Kortsen WRP to supply the total reclaimed water demands and one smaller booster pump station providing supply for all turf areas, excluding the 18-hole golf course. Irrigation of the golf course will be provided by a private irrigation system which pumps water directly from the onsite lake(s).

The CMR is approximately 5 miles north of Kortsen WRP and an appropriately sized transmission main will discharge the majority of the effluent directly into a manmade lake for irrigation of the golf course. A distribution system, connected to the smaller booster pump station, will supply the remaining reclaimed water demands. This distribution system takes supply directly from the transmission main.

Similar to the potable water system described in the Reclaimed Water Masterplan the water mains are designed such that the velocities are a maximum of 5 feet per second ("fps") under peak conditions.

Using the continuity equation the diameter of the transmission mains and distribution mains are determined.

$$Q = VA$$

Where:
Q=Expected Reclaimed Water demands
V=Maximum velocity allowed (5 fps)
A=cross sectional area of a circular pipe $\left(\frac{\pi d^2}{4}\right)$

Using 3.3 MGD, equivalent to 5.10 cubic feet per second ("cfs"), for the transmission water mains the minimum diameter is 16-inches.

Using 2 MGD, or 3.09 cfs, for the distribution water mains the minimum diameter is 12-inches.

Figure 1 shows the Copper Mountain Ranch Reclaimed Water Plan.

6.0 Cost Estimates

Table 5 shows a preliminary construction cost estimate for the design and construction of a reclaimed water system for the CMR development.

Table 5 – Preliminary Construction Cost Estimate for Reclaimed Water System

Item	Description	Quantity	Units	Unit Cost	Total Cost
1	Large Booster Pump Station	2,000	gpm	$400	$800,000
2	Small Booster Pump Station	1,200	gpm	$400	$480,000
3	16" DIP Transmission Main	29,000	LF	$120	$3,480,000
4	12" DIP Distribution Main	7,920	LF	$100	$792,000
				SUB TOTAL	**$5,552,000**
				20% Design	$1,110,400
				20% Contingency	$1,110,400
				TOTAL	**$7,772,800**

7.0 Conclusion

The Company analyzed the reclaimed water demands, supply and infrastructure costs for the CMR development. The analysis shows there is sufficient supply at the City's Kortsen WRP to meet the reclaimed water demands of CMR. However, the infrastructure available to deliver reclaimed water to CMR does not currently exist. In order to provide reclaimed water to CMR construction of two booster pump stations and approximately 7 miles of transmission and distribution mains is required. The preliminary cost to construct this infrastructure is 7.8 million dollars. Based on this analysis the Company recommends constructing a reclaimed water system for irrigating the turf areas and golf course within CMR.

EXHIBIT 19

JANICE K. BREWER

Governor

HERBERT R. GUENTHER

Director

ARIZONA DEPARTMENT OF WATER RESOURCES

3550 North Central Avenue, Second Floor
PHOENIX, ARIZONA 85012-2105
(602) 771-8500

Via Certified Mail

December 24, 2009

Mr. William Garfield, President
Arizona Water Company
3805 North Black Canyon Highway
Phoenix, Arizona 85015

RE: Arizona Water Company Pinal Valley Water Service Area
Pinal County, Arizona (Pinal AMA)
Application for a Physical Availability Determination
ADWR #51-700444.0000

Dear Mr. Garfield:

The Department has completed its review of your application for a Physical Availability Determination for Arizona Water Company Pinal Valley Service Area. The Department received the application on November 15, 2007. The study area locations are within Township 4 South, Range 8 East, within portion of Section 36; Township 4 South, Range 9 East, Sections 31, 32, 33; Township 5 South, Range 5 East, and portions of Sections 13, 14, 15, 16, 21 to 28 inclusive, 33, 34, 35, 36; Township 5 South, Range 6 East, Sections 13 to 36; Township 5 South, Range 7 East, Sections 12, 13, 14, 23 to 36; Township 5 South, Range 8 East, Sections 1, 2, portions of 3, 5, 6, 7 to 36 inclusive; Township 5 South, Range 9 East, Sections 4 to 10 inclusive, 15 to 22 inclusive, 27 to 36 inclusive; Township 5 South, Range 10 East, Sections 31, 32 & 33; Township 6 South, Range 3 East, Sections 10 to 16 inclusive, 21 to 28 inclusive, 33, 34, 35 & 36; Township 6 South, Range 4 East, Sections 16 to 21 inclusive, 28 to 33 inclusive portion of Sec. 36; Township 6 South, Range 5 East, Sections 1, 2, 3, 4, portion of Sec. 5, 9 to 16 inclusive, east half of Sec. 17 and 20 to 36 inclusive; Township 6 South, Range 6 East, Sections 1 to 36; Township 6 South, Range 7 East, Sections 1 to 36 inclusive; Township 6 South, Range 8 East, Sections 1 to 24 inclusive, 29, 30, 31 & 32; Township 6 South, Range 9 East, Sections 1 to 24 inclusive; Township 6 South, Range 10 East, Sections 5, 6, 7, 8, 17, 18, 19 & 20; Township 7 South, Range 3 East, Sections 1, 2, 3, 10 to 15 inclusive, 22 to 27 inclusive, 34, 35 & 36; Township 7 South, Range 4 East, Sections 1 to 36 inclusive; Township 7 South, Range 5 East, Sections 1 to 24; Township 7 South, Range 6 East, Sections 1 to 36 inclusive; Township 7 South, Range 7 East, Sections 1 to 7 inclusive, north half of Sections 8, 18, 19, 30, 21 & 32; Township 7 South, Range 8 East, Sections 5 & 6; Township 8 South, Range 6 East, Sections 1, 2, 3, 4, 9 to 16 inclusive, 21, 22, 23 & 24; Township 8 South, Range 7 East, Sections 4 to 9 inclusive, 17, 18, 19 & 20 and GSR B&M in Pinal County, Arizona.

In accordance with A.A.C. R12-15-702(D), the Department has determined that a minimum of 98,841 acre-feet per year of groundwater is physically available for 100 years under A.A.C. R12-15-716(B) for assured water supply purposes in the study area. Although you requested a volume of 103, 485 acre-feet, after a review of the hydrologic study and all issued assured water supply determinations in the study area, the Department has concluded that 98,841 acre feet is physically available.

With regard to water quality for the purpose of A.A.C. R12-15-719(A), the provider you select must be regulated by the Arizona Department of Environmental Quality. With regard to water quality for the purpose of A.A.C. R12-15-719(B), the study area is not located within one mile of any known WQARF or Superfund site.

