

ORIGINAL



0000175701

Red Rock Utilities, LLC

2200 E. River Road, Suite 115

Tucson, AZ 85718-6586

520.577.0200 Phone 520.299.5602 Fax

AZ CORP. COMMISSION  
DOCKET CONTROL

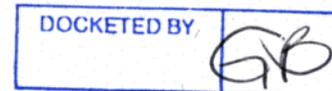
2016 DEC 16 P 1:18

Guadalupe Ortiz  
Arizona Corporation Commission  
1200 West Washington Street  
Phoenix, AZ 85007

Arizona Corporation Commission  
DOCKETED

DEC 16 2016

December 15, 2016



Re: Red Rock Utilities, LLC (WS-04245A-16-0392) Sufficiency Items

Dear Ms Ortiz,

Please find Red Rock Utilities, LLC response to the above mentioned sufficiency item request:

1. R14-2-402.5.I. "A description of the requested service area or extension area, expressed in terms of cadastral (quarter section) or metes and bound survey;".  
Staff will be in contact with Red Rock Utilities LLC in the near future to discuss necessary revisions to Appendix 3, Legal Description of the proposed CC&N extension area.

Please see the metes and bounds survey description as exhibit 1 to this document.

2. R14-2-402.5.n. "A complete description of the facilities proposed to be constructed, including a preliminary engineering report with specifications in sufficient detail to describe each water system and the principal components of each water system (e.g., source, storage, transmission lines, distribution lines, etc.) to allow verification of the estimated costs provided under subsection (B)(5)(o) and verification that the requirements of the Commission and the Arizona Department of Environmental Quality can be met;"

Please provide individual engineering drawings/preliminary design report(s) to be included in Hook M. Ranch and Wilmot Park for years 1 through 5 which will accommodate all information required above.

Revised phasing & timing of infrastructure report for Wilmot Park for years 1-5 from Westland Resources is attached as exhibit 2. As we discussed previously we do not yet have detailed engineering drawings other than those previously provided by Westland Resources. This document supplements appendix 6 of the original submittal. Additionally, please note that in section 1.1 of the Westland report the school facility is part of Hook M, and therefor outside of our 5 year projection.

3. R14-2-402.5.o. "The estimated total construction cost of the proposed offsite and onsite facilities, including documentation to support the estimates, and an explanation of how the construction will be financed, such as through debt, equity, advances in aid of construction, contributions in aid of construction, or a combination thereof;"

Exhibit B of the Wilmot and Hook Master Plan does not include costs for meters, service lines, distribution lines, or hydrants, please explain why.

Exhibit 3 includes a revised Appendix 7 of the original submittal. This has been revised to reflect no school in the first 5 years and now includes a breakdown of owner equity provided infrastructure vs. those from AIAC including those costs for meters and hydrants. Please note the Residential line and the Establishment Charge line of the Revenue section should be added together to tie to appendix 18 "Residential" revenue.

4. R14-2-402.5.s. "A detailed description of the proposed construction timeline for facilities, with estimated starting and completion dates and, if construction is to be phased, a description of each separate phase of construction;"

Please provide a construction time line which includes an estimated starting and completion date. Also, provide a copy of the projected annual growth for Years 1 through 5; and, clarify if annual customer totals are accumulated or in addition to preceding year(s).

Exhibit 4 includes a replacement of Appendix 18 that shows both the annual and accumulated number of customers by class to be served along with a note stating that the "Industrial Water" is for construction water used on site for construction of the subdivisions. Also as discussed the School location identified in the Westland report is for the Hook M phase and therefore has been removed from years 1-5.

To clarify years 1-5 are for the build-out of 660 homes on the Wilmot Park portion only (zone 3080 on Westland report). Development of the Hook M parcel (zone 3160) will not commence until after year 5.

Additionally, on this exhibit we have included both the requested timeline of the Approval for and of Construction along with the anticipated 1<sup>st</sup> home built and the projected full build-out of the projected as requested.

5. R14-2-402.5.v. "A copy of each notice to be sent, as required under subsection (B)(4), to a municipal manager or administrator;"

*"R14-2-402.B.4. - Within 10 days after filing an application for a CC&N or a CC&N extension, an applicant shall provide written notice of the application to the municipal manager or administrator of each municipality with corporate limits that overlap with or are within five miles of the proposed service area or extension area. Each written notice shall include, at a minimum:"*

Please provide a copy of Red Rock Utilities LLC' notice to the City of Tucson, Town of Sahuarita, and Pima County Water District.

Please find the notices sent to the City of Tucson and the Town of Sahuarita as exhibit 5

6. R14-2-402.5.z. "The estimated number of customers to be served for each of the first five years of operation, expressed separately for residential, commercial, industrial, and irrigation customers and including documentation to support the estimates;"

Appendix 18 provides the total projected number of customers. Please provide the number of customers projected to be served in years 1 through 5 separately for Wilmot Park and Hook M Ranch. Also, advise if totals are accumulative.

Please see #4 above along with exhibit 6. We have added the cumulative number of customers by class and years 1-5 build out is for the majority portion the Wilmot Park phase only.

7. R14-2-402.5.iii. "A description of the sources of water that will be used to supply parks, recreation areas, golf courses, greenbelts, ornamental lakes, and other aesthetic water features;"

Does Pima County Wastewater District have a line that can transport reclaimed water to the proposed extension areas? If so, will Pima County Wastewater District provide effluent service for the above uses?

There are no effluent/reclaimed lines from the Pima County Wastewater facility. We have included in exhibit 7 the water conservation measurements and requirements for this property.

During our phone discussion we were asked to provide a land developer statement that they are required to build the waste water infrastructure to carry waste water to the Pima County facility as this cost (and construction) is not a Red Rock Utility obligation. Please find this statement as exhibit 8.

While we have tried to be thorough and answer all questions from our notes, please let us know if we have missed anything.

Best regards,



Brian Deatherage  
Construction Controller  
Diamond Ventures, Inc

Cc: Lawrence Robertson (via email)  
Mark Weinberg (via email)

# Exhibit 1

to

Red Rock Utilities, LLC

Application for an Extension Certificate of  
Convenience and Necessity (“Water”)



12/07/2016  
EEC No. 15033  
15033 Wilmot-Andrada Descrip  
Page 1 of 4

**EXHIBIT "A"**  
**PROPERTY DESCRIPTION**

THAT PORTION OF LAND WITHIN SECTION SIX, TOWNSHIP SEVENTEEN SOUTH, RANGE FIFTEEN EAST, GILA AND SALT RIVER MERIDIAN, PIMA COUNTY, ARIZONA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

**COMMENCING** AT A FOUND 1/2 INCH REBAR TAGGED "PCDOT REF 31" PIMA COUNTY DOT CONTROL POINT 17S15E A01 FROM WHICH A FOUND 1/2 INCH REBAR TAGGED "PCDOT REF 23" PIMA COUNTY DOT CONTROL POINT 17S15E A05 BEARS SOUTH 89 DEGREES 32 MINUTES 13 SECONDS EAST A DISTANCE OF 5584.35 FEET;

THENCE SOUTH 31 DEGREES 01 MINUTES 19 SECONDS WEST A DISTANCE OF 174.85 FEET TO A FOUND 1/2 INCH REBAR WITH NO TAG;

THENCE ALONG THE EASTERLY RIGHT-OF-WAY OF WILMOT ROAD, SOUTH 00 DEGREES 04 MINUTES 01 SECONDS EAST A DISTANCE OF 758.39 FEET TO THE NORTHWESTERN CORNER OF PARCEL 305-23-018D, SAID POINT BEING THE **POINT OF BEGINNING**;

THENCE ALONG THE COMMON LINE BETWEEN SAID RIGHT-OF-WAY AND SAID PARCEL, SOUTH 00 DEGREES 04 MINUTES 01 SECONDS EAST A DISTANCE OF 1315.55 FEET TO A FOUND 1/2 INCH REBAR TAGGED RLS 12122 ON THE NORTHWESTERN CORNER LINE OF PARCEL 305-23-026A;

THENCE CONTINUING ALONG SAID COMMON LINE, SOUTH 00 DEGREES 14 MINUTES 03 SECONDS EAST A DISTANCE OF 2574.20 FEET TO A FOUND 1/2 INCH REBAR TAGGED PCDOT REF 14;

THENCE CONTINUING ALONG SAID COMMON LINE, SOUTH 00 DEGREES 14 MINUTES 03 SECONDS EAST A DISTANCE OF 66.85 FEET TO A FOUND 1/2 INCH REBAR WITH NO TAG;

THENCE ALONG THE SOUTHERLY LINE OF SAID PARCEL, NORTH 89 DEGREES 57 MINUTES 01 SECONDS EAST A DISTANCE OF 3014.62 FEET TO A FOUND 2.5 INCH GLO AT THE QUARTER SECTION OF SECTIONS 6 AND 7;

THENCE ALONG THE EASTERLY LINE OF SAID PARCEL, NORTH 00 DEGREES 03 MINUTES 05 SECONDS WEST A DISTANCE OF 1319.85 FEET TO A FOUND 1/2 INCH REBAR TAGGED RLS 23379;

THENCE ALONG THE SOUTHERLY LINE OF PARCEL 305-23-027B, NORTH 89 DEGREES 58 MINUTES 09 SECONDS EAST A DISTANCE OF 2566.76 FEET TO A FOUND 1/2 INCH REBAR TAGGED RLS 13178;