The results of the Department's review fulfill the requirements of R12-15-702(C) and may be cited in applications for determinations of assured water supply. Those applications have certain additional requirements based on the assured water supply criteria referenced in A.R.S. § 45-576 and A.A.C. R12-15-701, et seq. For further information on those requirements, please contact the Office of Assured and Adequate Water Supply at (602) 771-8599.

As with all Physical Availability Determinations issued by the Department, changes in conditions or the accuracy of assumptions and information used in demonstrating physical availability may affect the validity of this determination. Changes in the number or locations of wells may impact applicability of this determination to future applications for determinations of assured water supply.

If you have any questions regarding this Physical Availability Determination, please contact the Office of Assured & Adequate Water Supply at (602) 771-8599.

Sincerely,

Sandra Fabritz Whitney
Assistant Director, Water Management

Via electronic mail:

cc: Steve Corell, scorell@clearcreekassociates.com
Clear Creek Associates

Steve Olea, solea@azcc.gov
Arizona Corporation Commission

Linda Taunt, taunt.linda@azdeq.gov
Arizona Department of Environmental Quality

EXHIBIT 20

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
Mail Code 5415B-2
1110 West Washington Street
Phoenix, AZ 85007

Drinking Water Compliance Status Report

System Name	System Type		Is system consecutive?	
AZ WATER CO APACHE JUNCTION	☒	Community	☒	Yes,
System ID #	☐	Non-transient Non-community		to PWS # 07095
11004	☐	Transient Non-community	☐	No

Overall compliance status	☒	No major deficiencies	☐	Major deficiencies
Monitoring and Reporting status	☒	No major deficiencies	☐	Major deficiencies

Comments: None

Operation and Maintenance status		☒ No major deficiencies	☐ Major deficiencies
Date of last Sanitary Survey	2-1-11	**Inspector**	Karen Berry, PHX

Major unresolved/ongoing operation and maintenance deficiencies:

- ☐ unable to maintain 20psi
- ☐ cross connection/backflow problems
- ☐ treatment deficiencies
- ☐ certified operator
- ☐ inadequate storage
- ☐ surface water treatment rule
- ☐ ATC/AOC
- ☐ other =

Comments: None

Is an ADEQ administrative order in effect?	☐	Yes	☒	No

Comments: None

System Information

Population Served	56900
Service Connections	19510
Number of Entry Points to the Distribution System	2
Number of Sources	8
Initial Monitoring Year	1994
Monitoring Assistance Program (MAP) System	☐ Yes ☒ No

Evaluation completed by	Donna Calderon, Manager Drinking Water Monitoring and Protection Unit		
Phone	602-771-4641	**Date**	June 25, 2012

☒ Based upon data submitted by the water system, ADEQ has determined that this system **is** currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and **PWS is in compliance.**

☐ Based upon the monitoring and reporting deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**

☐ Based upon the operation and maintenance deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**

This compliance status report does not guarantee the water quality for this system in the future, and does not reflect the status of any other water system owned by this utility company.

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
Mail Code 5415B-2
1110 West Washington Street
Phoenix, AZ 85007

Drinking Water Compliance Status Report

System Name	System Type		Is system consecutive?	
AZ WATER CO SUPERIOR	☒	Community	☐	Yes,
System ID #	☐	Non-transient Non-community		to PWS #
11021	☐	Transient Non-community	☒	No

Overall compliance status	☒	No major deficiencies	☐	Major deficiencies
Monitoring and Reporting status	☒	No major deficiencies	☐	Major deficiencies
Comments: EPDS001 has arsenic treatment and is on quarterly monitoring for the life of the treatment plant.				

Operation and Maintenance status	☒ No major deficiencies	☐ Major deficiencies	
Date of last Sanitary Survey	11-15-10	**Inspector**	Deborah Schadewald, PHX

Major unresolved/ongoing operation and maintenance deficiencies:

- ☐ unable to maintain 20psi
- ☐ cross connection/backflow problems
- ☐ treatment deficiencies
- ☐ certified operator
- ☐ inadequate storage
- ☐ surface water treatment rule
- ☐ ATC/AOC
- ☐ other =

Comments: None

Is an ADEQ administrative order in effect?	☐	Yes	☒	No
Comments: None				

System Information			
Population Served	3945		
Service Connections	1270		
Number of Entry Points to the Distribution System	1		
Number of Sources	3		
Initial Monitoring Year	1993		
Monitoring Assistance Program (MAP) System	☒	Yes	☐ No

Evaluation completed by	Donna Calderon, Manager Drinking Water Monitoring and Protection Unit		
Phone	602-771-4641	**Date**	August 2, 2012

☒	Based upon data submitted by the water system, ADEQ has determined that this system **is** currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and **PWS is in compliance.**
☐	Based upon the monitoring and reporting deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**
☐	Based upon the operation and maintenance deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**

This compliance status report does not guarantee the water quality for this system in the future, and does not reflect the status of any other water system owned by this utility company.

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
Mail Code 5415B-2
1110 West Washington Street
Phoenix, AZ 85007

Drinking Water Compliance Status Report

System Name	System Type	Is system consecutive?
AZ WATER CO BISBEE	☒ Community	☐ Yes, to PWS #
System ID #	☐ Non-transient Non-community	
02001	☐ Transient Non-community	☒ No

Overall compliance status	☒	No major deficiencies	☐	Major deficiencies
Monitoring and Reporting status	☒	No major deficiencies	☐	Major deficiencies
Comments: None				

Operation and Maintenance status	☒ No major deficiencies	☐ Major deficiencies	
Date of last Sanitary Survey	4-29-10	**Inspector**	John Eyre, SRO

Major unresolved/ongoing operation and maintenance deficiencies:

- ☐ unable to maintain 20psi
- ☐ cross connection/backflow problems
- ☐ treatment deficiencies
- ☐ certified operator
- ☐ inadequate storage
- ☐ surface water treatment rule
- ☐ ATC/AOC
- ☐ other =

Comments: None

Is an ADEQ administrative order in effect?	☐	Yes	☒	No
Comments: None				

System Information	
Population Served	8032
Service Connections	3424
Number of Entry Points to the Distribution System	1
Number of Sources	4
Initial Monitoring Year	1994
Monitoring Assistance Program (MAP) System	☒ Yes ☐ No

Evaluation completed by	Donna Calderon, Manager Drinking Water Monitoring and Protection Unit		
Phone	602-771-4641	**Date**	July 27, 2012

☒	Based upon data submitted by the water system, ADEQ has determined that this system **is** currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and **PWS is in compliance.**
☐	Based upon the monitoring and reporting deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**
☐	Based upon the operation and maintenance deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**

This compliance status report does not guarantee the water quality for this system in the future, and does not reflect the status of any other water system owned by this utility company.