THENCE CONTINUING ALONG THE SOUTHERLY LINE OF PARCEL 305-23-027B, NORTH 89 DEGREES 55 MINUTES 35 SECONDS EAST A DISTANCE OF 74.83 FEET TO A FOUND 1/2 INCH REBAR TAGGED RLS 13178;

THENCE ALONG THE EASTERLY LINE OF SAID PARCEL, NORTH 00 DEGREES 02 MINUTES 26 SECONDS WEST A DISTANCE OF 989.82 FEET TO A FOUND 1/2 INCH REBAR TAGGED RLS 35111;

THENCE ALONG THE NORTHERLY LINE OF SAID PARCEL, SOUTH 89 DEGREES 58 MINUTES 17 SECONDS WEST A DISTANCE OF 1320.96 FEET TO A FOUND 1/2 INCH REBAR TAGGED RLS 35111;

THENCE ALONG THE EASTERLY LINE OF SAID PARCEL, NORTH 00 DEGREES 05 MINUTES 36 SECONDS WEST A DISTANCE OF 329.67 FEET TO A FOUND 1/2 INCH REBAR TAGGED RLS 35111;

THENCE ALONG THE NORTHERLY LINE OF SAID PARCEL, SOUTH 89 DEGREES 58 MINUTES 27 SECONDS WEST A DISTANCE OF 990.54 FEET TO A FOUND 1/2 INCH REBAR TAGGED RLS 12122 AT THE SOUTHEAST CORNER OF PARCEL 305-23-018A;

THENCE ALONG THE EASTERLY LINE OF SAID PARCEL, NORTH 00 DEGREES 02 MINUTES 39 SECONDS WEST A DISTANCE OF 2080.41 FEET;

THENCE ALONG THE COMMON LINE OF ANDRADA ROAD RIGHT-OF-WAY AND SAID PARCEL, SOUTH 89 DEGREES 53 MINUTES 22 SECONDS WEST A DISTANCE OF 330.29 FEET;

THENCE ALONG THE WESTERLY LINE OF SAID PARCEL, SOUTH 00 DEGREES 01 MINUTES 36 SECONDS EAST A DISTANCE OF 758.39 FEET TO A FOUND 1/2 INCH REBAR TAGGED RLS 12122;

THENCE ALONG THE NORTHERLY LINE OF SAID PARCEL SOUTH 89 DEGREES 51 MINUTES 54 SECONDS WEST A DISTANCE OF 3023.08 FEET TO THE **POINT OF BEGINNING**.

Prepared by:  
**ENGINEERING AND ENVIRONMENTAL CONSULTANTS, INC.**

BRUCE BROWN, RLS



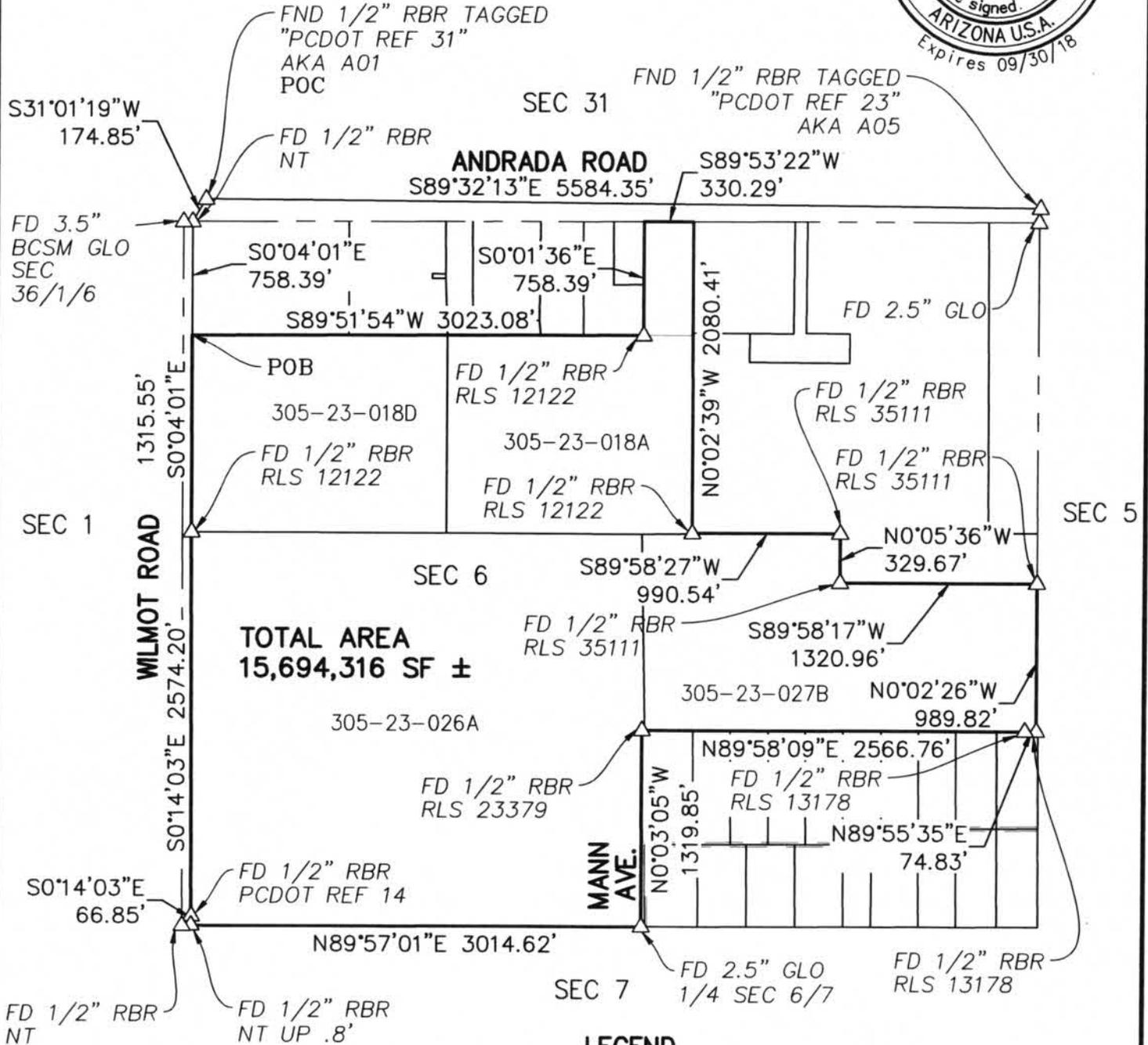
DEPICTION OF  
**EXHIBIT "A"**  
**PROPERTY BOUNDARY EXHIBIT**

SEC. 6, T-17-S, R-15-E, G&SRM  
PIMA COUNTY, ARIZONA



1" = 1000'

c:\CAROL\CLR-15033.01 Andrada 365 Acres\500 Engineering, Design & Survey\590-Survey\594-C3D\15033 Wilmot-Andrada Parcel Exhb.dwg Plotted: Dec 07, 2016 - 9:48am crichardson



**LEGEND**

- △ FOUND SURVEY MONUMENT AS NOTED
- 305-23-018D PIMA COUNTY PARCEL NUMBER
- SEC 6 SECTION NUMBER



Engineering and Environmental Consultants, Inc.  
4625 E. FT. LOWELL RD.  
TUCSON, ARIZONA 85712 520-321-4625

12/07/16  
EEC No. 15033  
SHT 4 OF 4

# Exhibit 2

to

Red Rock Utilities, LLC

Application for an Extension Certificate of  
Convenience and Necessity (“Water”)

**HOOK M RANCH AND WILMOT PARK  
WATER SYSTEM MASTER PLAN**

**RED ROCK UTILITIES, LLC.**

*Prepared for:*

Red Rock Utilities, LLC.  
2200 E. River Road, Suite 115  
Tucson, AZ 85718

*Prepared by:*

  
**WestLand Resources, Inc.**  
Engineering and Environmental Consultants

4001 E. Paradise Falls Drive  
Tucson, Arizona 85712



EXPIRES 12/31/2018

**December 2016**  
Project No. 1184.08

## TABLE OF CONTENTS

CHAPTER 1. WATER SYSTEM OVERVIEW.....	1
1.1. Introduction .....	1
CHAPTER 2. SCOPE AND APPROACH .....	2
2.1. Define Key Issues.....	2
2.2. Water System Planning Horizon .....	2
2.3. Water Resources and Development.....	2
2.4. Water Source Capacity and Quality Requirements .....	2
2.5. Storage Requirements.....	3
2.6. Pressure Requirements .....	3
2.7. Fire Flow Policy .....	3
2.8. Water Main Requirements.....	4
2.9. Land Acquisition .....	4
CHAPTER 3. ENGINEERING CRITERIA .....	5
3.1. Demand Criteria .....	5
3.2. Supply Criteria.....	5
3.3. Storage Criteria.....	5
3.4. Distribution System Criteria.....	5
CHAPTER 4. SYSTEM ANALYSIS - DEMAND CALCULATIONS .....	7
4.1. Population Projections.....	7
4.2. Demand Projections.....	7
4.3. System Sizing .....	9
4.3.1. Wells .....	9
4.3.2. Storage.....	9
4.3.3. Booster Capacity .....	9
4.4. Proposed Facilities - Water Service Concept .....	9
4.4.1. Well System Requirements .....	10
4.4.2. Reservoir System Requirements .....	10
4.4.3. Booster Station Requirements .....	10
4.4.4. Distribution System Requirements.....	11
CHAPTER 5. INFRASTRUCTURE COST ESTIMATES .....	12
5.1. Future System Cost Projections.....	12
5.1.1. Cost Projection Assumptions .....	12
5.1.2. Installation of Water Mains.....	12
5.1.3. Installation of Welded Steel Reservoirs .....	13
5.1.4. Well Installations.....	13
5.1.5. Booster Stations.....	13
5.1.6. Engineering and Contingencies.....	13
CHAPTER 6. WATER SYSTEM PHASING FOR HOOK M RANCH AND WILMOT PARK .....	14
6.1. Phase I – First Five years of Development.....	14
6.2. Phase II – Build-Out.....	15

**TABLES**

Table 1. Proposed Water System Pressure Zone Boundaries ..... 7  
Table 2. Build-out System Demands ..... 8  
Table 3. Reservoir Capacity Requirements ..... 9  
Table 4. Phase I Water Demands and Facility Requirements ..... 14

**EXHIBITS**

*(follow text)*

Exhibit 1. Project Overview  
Exhibit 2. Hook M Ranch Parcel  
Exhibit 3. Wilmot Park Parcel

**APPENDICES**

Appendix A. Build-Out System Demand Calculations  
Appendix B. Opinion of Probable Construction Costs for 3080-and 3160-Zone

## CHAPTER 1. WATER SYSTEM OVERVIEW

### 1.1. INTRODUCTION

The purpose of this Master Plan is to describe the required water system facilities to serve the proposed Hook M Ranch and Wilmot Park developments. This Master Plan will provide the basis for design of the new facilities. This master plan will discuss the operational method, proposed demands, and proposed facilities for service by Red Rock Utilities, LLC. (Red Rock). Red Rock is a private utility whose current Certificate of Convenience and Necessity (CC&N) boundaries include the Red Rock Village Master Planned Community in Pinal County, and the Verano Master Planned Community in Pima County. The Hook M Ranch and Wilmot Park Water System will be served by Red Rock by an extension of the existing Pima County CC&N boundaries.

The overall development is comprised of approximately 1,100 acres, located within portions of Sections 3, 4, 5, and 6 of Township 17 South, Range 15 East. The development is divided into two main parcels; Hook M Ranch to the east and Wilmot Park to the west (*Exhibit 1*). Part of the Hook M Ranch development includes an approximate 80-acre parcel located just east of the Wilmot Park parcel. This area will be dedicated to open space and right-of-way and will not require water service. The Hook M Ranch parcel at build-out is anticipated to include approximately 1,336 single-family units, 400 multi-family units, one K-8 school, and five acres of commercial use. The Wilmot Park parcel (formerly Andrada 365) at build-out is currently anticipated to consist of 800 single-family units. The planning horizon for this Master Plan is build-out of the entire Hook M Ranch and Wilmot Park developments; however, water service for only the first five years of development is addressed at this time.

This Master Plan is intended to be a flexible, working document allowing Red Rock staff to adjust planning and water system facilities installation to meet future conditions. However, this document cannot anticipate every future outcome, and as such, should be reviewed periodically to update the assumptions for water system boundaries, population growth, projected water usage, and infrastructure requirements. It is recommended that these updates be provided at three-year intervals, or as appropriate, to allow timely updates to the capital improvement program and funding issues.

## **CHAPTER 2. SCOPE AND APPROACH**

### **2.1. DEFINE KEY ISSUES**

The development of a Master Plan requires defining a strategic approach, key issues, and policies early in the planning process. These key issues and policies, and their initial assumptions, are required to design the final water system. The policies set forth within this section will affect the required water system layout, facility sizing, reliability, and costs of the required infrastructure.

### **2.2. WATER SYSTEM PLANNING HORIZON**

The projected planning horizon for the population and water system demands will be build-out. Population projections and demands on a per-zone basis will be provided for the build-out condition.

### **2.3. WATER RESOURCES AND DEVELOPMENT**

The Hook M Ranch and Wilmot Park water system will rely solely on groundwater supplies for its production water source. The water company will develop new groundwater wells to serve drinking water needs. The planning of well locations must take into account a number of factors including the hydrologic availability of water and location of the demand.

### **2.4. WATER SOURCE CAPACITY AND QUALITY REQUIREMENTS**

Engineering criteria require that the well system be capable of providing peak day demand (PDD) for the entire system with the largest well out of service. This Master Plan will develop the capacity requirements and locations for wells to meet this requirement.

The water quality in the Hook M Ranch and Wilmot Park development areas were evaluated and addressed in the Hook M Ranch Development Hydrology Report<sup>1</sup> and the Andrada 365 Development Hydrology Report<sup>2</sup> prepared by Basinwells Associates PLLC. The reports base the water quality review on Environmental Protection Agency (EPA) drinking water regulation violations in the area using the EPA Safe Drinking Water Information System (SDWIS) database as well as Arizona Drinking Water New Source Approval laboratory reports for wells in the vicinity. The SDWIS database showed no health-based violations for Tucson Water wells located southeast of Hook M Ranch in the Corona de Tucson area. The laboratory reports for nearby wells show that the wells are compliant with Arizona Drinking Water Standards. Based on the above water quality analysis, no water treatment procedures are expected at this time. However, chlorination may be used on the wells at the discretion of the operator.

---

<sup>1</sup> Basinwells Associates PLLC 2012. Hydrology Report, Hook M Ranch Development, Tucson, Arizona, Investigation of Assured Water Supply. November 10, 2012.

<sup>2</sup> Basinwells Associates PLLC 2016. Hydrology Report, Andrada 365 Development, Tucson, Arizona, Investigation of Assured Water Supply. June 21, 2016.

## 2.5. STORAGE REQUIREMENTS

Storage capacity is a highly critical element in the design and operation of water systems. The storage will provide operational flexibility and system reliability. Reservoir storage is used primarily to accommodate hourly demand fluctuations, PDD fluctuations, fire flow requirements, and emergency reserve storage. Each of these requirements added together form the required storage capacity. Current Arizona Department of Environmental Quality (ADEQ) criteria typically require the average daily demand (ADD) of the peak month plus fire flow requirements to be the minimum storage capacity per zone. This criterion will be used for the water system and will be calculated as 1.4 times ADD plus fire flow.

Storage capacity may be based on initial development consumption and phased as the water system expands. Storage should be provided in the zone where the usage is required or available to be readily transferred to the zone of use.

## 2.6. PRESSURE REQUIREMENTS

Pressure extremes in water systems result in a potential for contamination to enter the system. Low pressures may allow polluted fluids to be forced into the system. High pressures may cause ruptures or breaks. Normal working pressure in the distribution system should not be less than 40 pounds per square inch (psi). System pressures under peak day conditions should not drop below 35 psi anywhere within the system. The system shall be designed to maintain a minimum pressure of 20 psi at ground level at all points in the distribution system under all conditions of flow. This is generally understood to mean that the minimum residual pressure must be 20 psi for each customer in a fire flow event from any hydrant, during a flow condition of peak day plus fire flow. Maximum pressures of as much as 100 psi can be allowed in small, low-lying areas not subject to high flow rates and surge pressure. The Uniform Plumbing Code, latest edition (UPC) limits water pressure within the individual property owners' plumbing to 15 to 80 psi. Boosting or regulating the pressure from the meter to the customer is the responsibility of the customer.

## 2.7. FIRE FLOW POLICY

There are generally two considerations to providing adequate fire flow. The first consideration includes offsite requirements such as the volume of fire flow storage available in reservoirs, adequately designed pressure zones, and the size of transmission mains. The second factor is the internal distribution system within the neighborhood, including main sizes, adequate looping, and fire-hydrant placement. The goal of this Master Plan is to develop adequately sized reservoirs, properly designed pressure zones, and water transmission mains sized to provide as much fire flow as practical to existing areas, and to provide adequate fire flow for new development.

Fire flow requirements for homes typically vary from 1,000 to 1,500 gallons per minute (gpm), depending on the size of the home and the requirements of the fire district. The typical residential subdivision will have a fire flow requirement of 1,000 gpm for a two-hour duration, although required flows can be 1,500 gpm or higher for homes larger than 3,600 square foot under roof. Higher flows can often be reduced

through the use of residential sprinkler systems. Commercial facility fire flow requirements also vary depending on the square footage of the commercial building, occupancy type, building material type, exposure distance to other buildings, and whether the structure is sprinklered. Typical commercial facilities will have fire flow requirements from 1,500 to 2,500 gpm for a two- to three-hour duration. Fire flows can be adjusted by the local fire district, if the nature of the system or the rural nature of the area precludes the full fire flow per the International Fire Code (IFC). For purposes of this Master Plan, the fire flow will be assumed to be 1,000 gpm for two hours for residential and 1,500 gpm for two hours for the school and commercial facilities. The development will be served by the Corona de Tucson Fire Department, which currently requires all homes over 3,600 square feet and all commercial buildings to be sprinklered. Corona de Tucson Fire Department currently adopts the 2012 edition of the IFC.

## **2.8. WATER MAIN REQUIREMENTS**

The goal for this Master Plan is to describe a water transmission system that will tie together areas within a pressure zone to create a single integrated zone. The transmission and distribution systems should be sized and arranged to minimize friction-generated line losses and provide the required fire flows. The policy of Red Rock will be to require looped water transmission and distribution systems for the water main grid system wherever possible. In addition, appropriate valving locations and intervals should be required to isolate small sections of main during breakages and reduce the number of residences out of service.