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
Mail Code 5415B-2
1110 West Washington Street
Phoenix, AZ 85007

Drinking Water Compliance Status Report

System Name	System Type	Is system consecutive?
AZ WATER CO SIERRA VISTA	☒ Community	☐ Yes,
System ID #	☐ Non-transient Non-community	to PWS #
02004	☐ Transient Non-community	☒ No

Overall compliance status	☒	No major deficiencies	☐	Major deficiencies
Monitoring and Reporting status	☒	No major deficiencies	☐	Major deficiencies

Comments: None

Operation and Maintenance status		☒ No major deficiencies	☐ Major deficiencies
Date of last Sanitary Survey	2-5-11	**Inspector**	John Eyre, SRO

Major unresolved/ongoing operation and maintenance deficiencies:

- ☐ unable to maintain 20psi
- ☐ cross connection/backflow problems
- ☐ treatment deficiencies
- ☐ certified operator
- ☐ inadequate storage
- ☐ surface water treatment rule
- ☐ ATC/AOC
- ☐ other =

Comments: None

Is an ADEQ administrative order in effect?	☐	Yes	☒	No

Comments: None

System Information	
Population Served	9312
Service Connections	2992
Number of Entry Points to the Distribution System	7
Number of Sources	8
Initial Monitoring Year	1994
Monitoring Assistance Program (MAP) System	☒ Yes ☐ No

Evaluation completed by	Donna Calderon, Manager Drinking Water Monitoring and Protection Unit		
Phone	602-771-4641	**Date**	July 27, 2012

☒	Based upon data submitted by the water system, ADEQ has determined that this system **is** currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and **PWS is in compliance.**
☐	Based upon the monitoring and reporting deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**
☐	Based upon the operation and maintenance deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**

This compliance status report does not guarantee the water quality for this system in the future, and does not reflect the status of any other water system owned by this utility company.

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
Mail Code 5415B-2
1110 West Washington Street
Phoenix, AZ 85007

Drinking Water Compliance Status Report

System Name	System Type	Is system consecutive?
PINAL VALLEY WATER SYSTEM	☒ Community	☐ Yes, to PWS #
System ID #	☐ Non-transient Non-community	
11009	☐ Transient Non-community	☒ No

Overall compliance status	☒	No major deficiencies	☐	Major deficiencies
Monitoring and Reporting status	☒	No major deficiencies	☐	Major deficiencies

Comments: RENAMED PINAL VALLEY WATER SYSTEM; AZ WATER CO - CASA GRANDE MERGED WITH AZ WATER CO - COOLIDGE

Operation and Maintenance status		☒	No major deficiencies	☐	Major deficiencies
Date of last Sanitary Survey	6-22-11	**Inspector**	Karen Berry, PHX		

Major unresolved/ongoing operation and maintenance deficiencies:

- ☐ unable to maintain 20psi
- ☐ cross connection/backflow problems
- ☐ treatment deficiencies
- ☐ certified operator
- ☐ inadequate storage
- ☐ *surface water treatment rule*
- ☐ ATC/AOC
- ☐ other =

Comments: None

Is an ADEQ administrative order in effect?	☐	Yes	☒	No

Comments: None

System Information	
Population Served	88019
Service Connections	27521
Number of Entry Points to the Distribution System	10
Number of Sources	24
Initial Monitoring Year	1993
Monitoring Assistance Program (MAP) System	☐ Yes ☒ No

Evaluation completed by	Donna Calderon, Manager Drinking Water Monitoring and Protection Unit		
Phone	602-771-4641	**Date**	June 25, 2012

☒	Based upon data submitted by the water system, ADEQ has determined that this system **is** currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and **PWS is in compliance.**
☐	Based upon the monitoring and reporting deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**
☐	Based upon the operation and maintenance deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**

This compliance status report does not guarantee the water quality for this system in the future, and does not reflect the status of any other water system owned by this utility company.

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
Mail Code 5415B-2
1110 West Washington Street
Phoenix, AZ 85007

Drinking Water Compliance Status Report

System Name	System Type	Is system consecutive?
AZ WATER CO AJO	☒ Community	☒ Yes,
System ID #	☐ Non-transient Non-community	to PWS # 10001
10003	☐ Transient Non-community	☐ No

Overall compliance status	☒	No major deficiencies	☐	Major deficiencies
Monitoring and Reporting status	☒	No major deficiencies	☐	Major deficiencies
Comments: None				

Operation and Maintenance status	☒ No major deficiencies	☐ Major deficiencies	
Date of last Sanitary Survey	12-27-10	**Inspector**	Jason Saline, PDEQ

Major unresolved/ongoing operation and maintenance deficiencies:

- ☐ unable to maintain 20psi
- ☐ cross connection/backflow problems
- ☐ treatment deficiencies
- ☐ certified operator
- ☐ inadequate storage
- ☐ surface water treatment rule
- ☐ ATC/AOC
- ☐ other =

Comments: None

Is an ADEQ administrative order in effect?	☐	Yes	☒	No
Comments: None				

System Information	
Population Served	1606
Service Connections	521
Number of Entry Points to the Distribution System	1
Number of Sources	CONSECUTIVE
Initial Monitoring Year	1995
Monitoring Assistance Program (MAP) System	☐ Yes ☒ No

Evaluation completed by	Donna Calderon, Manager Drinking Water Monitoring and Protection Unit		
Phone	602-771-4641	**Date**	July 27, 2012

☒	Based upon data submitted by the water system, ADEQ has determined that this system **is** currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and **PWS is in compliance.**
☐	Based upon the monitoring and reporting deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**
☐	Based upon the operation and maintenance deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**

This compliance status report does not guarantee the water quality for this system in the future, and does not reflect the status of any other water system owned by this utility company.