## **2.9. LAND ACQUISITION**

This Master Plan will help to provide locations and sizes for future wells, reservoirs, booster stations, and major transmission mains to serve the water system. These facilities will be generally located on water system maps. Many factors and constraints will be required to determine the final location for each site. These factors include the proximity to three-phase power, access to local public streets, hydrologic requirements for well sites, noise and buffer requirements for booster stations and wells, aesthetic screening requirements for aboveground facilities, and the cost of land acquisition and/or the availability of other preferable sites.

## CHAPTER 3. ENGINEERING CRITERIA

Based on the information presented in Chapter 2, the system design criteria for this Master Plan are described below in terms of demand, supply, storage, and distribution system assumptions.

### 3.1. DEMAND CRITERIA

Demand, residency estimates, and peaking factors are based on the typical criteria for similar systems in the southern Arizona area.

- Average daily per capita water usage for single-family residential ..... 90 gpcd
- Average daily per acre water usage for commercial/mixed use/recreation ..... 1,490 gpad
- Average daily per student water usage for elementary school .....25 gpsd
- School Turf Usage.....4.6 afaa
- Low Water Vegetation Use..... 1.5afaa
- Delivery Losses .....8% of all demands
- Average number of persons per single-family dwelling unit ..... 2.8 pphu
- Average number of persons per multi-family dwelling unit ..... 1.8 pphu
- Ratio of peak day to average-day use for residential/commercial..... 2.0
- Ratio of peak hour to average-day use for residential/commercial ..... 3.0

gpcd – gallons per capita per day  
gpad – gallons per acre per day  
gpsd – gallons per student per day  
afaa – acre-feet per acre per year  
pphu – persons per housing unit

### 3.2. SUPPLY CRITERIA

- Well capacity to meet PDD with the largest well out of service.
- The minimum supply from well and boosters pumping to elevated storage must meet PDD.
- The minimum booster capacity to zones without elevated storage must meet peak-hour demand (PHD) or PDD plus fire flow, whichever is larger.

### 3.3. STORAGE CRITERIA

- Provide storage volume equal to a minimum of 1.4 times the ADD.
- Provide additional storage volume required to provide 1,000 gpm or 1,500 gpm fire flow for residential and commercial/school development, respectively, for a two-hour duration.

### 3.4. DISTRIBUTION SYSTEM CRITERIA

- System design and construction to meet Red Rock and ADEQ requirements.
- Under PDD conditions, for distribution system pipelines 12 inches or less, the velocity shall not exceed 5 feet per second (fps) or the head loss shall not exceed 8 feet per 1,000 feet, whichever is more stringent.

- Under PDD plus fire flow conditions, for distribution system pipelines 12 inches or less, the velocity shall not exceed 10 fps.
- Distribution lines to be sized and arranged to provide required fire flows.
- Provide a line-size valve, normally closed, or a pressure reducing valve (PRV) station at pipelines crossing zone boundaries.
- Water will generally be supplied at the customer's meter within a static pressure range of 35 to 85 psi. Due to localized conditions, certain locations may receive water pressure slightly less or greater. It is the customer's responsibility to increase or decrease the pressure to meet the UPC pressure requirements of 15 – 80 psi for the private plumbing.

## CHAPTER 4. SYSTEM ANALYSIS - DEMAND CALCULATIONS

The water system's design criteria were used to develop the future water system capacity requirements. Future system requirements include the capacity of wells, storage, boosters, and water mains to serve the build-out demand.

Two distinct water system pressure zones have been developed to provide service to the proposed development. Both zones will be served by pressure. The zones will be served from separate reservoirs and wells, with a booster station located at the reservoir sites providing pressure service to the respective zone. **Table 1** provides a summary of the proposed pressure zone boundaries. The 3160-Zone will serve the Hook M Ranch parcel and the 3080-Zone will serve the Wilmot Park parcel (see **Exhibit 1**). Homes between the elevations of 2,860 and 2,895 feet within the Wilmot Park parcel will require individual PRVs to reduce the pressure to 80 psi. At this time the pressure zones will be served independently; however, the two zones may be interconnected in the future as development occurs between the Hook M Ranch and Wilmot Park parcels.

**Table 1. Proposed Water System Pressure Zone Boundaries**

Zone	Theoretical High Water (ft)	Service Area Boundaries (ft)	Service Area Pressures (psi)	Change in Elevation (ft)	Zone Type
3160	3160	2982-3060	44 - 77	78	Pressure
3080	3080	2860-2980	44 - 96	120	Pressure

### 4.1. POPULATION PROJECTIONS

The water system analysis is based on the approximate number and type of units at build-out for the water system. The Hook M Ranch and Wilmot Park Conceptual Land Use Plans provides the location and type of future development projects for both the Hook M Ranch and the Wilmot Park parcels.

The population projection is based on the number of residential units and assumptions of 2.8 pphu for single family (SF) and 1.8 pphu for multi-family (MF). The estimated population for the water system is approximately 6,700 at build-out; with approximately 4,460 residents in the Hook M Ranch parcel and 2,240 in the Wilmot Park parcel.

### 4.2. DEMAND PROJECTIONS

The demand criteria presented in Chapter 3 were used to calculate the build-out demands for the water system by zone. The equivalent dwelling units (EDU) are calculated based on the ratio of total projected water demands to the water demands of single family dwelling units. **Table 2** summarizes the build-out ADD, PDD, and PHD for each zone and for the water system as a whole. Further breakdown of all calculations are presented in **Appendix A**.

Table 2. Build-out System Demands

Pressure Zone	SF Units	MF Units	Comm. Area (acre)	K-8 School Students	School Low Water Use (acre)	School Turf (acre)	Common Area Low Water Use (acre)	Common Area Turf (acre)	ADD* (gpd)	ADD* (gpm)	PDD* (gpm)	PHD* (gpm)
3160	1,336	400	5	500	3	5	22.5	7.75	548,557	386	771	1,157
3080	800	-	-	-	-	-	10	-	232,189	162	324	486
<b>Total System</b>	<b>2,136</b>	<b>400</b>	<b>5</b>	<b>500</b>	<b>3</b>	<b>5</b>	<b>32.5</b>	<b>7.75</b>	<b>780,746</b>	<b>548</b>	<b>1,095</b>	<b>1,643</b>
<b>Total System EDUs</b>	<b>3,098</b>											

\*Includes 8% lost and unaccounted for water.

### 4.3. SYSTEM SIZING

The water system design criteria, as previously provided, were used to develop the future water system capacity requirements. The system requirements include the capacity of wells, storage, boosters, and mains to serve the demands. The infrastructure sizing is described below for each pressure zone.

#### 4.3.1. Wells

Well production requirements are based on meeting PDD with the largest well out of service. Each pressure zone is assumed to have two wells that each produce PDD. Based on projected build-out conditions, the 3160-Zone requires approximately 1,550 gpm of well capacity (two wells at 775 gpm) and the 3080-Zone requires approximately 650 gpm (two wells at approximately 325 gpm). The wells will pump directly to the respective zone reservoir and will be level controlled by the reservoir.

#### 4.3.2. Storage

Storage sizing requirements are based on meeting 1.4 times the ADD plus fire flow to meet ADEQ requirements. Fire flow demands will be served through boosters.

The storage requirements per zone are presented in *Table 3*. A fire flow of 1,500 gpm was assumed for both pressure zones to allow for potential changes in land use.

**Table 3. Reservoir Capacity Requirements**

Zone	ADD (gpd)	Potable Storage Requirement (1.40 ADD/gal)	Fire flow Storage Requirement (gal)	Storage capacity Requirement (ADD + FF) gallons
3160	548,600	768,000	180,000	948,000
3080	232,200	325,000	180,000	505,000

#### 4.3.3. Booster Capacity

Booster station facility sizing is based upon providing PHD or PDD plus fire flow, whichever is greater. PHD for the 3160-Zone is 1,157 gpm and PDD plus fire flow is 2,271 gpm (1,500 gpm fire flow), based on the demands calculated in Section 4.2. Therefore, the booster station required capacity is approximately 2,275 gpm.

PHD for the 3080-Zone is 486 gpm and PDD plus fire flow is 1,825 gpm (1,500 gpm fire flow) therefore, the booster station required capacity is approximately 1,825 gpm.

### 4.4. PROPOSED FACILITIES - WATER SERVICE CONCEPT

The proposed water system will include two pressure zones, the 3160-Zone and 3080-Zone (*Exhibits 1 and 2*). Each zone will be served by its own wells, reservoir, and booster station. The source water will be provided by two wells in each zone: two within the Hook M Ranch parcel and two within the Wilmot Park

parcel. All wells will pump directly to the storage reservoir located in the respective zone. One well will be constructed within the reservoir site with the other well to be constructed approximately 2,000 feet away. The reservoir site will also include the booster station. This layout for the system was selected due to the distance between the Hook M Ranch and Wilmot Park parcel and provides the most reliable and energy efficient system for each development area. The two zones may interconnect in the future as development occurs between the Hook M Ranch and Wilmot Park parcels. This water service concept provides future flexibility to serve parcels to the west of Wilmot Park, between the two parcels, and east of the Hook M Ranch parcel.

The facilities proposed to meet the system requirements are described below. The proposed system and the required facilities are shown on *Exhibits 1* and *2*.

#### **4.4.1. Well System Requirements**

The build-out well capacity requirement of the Hook M Ranch and Wilmot Park water system is approximately 1,550 gpm in the 3160-Zone (including 775 gpm reserve capacity) and approximately 650 gpm in the 3080-Zone (including 325 gpm reserve capacity). In order to meet these build-out capacity requirements, four wells will be constructed: two within the Hook M Ranch parcel and two within the Wilmot Park parcel. A minimum of two wells will be required in each zone to meet the well production requirements.

The wells in the Hook M Ranch parcel will be located generally in the northwest portion of the parcel. The Wilmot Park wells will be located halfway between the northern and southern boundary on the west and east end of the parcel. These preferred locations for the wells are based on the Hook M Ranch Development Hydrology Report and the Andrada 365 Development Hydrology Report prepared by Basinwells Associates PLLC. However, further analysis will be required in determining the final location of these wells including a well-spacing analysis, proximity to the greatest and most efficient hydrologic aquifer supply, and proximity to the distribution system. The wells will be connected to the system with 8-inch pipelines that deliver water directly to the zone reservoir. This configuration will allow for a single point of disinfection at each reservoir. Telemetry will be provided at each of the well sites.

#### **4.4.2. Reservoir System Requirements**

The storage requirement for the 3160- and 3080-Zones is approximately 948,000 gallons and 505,000 gallons, respectively. A reservoir will be constructed in each zone to provide this storage capacity. The reservoirs will be constructed at one of the well sites for each zone. Central disinfection will be provided at the reservoirs.

#### **4.4.3. Booster Station Requirements**

There will be a 2,275 gpm booster station in the 3160-Zone and an 1,825 gpm booster station in the 3080-Zone to meet PDD and fire flow demands. The selection of the number and capacity of the pumps for each booster station will be performed during engineering design. Each booster station will be located within the

reservoir site for each zone. A backup generator will be required at each booster station to provide a backup power supply.

#### **4.4.4. Distribution System Requirements**

This Master Plan provides a concept distribution system that consists of mains required to provide transport capacity between wells and reservoirs and provide capacity to serve each development parcel for PDD plus fire flow. The water system layout within each parcel is not discussed in this report. The following transmission mains are anticipated (*Exhibits 2 and 3*):

- Approximately 16,900 lf of 12-inch 3160-Zone water main for the 3160-Zone distribution system. The 12-inch pipelines in *Exhibit 3* are subdivision piping and are shown for information purposes only.
- Approximately 4,000 lf of 8-inch well conveyance pipeline.

## CHAPTER 5. INFRASTRUCTURE COST ESTIMATES

### 5.1. FUTURE SYSTEM COST PROJECTIONS

In order to meet future system requirements, cost projections have been provided to predict the total infrastructure costs. Red Rock will need to construct distribution mains, two booster stations, four wells, and two reservoirs. The total cost to construct these facilities to meet current standards is estimated to be approximately \$9.52 million: \$3.34 million for the 3080-Zone facilities and \$6.18 million for the 3160-Zone facilities.

The 3080-Zone facilities consist of 2,000 lf of 8-inch well conveyance pipeline, 625 gpm of well capacity, 505,000 gallons of reservoir storage capacity, and 1,825 gpm of booster capacity. The cost allocation of the \$3.34 million of infrastructure includes approximately \$150,000 for the well conveyance pipeline, \$540,000 for the reservoir, \$585,000 for the booster station, \$1.40 million for the wells, and an additional 25 percent for engineering and contingencies. *Appendix B* provides the Opinion of Probable Construction Cost (OPCC) for the 3080-Zone facilities; the cost for these facilities is divided into two OPCCs based on the phasing discussed in Chapter 6.

The 3160-Zone facilities consist of 2,000 lf of 8-inch well conveyance pipeline, 16,900 lf of 12-inch transmission mains, 1,550 gpm of well capacity, 948,000 gallons of reservoir storage capacity, and 2,275 gpm of booster capacity. The cost allocation of the \$6.18 million of infrastructure includes approximately \$150,000 for the well conveyance pipeline, \$1.61 million for the transmission mains, \$800,000 for the reservoir, \$685,000 for the booster station, \$1.70 million for the wells, and an additional 25 percent for engineering and contingencies. *Appendix B* provides the OPCC for the 3160-Zone facilities.

#### 5.1.1. Cost Projection Assumptions

A major component in compiling this Master Plan is the cost projections for the recommended facilities. *Appendix B* provides a list of the proposed infrastructure projects. Due to the fact that this Master Plan planning document shows conceptual layouts for proposed facilities, assumptions were made to predict probable construction costs. Standard assumptions were made for several categories of improvements.

#### 5.1.2. Installation of Water Mains

Projections in this Master Plan indicate that approximately 16,900 lf of 12-inch transmission main and 4,000 lf of 8-inch well conveyance pipeline will need to be installed at build-out. Based on recent bids for other water utilities, and applying standard assumptions for soil conditions, the following costs were used:

- \$75 per lf of 8-inch water main
- \$95 per lf of 12-inch water main

This cost assumption includes valves, fittings, and appurtenances required for the installation of the proposed water mains. The cost assumption does not include easement or right-of-way acquisition.

### **5.1.3. Installation of Welded Steel Reservoirs**

Projections of the water system storage requirements indicate that two reservoirs will be required at build-out. It is assumed that each storage facility will be a welded steel reservoir. The cost per gallon of storage for each reservoir decreases as the size of the reservoir increases. The cost for each reservoir is estimated using the information from recent bids with an estimate of \$800,000 for the 940,000 gallon reservoir and \$540,000 for the 505,000 gallon reservoir. The cost assumptions include the steel reservoir, concrete ring wall, the required on-site work, on-site piping, on-site grading, and chain link fence.

### **5.1.4. Well Installations**

This Master Plan estimates that four wells will be required to meet the supply demands of the water system: two in the 3080-Zone and two in the 3160-Zone. One well in each zone will be constructed at the zone reservoir site and the other well will be constructed on a separate site approximately 2,000 feet from the reservoir site. The cost for each well was estimated using recent bids and applying standard assumptions for drilling rig requirements for access. The 3160-Zone wells are larger at an assumed production rate of 775 gpm. A cost of \$750,000 was assumed to drill and equip the 775 gpm reservoir site well and \$950,000 to drill and equip the other 775 gpm well. The 3080-Zone wells are assumed to have a production rate of 325 gpm. A cost of \$600,000 was assumed to drill and equip the 325 gpm reservoir site well and \$800,000 to drill and equip the other 325 gpm well. All cost estimates include standard drilling operations, sanitary seal, well column tube and shaft, motor, and pump bowl assembly, assuming the wells are to be drilled using a flooded reverse-circulation drilling rig. The 775 gpm wells assume a 16-inch well casing and the 325 gpm wells assume a 14-inch casing. In addition the cost projection for the wells located separately from the reservoirs includes components for on-site piping and equipment, on-site power and electrical, telemetry, site grading, and fencing. The costs for the reservoir site wells do not include any of these items as they are already included in the cost of the booster station.

### **5.1.5. Booster Stations**

This Master Plan includes a booster station to meet build-out demands. Using bids recently received, and applying standard assumptions, a cost of \$600,000 for the 2,275 gpm booster station and \$500,000 for the 1,825 gpm booster station was assumed. A backup generator for each booster station site is estimated to cost \$85,000. This cost assumption includes on-site piping and equipment (including a hydropneumatic tank), on-site power and electrical, and telemetry.

### **5.1.6. Engineering and Contingencies**

Due to the planning nature of the locations of the facilities proposed in this Master Plan, contingencies are added to reflect unforeseen conditions that may affect the individual projects. This cost component also includes engineering fees. For the cost estimates in Section 5.1, engineering and contingencies of 12.5 percent each have been included.

## CHAPTER 6. WATER SYSTEM PHASING FOR HOOK M RANCH AND WILMOT PARK

The phasing of the Hook M Ranch and Wilmot Park water system infrastructure is discussed in this chapter based on the phasing of development. The phases are 1) first five years and 2) build-out. Development is planned to begin in the Wilmot Park parcel. The absorption schedule for Wilmot Park estimates that 660 of the 800 homes will be sold within the first five years. The Hook M Ranch parcel will begin after Wilmot Park is built-out. The water demands, infrastructure requirements, and cost estimate for each phase is discussed in the following sections.

### 6.1. PHASE I – FIRST FIVE YEARS OF DEVELOPMENT

Based on the absorption schedule, the first five years of development will include 660 homes in the Wilmot Park parcel. The first homes are estimated to be occupied in 2019. It is assumed that all of the common areas will also be part of Phase 1. The water demands and facility requirements are presented in *Table 4* for Phase I.

**Table 4. Phase I Water Demands and Facility Requirements**

Development Area	Single-Family Units (SF)	ADD (gpm)	Well Requirement PDD (gpm)	Storage Requirement 1.4 ADD (gal)	Booster Requirement PDD (gpm)
Wilmot Park	660	136	272	271,722	272
Fire Flow	-	-	-	180,000	1,500
<b>Total of Phase I</b>	<b>660</b>	<b>136</b>	<b>272</b>	<b>451,722</b>	<b>1,772</b>

The water demands and facility sizing requirements for the 660 lots is slightly under the capacity requirements to serve the entire 800 lots included in the 3080-Zone. Therefore, Phase 1 of construction will include all of the 3080-Zone facilities to serve the Wilmot Park parcel including the two wells, well conveyance pipeline, reservoir, and booster station. The infrastructure is estimated to be constructed in 2018. However, the second well (shown as Well No. 1 on **Exhibit 3**) will not need to be operational until approximately 250 homes are constructed. It is estimated that 250 homes will be built by the end of the second year of development, 2020. Therefore, the second well will be drilled and equipped in 2020. The pipeline from Well No. 1 to the reservoir will be constructed in 2018 to coincide with the construction of the roadways. The estimated cost for the installation of the 3080-Zone facilities is a total of approximately \$3.34 million with the facilities to be constructed in 2018 estimated at \$2.34 million and the second well estimated at \$1.0 million to be constructed in 2020 (*Appendix B*).