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
Mail Code 5415B-2
1110 West Washington Street
Phoenix, AZ 85007

Drinking Water Compliance Status Report

System Name	System Type	Is system consecutive?
AZ WATER CO STANFIELD	☒ Community	☐ Yes,
System ID #	☐ Non-transient Non-community	to PWS #
11012	☐ Transient Non-community	☒ No

Overall compliance status	☒	No major deficiencies	☐	Major deficiencies
Monitoring and Reporting status	☒	No major deficiencies	☐	Major deficiencies

Comments: None

Operation and Maintenance status	☒ No major deficiencies	☐ Major deficiencies	
Date of last Sanitary Survey	6-22-11	**Inspector**	Karen Berry, PHX

Major unresolved/ongoing operation and maintenance deficiencies:

- ☐ unable to maintain 20psi
- ☐ cross connection/backflow problems
- ☐ treatment deficiencies
- ☐ certified operator
- ☐ inadequate storage
- ☐ surface water treatment rule
- ☐ ATC/AOC
- ☐ other =

Comments: None

Is an ADEQ administrative order in effect?	☐	Yes	☒	No

Comments: None

System Information

Population Served	745
Service Connections	201
Number of Entry Points to the Distribution System	1
Number of Sources	2
Initial Monitoring Year	1994
Monitoring Assistance Program (MAP) System	☒ Yes ☐ No

Evaluation completed by	Donna Calderon, Manager Drinking Water Monitoring and Protection Unit		
Phone	602-771-4641	**Date**	July 27, 2012

☒	Based upon data submitted by the water system, ADEQ has determined that this system **is** currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and **PWS is in compliance.**
☐	Based upon the monitoring and reporting deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**
☐	Based upon the operation and maintenance deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**

This compliance status report does not guarantee the water quality for this system in the future, and does not reflect the status of any other water system owned by this utility company.

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
Mail Code 5415B-2
1110 West Washington Street
Phoenix, AZ 85007

Drinking Water Compliance Status Report

System Name	System Type	Is system consecutive?
AZ WATER CO TIERRA GRANDE	☒ Community	☐ Yes,
System ID #	☐ Non-transient Non-community	to PWS #
11076	☐ Transient Non-community	☒ No

Overall compliance status	☒	No major deficiencies	☐	Major deficiencies
Monitoring and Reporting status	☒	No major deficiencies	☐	Major deficiencies
Comments: None				

Operation and Maintenance status	☒ No major deficiencies	☐ Major deficiencies	
Date of last Sanitary Survey	6-22-11	**Inspector**	Karen Berry, PHX

Major unresolved/ongoing operation and maintenance deficiencies:

- ☐ unable to maintain 20psi
- ☐ cross connection/backflow problems
- ☐ treatment deficiencies
- ☐ certified operator
- ☐ inadequate storage
- ☐ surface water treatment rule
- ☐ atc/aoc
- ☐ other =

Comments: None

Is an ADEQ administrative order in effect?	☐	Yes	☒	No
Comments: None				

System Information	
Population Served	967
Service Connections	357
Number of Entry Points to the Distribution System	1
Number of Sources	2
Initial Monitoring Year	1994
Monitoring Assistance Program (MAP) System	☒ Yes ☐ No

Evaluation completed by	Donna Calderon, Manager Drinking Water Monitoring and Protection Unit		
Phone	602-771-4641	**Date**	August 1, 2012

☒	Based upon data submitted by the water system, ADEQ has determined that this system **is** currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4.
☐	Based upon the monitoring and reporting deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4.
☐	Based upon the operation and maintenance deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4.

This compliance status report does not guarantee the water quality for this system in the future, and does not reflect the status of any other water system owned by this utility company.

Maricopa County
Environmental Services Department

PUBLIC WATER SYSTEM COMPLIANCE STATUS REPORT

System Name: Arizona Water Co. White Tanks
PWS ID#: 07-128

Type of System: Community Number of POE's: 3 Surface Water: N/A
Number of Service Connections: 1935 Population Served: 5636

Assigned Monitoring Dates - Initial:01/01/1994

Does the water system have a Certified Operator? Yes, Raymond Murrieta

Does the system have major treatment plant deficiencies? No
Please describe: ____

Date of last inspection: 10/25/2011

Does the system have major O & M deficiencies? No
Please describe: ____

Does the system have water quality monitoring/reporting deficiencies? No
Please describe: ____

General Public Water System Compliance Status? **Compliance**

Date of compliance review: **06/26/2012** By: **Amanda Hart** Initials: AH
Phone: **(602) 506-5173**

Requested By: Regina Lynde Fax Number/ Contact: rlynde@azwater.com
Supervisor Initials: ____ Date: ____

Drinking Water Program
Korissa Entringer, R.S., Manager
1001 N. Central Ave., Suite 250, Phoenix, Arizona 85004-1940 Phone: (602) 506-6935 Fax: (602) 372-0866

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
Mail Code 5415B-2
1110 West Washington Street
Phoenix, AZ 85007

Drinking Water Compliance Status Report

System Name	System Type	Is system consecutive?
GOLDEN CORRIDOR WC INC	☒ Community	☒ Yes, to PWS # 11009
System ID #	☐ Non-transient Non-community	
11107	☐ Transient Non-community	☐ No

Overall compliance status	☒	No major deficiencies	☐	Major deficiencies
Monitoring and Reporting status	☒	No major deficiencies	☐	Major deficiencies

Comments: None

Operation and Maintenance status	☒ No major deficiencies	☐ Major deficiencies	
Date of last Sanitary Survey	12-16-10	**Inspector**	Karen Berry, PHX

Major unresolved/ongoing operation and maintenance deficiencies:

- ☐ unable to maintain 20psi
- ☐ cross connection/backflow problems
- ☐ treatment deficiencies
- ☐ certified operator
- ☐ inadequate storage
- ☐ surface water treatment rule
- ☐ ATC/AOC
- ☐ other =

Comments: None

Is an ADEQ administrative order in effect?	☒	Yes	☐	No

Comments: DW-74-04 is an open order assigned to the previous owner of the system. The current owner is in compliance.

System Information			
Population Served	176		
Service Connections	57		
Number of Entry Points to the Distribution System	CONSECUTIVE		
Number of Sources	CONSECUTIVE		
Initial Monitoring Year	1994		
Monitoring Assistance Program (MAP) System	☐	Yes	☒ No

Evaluation completed by	Donna Calderon, Manager Drinking Water Monitoring and Protection Unit		
Phone	602-771-4641	**Date**	August 2, 2012

☒	Based upon data submitted by the water system, ADEQ has determined that this system **is** currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and **PWS is in compliance.**
☐	Based upon the monitoring and reporting deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**
☐	Based upon the operation and maintenance deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**

This compliance status report does not guarantee the water quality for this system in the future, and does not reflect the status of any other water system owned by this utility company.

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
Mail Code 5415B-2
1110 West Washington Street
Phoenix, AZ 85007

Drinking Water Compliance Status Report

System Name	System Type	Is system consecutive?
CITY OF COOLIDGE MUNICIPAL AIRPORT	☐ Community	☐ Yes, to PWS #
System ID #	☐ Non-transient Non-community	
11707	☒ Transient Non-community	☒ No

Overall compliance status	☒	No major deficiencies	☐	Major deficiencies
Monitoring and Reporting status	☒	No major deficiencies	☐	Major deficiencies
Comments: None				

Operation and Maintenance status	☒ No major deficiencies	☐ Major deficiencies	
Date of last Sanitary Survey	6-22-11	**Inspector**	Karen Berry, PHX

Major unresolved/ongoing operation and maintenance deficiencies:

- ☐ unable to maintain 20psi
- ☐ cross connection/backflow problems
- ☐ treatment deficiencies
- ☐ certified operator
- ☐ inadequate storage
- ☐ surface water treatment rule
- ☐ ATC/AOC
- ☐ other =

Comments: None

Is an ADEQ administrative order in effect?	☐	Yes	☒ No
Comments: None			

System Information	
Population Served	34
Service Connections	9
Number of Entry Points to the Distribution System	1
Number of Sources	2
Initial Monitoring Year	2011
Monitoring Assistance Program (MAP) System	☐ Yes ☒ No

Evaluation completed by	Donna Calderon, Manager Drinking Water Monitoring and Protection Unit		
Phone	602-771-4641	**Date**	August 2, 2012

☒	Based upon data submitted by the water system, ADEQ has determined that this system **is** currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and **PWS is in compliance.**
☐	Based upon the monitoring and reporting deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**
☐	Based upon the operation and maintenance deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**

This compliance status report does not guarantee the water quality for this system in the future, and does not reflect the status of any other water system owned by this utility company.

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
Mail Code 5415B-2
1110 West Washington Street
Phoenix, AZ 85007

Drinking Water Compliance Status Report

System Name	System Type	Is system consecutive?
AZ WATER CO LAKESIDE	☒ Community	☒ Yes,
System ID #	☐ Non-transient Non-community	to PWS # 09022
09003	☐ Transient Non-community	☐ No

Overall compliance status	☒	No major deficiencies	☐	Major deficiencies
Monitoring and Reporting status	☒	No major deficiencies	☐	Major deficiencies

Comments: None

Operation and Maintenance status	☒ No major deficiencies	☐ Major deficiencies	
Date of last Sanitary Survey	4-20-11	**Inspector**	Steve Camp, NRO

Major unresolved/ongoing operation and maintenance deficiencies:

- ☐ unable to maintain 20psi
- ☐ cross connection/backflow problems
- ☐ treatment deficiencies
- ☐ certified operator
- ☐ inadequate storage
- ☐ surface water treatment rule
- ☐ ATC/AOC
- ☐ other =

Comments: During the last sanitary survey, recommendations were made on the source (post ADWR number on exterior of pump house).

Is an ADEQ administrative order in effect?	☐	Yes	☒	No

Comments: None

System Information

Population Served	10882
Service Connections	4000
Number of Entry Points to the Distribution System	5
Number of Sources	5
Initial Monitoring Year	1994
Monitoring Assistance Program (MAP) System	☐ Yes ☒ No

Evaluation completed by	Donna Calderon, Manager Drinking Water Monitoring and Protection Unit		
Phone	602-771-4641	**Date**	June 25, 2012

☒	Based upon data submitted by the water system, ADEQ has determined that this system **is** currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and **PWS is in compliance.**
☐	Based upon the monitoring and reporting deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**
☐	Based upon the operation and maintenance deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**

This compliance status report does not guarantee the water quality for this system in the future, and does not reflect the status of any other water system owned by this utility company.

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
Mail Code 5415B-2
1110 West Washington Street
Phoenix, AZ 85007

Drinking Water Compliance Status Report

System Name	System Type	Is system consecutive?
AZ WATER CO PINETOP LAKES	☒ Community	☐ Yes,
System ID #	☐ Non-transient Non-community	to PWS #
09018	☐ Transient Non-community	☒ No

Overall compliance status	☒	No major deficiencies	☐	Major deficiencies
Monitoring and Reporting status	☒	No major deficiencies	☐	Major deficiencies
Comments: None				

Operation and Maintenance status	☒ No major deficiencies	☐ Major deficiencies	
Date of last Sanitary Survey	4-6-11	**Inspector**	Steve Camp, NRO

Major unresolved/ongoing operation and maintenance deficiencies:

- ☐ unable to maintain 20psi
- ☐ cross connection/backflow problems
- ☐ treatment deficiencies
- ☐ certified operator
- ☐ inadequate storage
- ☐ surface water treatment rule
- ☐ ATC/AOC
- ☐ other =

Comments: None

Is an ADEQ administrative order in effect?	☐	Yes	☒	No
Comments: None				

System Information	
Population Served	3403
Service Connections	1009
Number of Entry Points to the Distribution System	1
Number of Sources	2
Initial Monitoring Year	1994
Monitoring Assistance Program (MAP) System	☒ Yes ☐ No

Evaluation completed by	Donna Calderon, Manager Drinking Water Monitoring and Protection Unit		
Phone	602-771-4641	**Date**	June 25, 2012

☒	Based upon data submitted by the water system, ADEQ has determined that this system **is** currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and **PWS is in compliance.**
☐	Based upon the monitoring and reporting deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**
☐	Based upon the operation and maintenance deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**

This compliance status report does not guarantee the water quality for this system in the future, and does not reflect the status of any other water system owned by this utility company.

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
Mail Code 5415B-2
1110 West Washington Street
Phoenix, AZ 85007

Drinking Water Compliance Status Report

System Name	System Type		Is system consecutive?	
AZ WATER CO OVERGAARD	☒	Community	☐	Yes,
System ID #	☐	Non-transient Non-community		to PWS #
09004	☐	Transient Non-community	☒	No

Overall compliance status	☒	No major deficiencies	☐	Major deficiencies
Monitoring and Reporting status	☒	No major deficiencies	☐	Major deficiencies

Comments: None

Operation and Maintenance status		☒ No major deficiencies	☐ Major deficiencies
Date of last Sanitary Survey	4-20-11	**Inspector**	Steve Camp, NRO

Major unresolved/ongoing operation and maintenance deficiencies:

- ☐ unable to maintain 20psi
- ☐ cross connection/backflow problems
- ☐ treatment deficiencies
- ☐ certified operator
- ☐ inadequate storage
- ☐ surface water treatment rule
- ☐ ATC/AOC
- ☐ other =

Comments: None

Is an ADEQ administrative order in effect?	☐	Yes	☒	No

Comments: None

System Information	
Population Served	10426
Service Connections	4114
Number of Entry Points to the Distribution System	5
Number of Sources	5
Initial Monitoring Year	1994
Monitoring Assistance Program (MAP) System	☐ Yes ☒ No

Evaluation completed by	Donna Calderon, Manager Drinking Water Monitoring and Protection Unit		
Phone	602-771-4641	**Date**	June 25, 2012

☒	Based upon data submitted by the water system, ADEQ has determined that this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and **PWS is in compliance.**
☐	Based upon the monitoring and reporting deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**
☐	Based upon the operation and maintenance deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**

This compliance status report does not guarantee the water quality for this system in the future, and does not reflect the status of any other water system owned by this utility company.