## 6.2. PHASE II – BUILD-OUT

Build-out will include the remaining 140 single-family units in the Wilmot Park parcel and the entire Hook M Ranch parcel. Water demands will be the build-out demands provided in **Table 2** in Section 4.2. The remaining facilities to be constructed include the 3160-Zone infrastructure including the two wells, reservoir, booster station, and transmission mains. The estimated cost for the installation of the 3160-Zone facilities is approximately \$6.18 million (**Appendix B**).

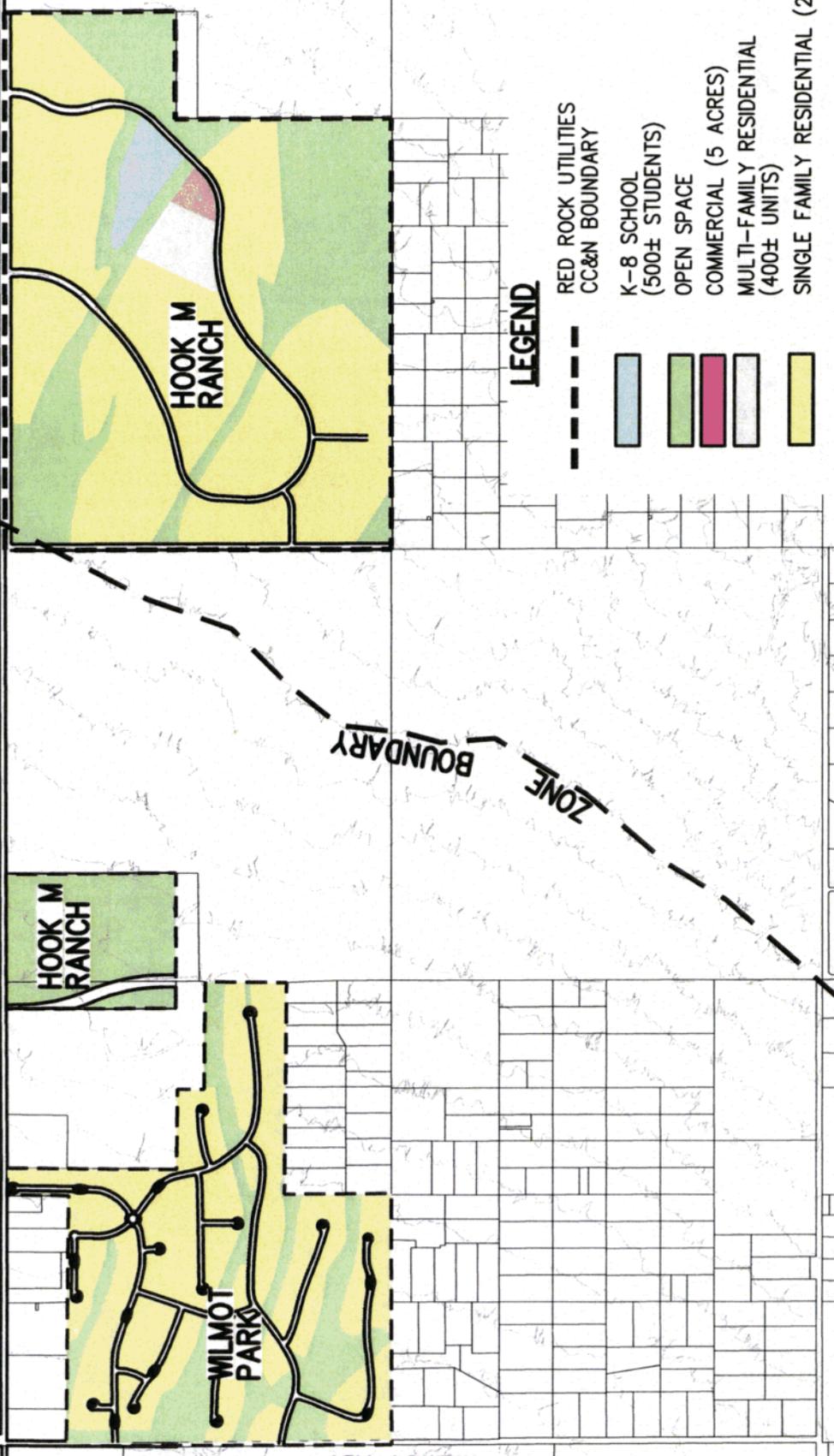
---

**EXHIBITS**



ANDRADA RD.

WILMOT RD.



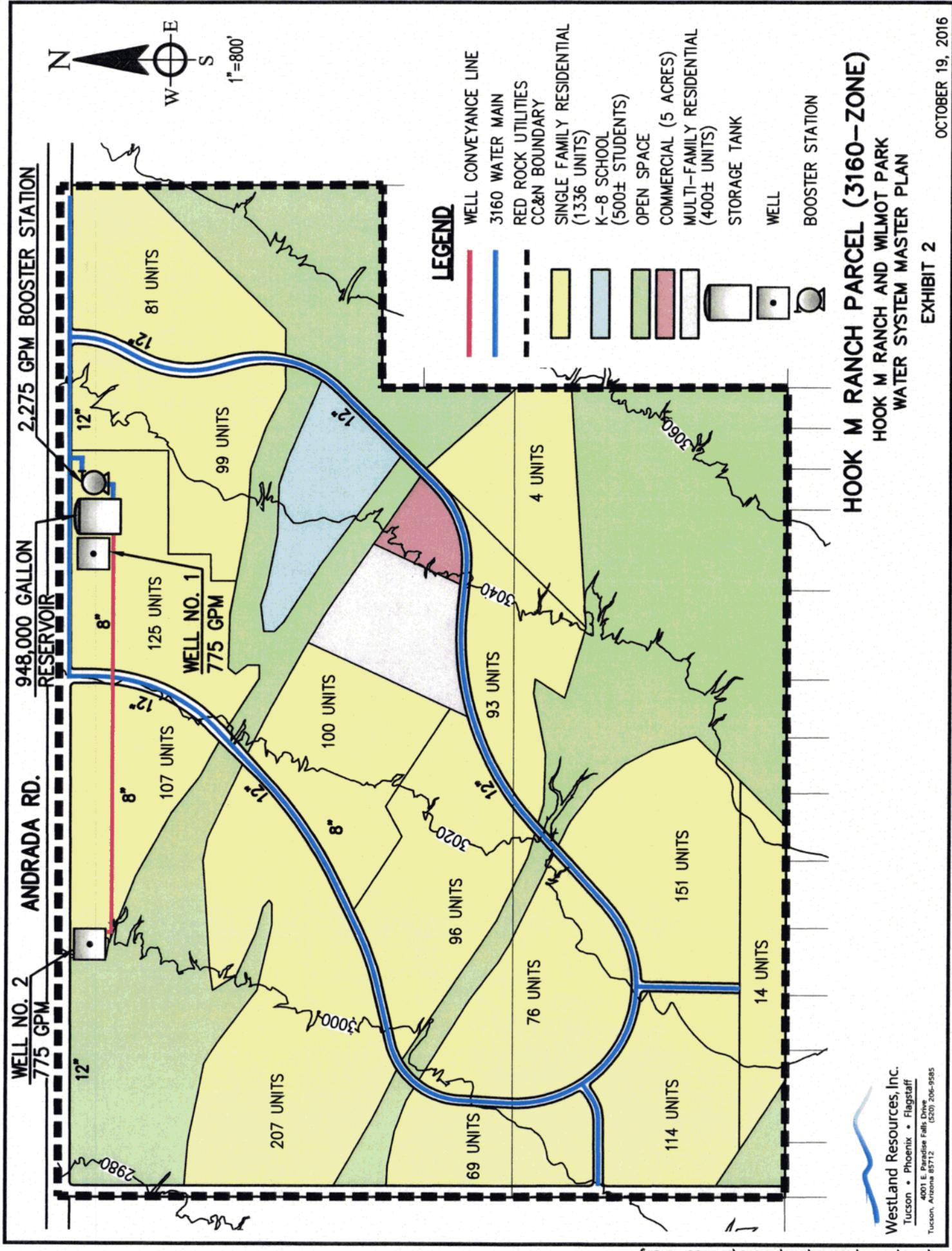
**LEGEND**

- RED ROCK UTILITIES
- CC&N BOUNDARY
- [Light Blue Box] K-8 SCHOOL (500± STUDENTS)
- [Green Box] OPEN SPACE
- [Pink Box] COMMERCIAL (5 ACRES)
- [White Box] MULTI-FAMILY RESIDENTIAL (400± UNITS)
- [Yellow Box] SINGLE FAMILY RESIDENTIAL (2136 UNITS)