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
Mail Code 5415B-2
1110 West Washington Street
Phoenix, AZ 85007

Drinking Water Compliance Status Report

System Name	System Type	Is system consecutive?
AZ WATER CO MIAMI CLAYPOOL	☒ Community	☒ Yes,
System ID #	☐ Non-transient Non-community	to PWS # 04008
04002	☐ Transient Non-community	☐ No

Overall compliance status	☒	No major deficiencies	☐	Major deficiencies
Monitoring and Reporting status	☒	No major deficiencies	☐	Major deficiencies

Comments: None

Operation and Maintenance status		☒ No major deficiencies	☐ Major deficiencies
Date of last Sanitary Survey	6-15-11	**Inspector**	Deborah Schadewald-Kohler, PHX

Major unresolved/ongoing operation and maintenance deficiencies:

- ☐ unable to maintain 20psi
- ☐ cross connection/backflow problems
- ☐ treatment deficiencies
- ☐ certified operator
- ☐ inadequate storage
- ☐ surface water treatment rule
- ☐ ATC/AOC
- ☐ other =

Comments: During the last sanitary survey, recommendations were made on the source, treatment, finished water storage (retainer technology on the slope) O&M and security.

Is an ADEQ administrative order in effect?	☐ Yes	☒ No

Comments: None

System Information

Population Served	8920
Service Connections	3003
Number of Entry Points to the Distribution System	10
Number of Sources	14
Initial Monitoring Year	1994
Monitoring Assistance Program (MAP) System	☒ Yes ☐ No

Evaluation completed by	Donna Calderon, Manager Drinking Water Monitoring and Protection Unit		
Phone	602-771-4641	**Date**	July 16, 2012

☒	Based upon data submitted by the water system, ADEQ has determined that this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and **PWS is in compliance.**
☐	Based upon the monitoring and reporting deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**
☐	Based upon the operation and maintenance deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**

This compliance status report does not guarantee the water quality for this system in the future, and does not reflect the status of any other water system owned by this utility company.

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
Mail Code 5415B-2
1110 West Washington Street
Phoenix, AZ 85007

Drinking Water Compliance Status Report

System Name	System Type	Is system consecutive?
AZ WATER CO SAN MANUEL	☒ Community	☒ Yes,
System ID #	☐ Non-transient Non-community	to PWS # 11347
11020	☐ Transient Non-community	☐ No

Overall compliance status	☒	No major deficiencies	☐	Major deficiencies
Monitoring and Reporting status	☒	No major deficiencies	☐	Major deficiencies
Comments: None				

Operation and Maintenance status		☒ No major deficiencies	☐ Major deficiencies
Date of last Sanitary Survey	10-28-10	**Inspector**	Karen Berry, PHX

Major unresolved/ongoing operation and maintenance deficiencies:

- ☐ unable to maintain 20psi
- ☐ cross connection/backflow problems
- ☐ treatment deficiencies
- ☐ certified operator
- ☐ inadequate storage
- ☐ surface water treatment rule
- ☐ ATC/AOC
- ☐ other =

Comments: None

Is an ADEQ administrative order in effect?	☐	Yes	☒ No
Comments: None			

System Information	
Population Served	4986
Service Connections	1462
Number of Entry Points to the Distribution System	CONSECUTIVE
Number of Sources	CONSECUTIVE
Initial Monitoring Year	1995
Monitoring Assistance Program (MAP) System	☒ Yes ☐ No

Evaluation completed by	Donna Calderon, Manager Drinking Water Monitoring and Protection Unit		
Phone	602-771-4641	**Date**	August 2, 2012

☒	Based upon data submitted by the water system, ADEQ has determined that this system **is** currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and **PWS is in compliance.**
☐	Based upon the monitoring and reporting deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**
☐	Based upon the operation and maintenance deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**

This compliance status report does not guarantee the water quality for this system in the future, and does not reflect the status of any other water system owned by this utility company.

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
Mail Code 5415B-2
1110 West Washington Street
Phoenix, AZ 85007

Drinking Water Compliance Status Report

System Name	System Type	Is system consecutive?
AZ WATER CO ORACLE	☒ Community	☐ Yes,
System ID #	☐ Non-transient Non-community	to PWS #
11019	☐ Transient Non-community	☒ No

Overall compliance status	☒	No major deficiencies	☐	Major deficiencies
Monitoring and Reporting status	☒	No major deficiencies	☐	Major deficiencies

Comments: EPDS003 is on quarterly monitoring for arsenic beginning with the 2Q12.

Operation and Maintenance status			☒	No major deficiencies	☐ Major deficiencies
Date of last Sanitary Survey	10-28-10	**Inspector**	Karen Berry, PHX		

Major unresolved/ongoing operation and maintenance deficiencies:

- ☐ unable to maintain 20psi
- ☐ cross connection/backflow problems
- ☐ treatment deficiencies
- ☐ certified operator
- ☐ inadequate storage
- ☐ surface water treatment rule
- ☐ ATC/AOC
- ☐ other =

Comments: None

Is an ADEQ administrative order in effect?	☐	Yes	☒	No

Comments: None

System Information				
Population Served	5060			
Service Connections	1655			
Number of Entry Points to the Distribution System	4			
Number of Sources	5			
Initial Monitoring Year	1994			
Monitoring Assistance Program (MAP) System	☒	Yes	☐	No

Evaluation completed by	Donna Calderon, Manager Drinking Water Monitoring and Protection Unit		
Phone	602-771-4641	**Date**	August 2, 2012

☒	Based upon data submitted by the water system, ADEQ has determined that this system **is** currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and **PWS is in compliance.**
☐	Based upon the monitoring and reporting deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**
☐	Based upon the operation and maintenance deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**

This compliance status report does not guarantee the water quality for this system in the future, and does not reflect the status of any other water system owned by this utility company.