**PROJECT OVERVIEW**  
**HOOK M RANCH AND WILMOT PARK**  
**WATER SYSTEM MASTER PLAN**

EXHIBIT 1

OCTOBER 19, 2016



**LEGEND**

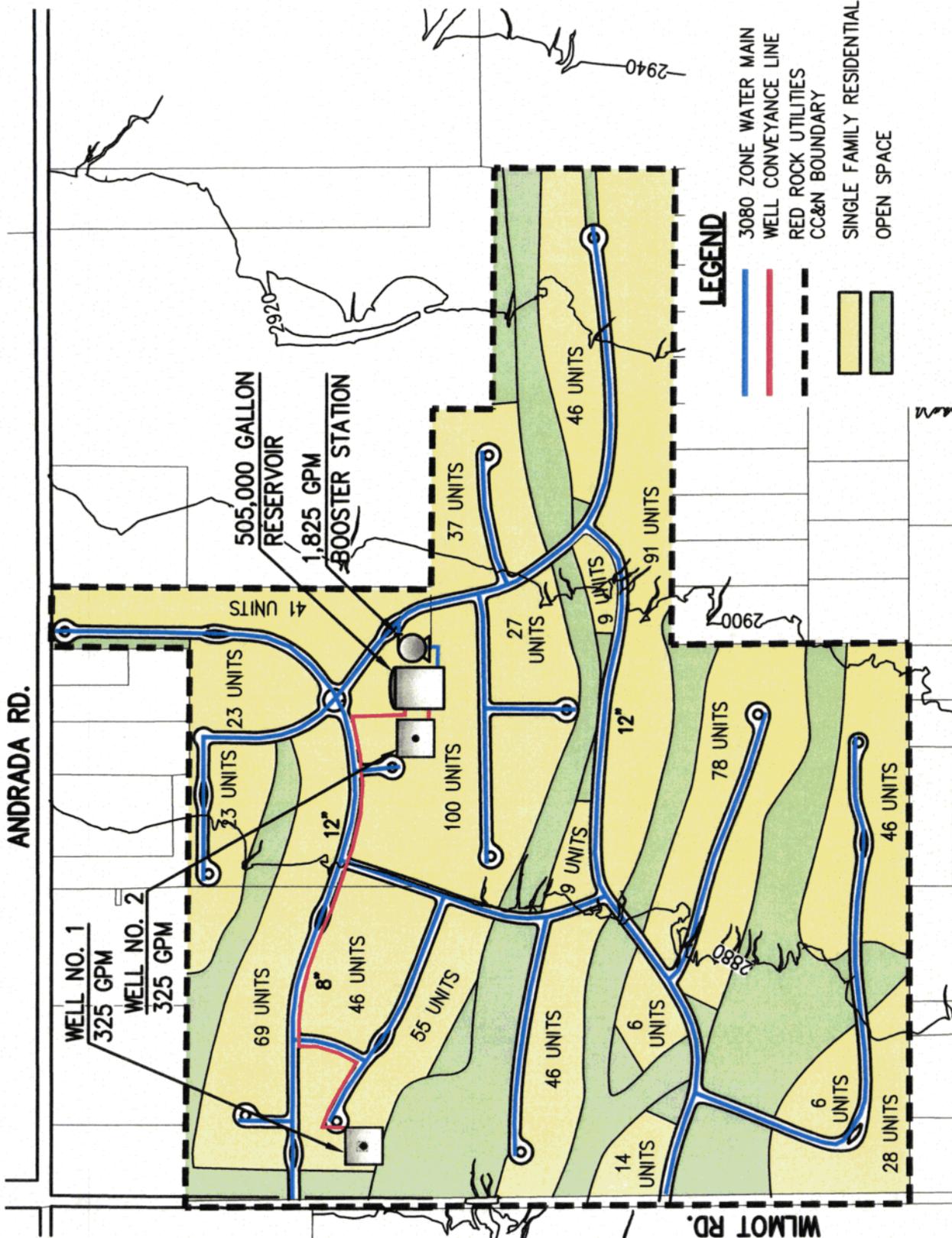
- WELL CONVEYANCE LINE
- 3160 WATER MAIN
- RED ROCK UTILITIES
- CC&N BOUNDARY
- SINGLE FAMILY RESIDENTIAL (1336 UNITS)
- K-8 SCHOOL (500± STUDENTS)
- OPEN SPACE
- COMMERCIAL (5 ACRES)
- MULTI-FAMILY RESIDENTIAL (400± UNITS)
- STORAGE TANK
- WELL
- BOOSTER STATION

**HOOK M RANCH PARCEL (3160--ZONE)**  
**HOOK M RANCH AND WILMOT PARK**  
**WATER SYSTEM MASTER PLAN**

EXHIBIT 2

OCTOBER 19, 2016

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



**LEGEND**

-  3080 ZONE WATER MAIN
-  WELL CONVEYANCE LINE
-  RED ROCK UTILITIES
-  CC&N BOUNDARY
-  SINGLE FAMILY RESIDENTIAL (800 UNITS)
-  OPEN SPACE

**WLMOT PARK PARCEL (3080--ZONE)**  
 HOOK M RANCH AND WLMOT PARK  
 WATER SYSTEM MASTER PLAN

EXHIBIT 3

OCTOBER 19, 2016

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

---

**APPENDIX A**

**BUILD-OUT SYSTEM  
DEMAND CALCULATIONS**

**Build-Out System Demand Calculations**  
Hook M Ranch and Wilmot Park Water System Master Plan  
WestLand Project No. 1184.08

<b>Demand Criteria</b>		
<b>Demand, Residency Estimates, and Peaking Factors</b>	<b>Value</b>	<b>Units</b>
Average daily per capita water usage for single- and multi-family residential	90	gpcd
Average daily per acre water usage for commercial/mixed use/recreation	1490	gpac
Average daily per student water usage for elementary school	25	gpsd
Turf Usage	4.6	afaa
Low Water Vegetation Usage	1.5	afaa
Percent Lost and Unaccounted For	8	%
Average number of persons per single-family dwelling unit	2.8	pphu
Average number of persons per multi-family dwelling unit	1.8	pphu
Ratio of peak day to average-day use for residential/commercial	2	
Ratio of peak hour to average-day use for residential/commercial	3	

**Hook M - 3160 Zone**

<b>Parcel No.</b>	<b>Use Type</b>	<b># Units</b>	<b>Average Daily Demand (gpd)</b>	<b>Average Daily Demand (gpm)</b>	<b>Peak Daily Demand (gpm)</b>	<b>Peak Hour Demand (gpm)</b>
Single Family Residential	CR-5 Zoned	1332	335,664	234	468	702
Single Family Residential	SR Zoned	4	1,008	1	2	3
Multi-Family Residential	TR Zoned	400	64,800	45	90	135
Elementary School (students)	Elementary School	500	12,500	9	18	27
Commercial (acres)	Commercial	5	7,450	6	12	18
Common Area Low Water Vegetation Usage (acres)	Common Area	22.5	30,128	21	42	63
Common Area Turf (acres)	Common Area	7.75	31,824	23	46	69
School Low Water Vegetation Usage (acres)	Elementary School	3	4,017	3	6	9
School Turf (acres)	Elementary School	5	20,532	15	30	45
<b>Sub-Total 3160 Zone</b>			<b>507,923</b>	<b>357</b>	<b>714</b>	<b>1071</b>
<b>8% Lost and Unaccounted For</b>			<b>40,634</b>	<b>29</b>	<b>57</b>	<b>86</b>
<b>Total 3160 Zone</b>			<b>548,557</b>	<b>386</b>	<b>771</b>	<b>1,157</b>
<b>Total 3160-Zone EDU'S</b>						<b>2,177</b>

**Wilmot Park - 3080 Zone**

<b>Parcel No.</b>	<b>Use Type</b>	<b># Units</b>	<b>Average Daily Demand (gpd)</b>	<b>Average Daily Demand (gpm)</b>	<b>Peak Daily Demand (gpm)</b>	<b>Peak Hour Demand (gpm)</b>
Andrada 365	Single Family Residential	800	201,600	140	280	420
Common Area Low Water Vegetation Usage (acres)	Common Area	10	13,390	10	20	30
<b>Sub-Total 3080 Zone</b>			<b>214,990</b>	<b>150</b>	<b>300</b>	<b>450</b>
<b>8% Lost and Unaccounted For</b>			<b>17,199</b>	<b>12</b>	<b>24</b>	<b>36</b>
<b>Total 3080 Zone</b>			<b>232,189</b>	<b>162</b>	<b>324</b>	<b>486</b>
<b>Total 3080-Zone EDU'S</b>						<b>921</b>

---

**APPENDIX B**

**OPINION OF PROBABLE  
CONSTRUCTION COSTS  
FOR  
3080- AND 3160-ZONES**

**OPINION OF PROBABLE CONSTRUCTION COST**

**Project Name:** 3080-Zone Facilities, Hook M Ranch and Wilmot Park Master Plan

**Project No.** 1184.08

**Location:** Pima County, AZ

**Description:** 2018 Facilities - Wilmot Park

**Prepared by:** LRH **Date:** 10/6/2016

**Checked by:** MDO **Date:** 10/6/2016

**Client:** Red Rock Utilities, LLC.

Item No.	Item Description	Unit	Quantity	Unit Price	Amount	Remarks
1	325 GPM Well at Tank Site	LS	1	\$600,000	\$600,000	Includes drilling operations, 14-inch well casing, sanitary seal, well column tube and shaft, motor, pump, on-site piping and equipment. Will be located at the tank site and does not include on-site grading, block wall, site power and electrical, or telemetry.
2	505,000 gallon reservoir	LS	1	\$540,000	\$540,000	Includes steel reservoir, concrete ring wall, on-site work, on-site piping, on-site grading, and chain link fence.
3	1,825 GPM Booster Station	LS	1	\$500,000	\$500,000	Includes on-site piping and equipment, hydro pneumatic tank, on-site power and electrical for booster and on-site well, and telemetry. Booster station will be located on the same site as the tank.
4	Back-Up Power	LS	1	\$85,000	\$85,000	Backup generator for booster pump station.
5	8-Inch Water Main	LF	2,000	\$75	\$150,000	Includes installation, pipe, fittings, & valves. Includes 8-inch well conveyance piping
	Sub-Total				\$1,875,000	
	12.5% Engineering Fees				\$234,375	
	12.5% Contingencies				\$234,375	
	<b>Total</b>				<del>\$2,340,000</del> <b>2,343,750</b>	