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
Mail Code 5415B-2
1110 West Washington Street
Phoenix, AZ 85007

Drinking Water Compliance Status Report

System Name	System Type	Is system consecutive?
AZ WATER CO WINKELMAN	☒ Community	☒ Yes, to PWS # buys from and sells to 04054
System ID #	☐ Non-transient Non-community	
04003	☐ Transient Non-community	☐ No

Overall compliance status	☒	No major deficiencies	☐	Major deficiencies
Monitoring and Reporting status	☒	No major deficiencies	☐	Major deficiencies

Comments: None

Operation and Maintenance status		☒ No major deficiencies	☐ Major deficiencies
Date of last Sanitary Survey	10-28-10	**Inspector**	Karen Berry, PHX

Major unresolved/ongoing operation and maintenance deficiencies:

- ☐ unable to maintain 20psi
- ☐ cross connection/backflow problems
- ☐ treatment deficiencies
- ☐ certified operator
- ☐ inadequate storage
- ☐ surface water treatment rule
- ☐ ATC/AOC
- ☐ other =

Comments: None

Is an ADEQ administrative order in effect?	☐	Yes	☒	No

Comments: None

System Information	
Population Served	490
Service Connections	160
Number of Entry Points to the Distribution System	1
Number of Sources	2
Initial Monitoring Year	1994
Monitoring Assistance Program (MAP) System	☒ Yes ☐ No

Evaluation completed by	Donna Calderon, Manager Drinking Water Monitoring and Protection Unit		
Phone	602-771-4641	**Date**	August 2, 2012

☒	Based upon data submitted by the water system, ADEQ has determined that this system **is** currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and **PWS is in compliance.**
☐	Based upon the monitoring and reporting deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**
☐	Based upon the operation and maintenance deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**

This compliance status report does not guarantee the water quality for this system in the future, and does not reflect the status of any other water system owned by this utility company.

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
Mail Code 5415B-2
1110 West Washington Street
Phoenix, AZ 85007

Drinking Water Compliance Status Report

System Name	System Type	Is system consecutive?
AZ WATER CO SEDONA	☒ Community	☐ Yes, to PWS #
System ID #	☐ Non-transient Non-community	
03003	☐ Transient Non-community	☒ No

Overall compliance status	☒	No major deficiencies	☐	Major deficiencies
Monitoring and Reporting status	☒	No major deficiencies	☐	Major deficiencies

Comments: PWS has arsenic treatment on EPDS004, EPDS005, EPDS008 and EPDS010.

Operation and Maintenance status		☒	No major deficiencies	☐	Major deficiencies
Date of last Sanitary Survey	6-9-09	**Inspector**	Kent Haugerud, NRO		

Major unresolved/ongoing operation and maintenance deficiencies:

- ☐ unable to maintain 20psi
- ☒ cross connection/backflow problems
- ☐ treatment deficiencies
- ☐ certified operator
- ☐ inadequate storage
- ☐ surface water treatment rule
- ☐ ATC/AOC
- ☐ other =

Comments: During the last sanitary survey, recommendations were made on source (2 wells need screens) and finished water (1 storage tank has a leak that needs to be fixed). ADEQ was notified by AZ Water Company on August 18, 2009 that all recommendations were completed.

Is an ADEQ administrative order in effect?	☐	Yes	☒	No

Comments: None

System Information	
Population Served	12191
Service Connections	5759
Number of Entry Points to the Distribution System	8
Number of Sources	9
Initial Monitoring Year	1994
Monitoring Assistance Program (MAP) System	☐ Yes ☒ No

Evaluation completed by	Donna Calderon, Manager Drinking Water Monitoring and Protection Unit		
Phone	602-771-4641	**Date**	June 25, 2012

☒	Based upon data submitted by the water system, ADEQ has determined that this system **is** currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and **PWS is in compliance.**
☐	Based upon the monitoring and reporting deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**
☐	Based upon the operation and maintenance deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**

This compliance status report does not guarantee the water quality for this system in the future, and does not reflect the status of any other water system owned by this utility company.

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
Mail Code 5415B-2
1110 West Washington Street
Phoenix, AZ 85007

Drinking Water Compliance Status Report

System Name	System Type	Is system consecutive?
AZ WATER CO PINEWOOD	☒ Community	☐ Yes,
System ID #	☐ Non-transient Non-community	to PWS #
03002	☐ Transient Non-community	☒ No

Overall compliance status	☒	No major deficiencies	☐	Major deficiencies
Monitoring and Reporting status	☒	No major deficiencies	☐	Major deficiencies

Comments: None

Operation and Maintenance status	☒ No major deficiencies	☐ Major deficiencies	
Date of last Sanitary Survey	11-12-10	**Inspector**	Ed Monin, NRO

Major unresolved/ongoing operation and maintenance deficiencies:

- ☐ unable to maintain 20psi
- ☐ cross connection/backflow problems
- ☐ treatment deficiencies
- ☐ certified operator
- ☐ inadequate storage
- ☐ surface water treatment rule
- ☐ ATC/AOC
- ☐ other =

Comments: During the last sanitary survey recommendations were made on source (seal hole at well # 10 well head electrical conduit), finished water storage (submit documentation on backflow testing), and management and operations (install a splash block under tank 11A overflow outlet). ADEQ was notified by AZ Water Company on December 1, 2010 that all recommendations were completed.

Is an ADEQ administrative order in effect?	☐	Yes	☒	No

Comments: None

System Information	
Population Served	6433
Service Connections	2857
Number of Entry Points to the Distribution System	3
Number of Sources	3
Initial Monitoring Year	1994
Monitoring Assistance Program (MAP) System	☒ Yes ☐ No

Evaluation completed by	Donna Calderon, Manager Drinking Water Monitoring and Protection Unit		
Phone	602-771-4641	**Date**	June 25, 2012

☒	Based upon data submitted by the water system, ADEQ has determined that this system **is** currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and **PWS is in compliance.**
☐	Based upon the monitoring and reporting deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**
☐	Based upon the operation and maintenance deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**

This compliance status report does not guarantee the water quality for this system in the future, and does not reflect the status of any other water system owned by this utility company.

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
Mail Code 5415B-2
1110 West Washington Street
Phoenix, AZ 85007

Drinking Water Compliance Status Report

System Name	System Type		Is system consecutive?	
AZ WATER CO RIMROCK	☒	Community	☐	Yes,
System ID #	☐	Non-transient Non-community		to PWS #
13046	☐	Transient Non-community	☒	No

Overall compliance status	☒	No major deficiencies	☐	Major deficiencies
Monitoring and Reporting status	☒	No major deficiencies	☐	Major deficiencies

Comments: PWS has arsenic treatment on EPDS001, EPDS002, EPDS004, EPDS005, and EPDS006.

Operation and Maintenance status	☒ No major deficiencies	☐ Major deficiencies	
Date of last Sanitary Survey	10-27-11	**Inspector**	Steve Camp, NRO

Major unresolved/ongoing operation and maintenance deficiencies:

- ☐ unable to maintain 20psi
- ☐ cross connection/backflow problems
- ☐ treatment deficiencies
- ☐ certified operator
- ☐ inadequate storage
- ☐ surface water treatment rule
- ☐ ATC/AOC
- ☐ other =

Comments: None

Is an ADEQ administrative order in effect?	☐	Yes	☒	No

Comments: None

System Information	
Population Served	3262
Service Connections	1233
Number of Entry Points to the Distribution System	6
Number of Sources	6
Initial Monitoring Year	1994
Monitoring Assistance Program (MAP) System	☒ Yes ☐ No

Evaluation completed by	Donna Calderon, Manager Drinking Water Monitoring and Protection Unit		
Phone	602-771-4641	**Date**	June 25, 2012

☒	Based upon data submitted by the water system, ADEQ has determined that this system **is** currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and **PWS is in compliance.**
☐	Based upon the monitoring and reporting deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**
☐	Based upon the operation and maintenance deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**

This compliance status report does not guarantee the water quality for this system in the future, and does not reflect the status of any other water system owned by this utility company.

Arizona Department of Environmental Quality
Drinking Water Monitoring and Protection Unit
Mail Code 5415B-2
1110 West Washington Street
Phoenix, AZ 85007

Drinking Water Compliance Status Report

System Name	System Type	Is system consecutive?
AZ WATER CO VALLEY VISTA	☒ Community	☐ Yes, to PWS #
System ID #	☐ Non-transient Non-community	
13114	☐ Transient Non-community	☒ No

Overall compliance status	☒	No major deficiencies	☐	Major deficiencies
Monitoring and Reporting status	☒	No major deficiencies	☐	Major deficiencies
Comments: PWS has arsenic treatment on EPDS006.				

Operation and Maintenance status	☒ No major deficiencies	☐ Major deficiencies	
Date of last Sanitary Survey	2-24-11	**Inspector**	Kent Haugerud, NRO

Major unresolved/ongoing operation and maintenance deficiencies:

- ☐ unable to maintain 20psi
- ☐ cross connection/backflow problems
- ☐ treatment deficiencies
- ☐ certified operator
- ☐ inadequate storage
- ☐ surface water treatment rule
- ☐ ATC/AOC
- ☐ other =

Comments: None

Is an ADEQ administrative order in effect?	☐	Yes	☒	No
Comments: None				

System Information	
Population Served	1467
Service Connections	769
Number of Entry Points to the Distribution System	4
Number of Sources	4
Initial Monitoring Year	1994
Monitoring Assistance Program (MAP) System	☒ Yes ☐ No

Evaluation completed by	Donna Calderon, Manager Drinking Water Monitoring and Protection Unit		
Phone	602-771-4641	**Date**	June 25, 2012

☒	Based upon data submitted by the water system, ADEQ has determined that this system **is** currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and **PWS is in compliance.**
☐	Based upon the monitoring and reporting deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**
☐	Based upon the operation and maintenance deficiencies noted above, ADEQ **cannot determine** if this system is currently delivering water that meets water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4, and/or **PWS is not in compliance.**

This compliance status report does not guarantee the water quality for this system in the future, and does not reflect the status of any other water system owned by this utility company.

EXHIBIT 21

WATER USE DATA SHEET

NAME OF COMPANY →	ARIZONA WATER CO - PV - Coolidge & Casa Grande
ADEQ Public Water System No. →	11-009

MONTH/YEAR (LAST 13 MONTHS)	NUMBER OF CUSTOMERS	GALLONS SOLD (Thousands)	GALLONS PUMPED	GALLONS PURCHASED
June-12	27,898	522,167	553,403	0
May-12	27,829	400,733	489,947	0
April-12	27,863	355,432	458,410	0
March-12	27,793	300,178	360,600	0
February-12	27,695	282,516	332,289	0
January-12	27,699	302,877	323,261	0
December-11	27,700	337,168	320,008	0
November-11	27,710	397,501	413,475	0
October-11	27,738	477,647	455,997	0
September-11	27,784	568,128	526,825	0
August-11	28,043	501,414	629,584	0
July-11	28,129	583,929	604,635	0
June-11	27,713	476,063	504,802	0

STORAGE TANK CAPACITY (Gallons)	NUMBER OF EACH	ARIZONA DEPT. OF WATER RESOURCES WELL I.D. NUMBER	WELL PRODUCTION (Gallons per Minute)
Burgess Peak 2,000,000	1	55-616595 – Casa Grande #10	1,430
Casa Grande Mtn 5,000,000	1	55-616601 – Casa Grande #17	700
Cottonwood 1,000,000	1	55-616603 – Casa Grande #19	1,500
Golf Course 115,000	1	55-616604 – Casa Grande #20	950
North Park #1 650,000	1	55-503113 – Casa Grande #21	680
North Park #2 35,000	1	55-522319 – Casa Grande #23	1,500
Scott Drive #1 110,000	1	55-540306 – Casa Grande #24	920
Scott Drive #2 5,000,000	1	55-546719 – Casa Grande #25	1,250
Henness 1,100,000	1	55-560803 – Casa Grande #26	1360
Lake in Desert #27 16,000	1	55-595284 – Casa Grande #29	1280
Valley Farms 250,000	1	55-208822 – Casa Grande #30	720
Well 7 #1 500,000	1	55-210294 – Casa Grande #31	1045
Well 7 #2 1,000,000	1	55-571205 – AZ City/Battaglia #28	1,350
Well 7 #3 100,000	1	55-568553 – Lake-in-the-Desert #27	455
Well 9 & 10 #2 116,000	1	55-616598 – Cottonwood Lane #14	160
AZ City Water Campus 2,000,000	1	55-214248 – Mission Royal #32	1,470
		55-212523 – Mission Royal #33	1,370
		55-616608 - Coolidge #7	1,100
		55-616608 - Coolidge #9	1,240
		55-616609 - Coolidge #10	1,430
		55-616686 - Valley Farms #1	250
		55-616687 - Valley Farms #2	250

Other Water Sources in Gallons per Minute (Potable Only) →	GPM 0
Fire Hydrants on System →	(YES) NO
Total Water Pumped Last 13 Months (Gallons in Thousands) →	5,973,236

* Treated CAP Water