**OPINION OF PROBABLE CONSTRUCTION COST**

**Project Name:** 3080-Zone Hook M Ranch and Wilmot Park Master Plan

**Project No.** 1184.08

**Location:** Pima County, AZ

**Description:** 2020 Facilities - Wilmot Park

**Prepared by:** LRH      **Date:** 10/6/2016

**Checked by:** MDO      **Date:** 10/6/2016

**Client:** Red Rock Utilities, LLC.

Item No.	Item Description	Unit	Quantity	Unit Price	Amount	Remarks
1	325 GPM Well with hydro pneumatic tank	LS	1	\$800,000	\$800,000	Includes drilling operations, 14-inch well casing, sanitary seal, well column tube and shaft, motor, and pump. Also includes on-site piping and equipment, hydro pneumatic tank, on-site grading, block walls, on-site power and electrical, and telemetry.
	Sub-Total				\$800,000	
	12.5% Engineering Fees				\$100,000	
	12.5% Contingencies				\$100,000	
	<b>Total</b>				<b>\$1,000,000</b>	

**OPINION OF PROBABLE CONSTRUCTION COST**

**Project Name:** 3160 Zone - Hook M Ranch and Wilnot Park Master Plan

**Project No.** 1184.08

**Location:** Pima County, AZ

**Description:** Hook M Ranch Costs

**Prepared by:** LRH

**Date:** 10/6/2016

**Checked by:** MDO

**Date:** 10/6/2016

**Client:** Red Rock Utilities, LLC.

Item No.	Item Description	Unit	Quantity	Unit Price	Amount	Remarks
1	775 GPM Well with hydropneumatic tank	LS	1	\$950,000	\$950,000	Includes drilling operations, 16-inch well casing, sanitary seal, well column tube and shaft, motor, and pump. Also includes on-site piping and equipment, hydropneumatic tank, on-site grading, block walls, on-site power and electrical, and telemetry.
2	775 GPM Well at Tank Site	LS	1	\$750,000	\$750,000	Includes drilling operations, 16-inch well casing, sanitary seal, well column tube and shaft, motor, pump, on-site piping and equipment. Will be located at the tank site and does not include on-site grading, block wall, site power and electrical, or telemetry.
3	948,000 Gallon Tank	LS	1	\$800,000	\$800,000	Includes steel reservoir, concrete ring wall, on-site work, on-site piping, on-site grading, and chain link fence.
4	2,275 GPM Booster Station	LS	1	\$600,000	\$600,000	Includes on-site piping and equipment, hydropneumatic tank, on-site power and electrical for booster and on-site well, and telemetry. Booster station will be located on the same site as the tank.
5	Back-Up Power	LS	1	\$85,000	\$85,000	Backup generator for booster pump station.
6	8-Inch Water Main	LF	2,000	\$75	\$150,000	Includes installation, pipe, fittings, & valves. Includes 8-inch well conveyance piping
7	12-Inch Water Main	LF	16,900	\$95	\$1,605,500	Includes installation, pipe, fittings, & valves
	Sub-Total				\$4,940,500	
	12.5% Engineering Fees				\$617,563	
	12.5% Contingencies				\$617,563	
	<b>Total</b>				<b>\$6,180,000</b>	6,185,626

# Exhibit 3

to

Red Rock Utilities, LLC

Application for an Extension Certificate of  
Convenience and Necessity (“Water”)

**Red Rock Utilities, LLC**  
**Andrada Wilmot 180 CC&N**

Balance Sheet Assets:	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Cash	5,000	35,466	97,752	121,788	146,074	163,932
Accounts Receivable	-	5,000	10,000	15,000	20,000	25,000
Other	-	-	-	-	-	-
<b>Current Assets</b>	<b>5,000</b>	<b>40,466</b>	<b>107,752</b>	<b>136,788</b>	<b>166,074</b>	<b>188,932</b>
Utility Plant in Service						
101301 Organization	25,000	25,000	25,000	25,000	25,000	25,000
101303 Land & Land Rights	110,000	110,000	110,000	110,000	110,000	110,000
101307 Wells & Springs	750,000	750,000	1,750,000	1,750,000	1,750,000	1,750,000
101310 Power Generation	106,250	106,250	106,250	106,250	106,250	106,250
101311 Pumping Equipment	625,000	625,000	625,000	625,000	625,000	625,000
101330 Distribution Reservoir	675,000	675,000	675,000	675,000	675,000	675,000
101331 Transmission & Distribution Ma	378,460	586,780	821,140	1,072,860	1,333,260	1,333,260
101333 Services	116,490	243,570	386,535	540,090	698,940	698,940
101334 Meters	44,000	92,000	146,000	204,000	264,000	264,000
101335 Hydrants	27,830	58,190	92,345	129,030	166,980	166,980
101346 Communication equipment	-	-	-	-	-	-
less Accum Depreciation	-	(147,036)	(307,076)	(515,046)	(738,728)	(978,665)
<b>Net Plant In Service</b>	<b>2,858,030</b>	<b>3,124,754</b>	<b>4,430,194</b>	<b>4,722,184</b>	<b>5,015,702</b>	<b>4,775,765</b>
Other	-	-	-	-	-	-
<b>Fixed Assets</b>	<b>2,858,030</b>	<b>3,124,754</b>	<b>4,430,194</b>	<b>4,722,184</b>	<b>5,015,702</b>	<b>4,775,765</b>
<b>Total Assets</b>	<b>2,863,030</b>	<b>3,165,220</b>	<b>4,537,946</b>	<b>4,858,972</b>	<b>5,181,776</b>	<b>4,964,697</b>

**Red Rock Utilities, LLC**  
**Andrada Wilmot 180 CC&N**

Liabilities:

Accounts Payable	-	4,500	5,500	6,500	7,500	7,500
Notes Payable	-	-	-	-	-	-
Accrued Taxes	-	9,177	15,000	15,000	15,000	15,000
Accrued Interest	-	-	-	-	-	-
Other	-	-	-	-	-	-
Current Liabilities	-	13,677	20,500	21,500	22,500	22,500
L-T Debt	-	-	-	-	-	-
Other	-	-	-	-	-	-
Advances in Aid (AIAC) - Advance	379,280	793,040	1,258,520	1,758,480	2,275,680	2,275,680
Advances in Aid (AIAC)- Distribution	-	(8,904)	(16,217)	(24,359)	(33,033)	(43,852)
Contributions in Aid (CIAC)	-	-	-	-	-	-
Deferred Income Tax	-	-	-	-	-	-
Total L-T Debt	379,280	784,136	1,242,303	1,734,121	2,242,647	2,231,828
Total Liabilities	379,280	797,813	1,262,803	1,755,621	2,265,147	2,254,328
Common Stock	50,000	50,000	50,000	50,000	50,000	50,000
Paid in Capital	2,433,750	2,433,750	2,433,750	2,433,750	2,433,750	2,433,750
Contribution/Distribution	-	990,311	879,981	706,198	444,244	444,244
Retained Earnings	-	(116,343)	(198,919)	(260,380)	(273,319)	(217,625)
Total Capital	2,483,750	2,367,407	3,275,142	3,103,351	2,916,629	2,710,369
Total Liabilities & Capital	2,863,030	3,165,220	4,537,945	4,858,972	5,181,776	4,964,697

**Red Rock Utilities, LLC**  
**Andrada Wilmot 180 CC&N**

**Red Rock Utilities, LLC**  
**Andrada Wilmot 180 CC&N**  
**Financials**

Revenue	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Residential	\$ 59,921	\$ 125,290	\$ 198,829	\$ 277,816	\$ 359,526	\$ 1,021,382
Commercial/School	-	-	-	-	-	-
Industrial	-	-	-	-	-	-
Irrigation	7,507	15,014	22,521	30,028	37,535	112,605
Construction Water - Subdivision	18,840	18,840	18,840	18,840	37,680	113,040
Establishment Charge	2,775	3,025	3,400	3,650	3,775	16,625
Other	-	-	-	-	-	-
<b>Total Revenue</b>	<b>89,043</b>	<b>162,169</b>	<b>243,590</b>	<b>330,334</b>	<b>438,517</b>	<b>1,263,652</b>

**Expenses:**

Salaries & Wages	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Purchased Water	-	-	-	-	-	-
Power Costs	1,616	2,944	4,422	5,996	7,960	22,939
Water Testing	1,500	1,500	1,500	1,500	1,500	7,500
Chemicals	500	750	1,000	1,500	2,000	5,750
Repairs & Maintenance	1,000	1,200	1,500	1,800	2,200	7,700
Office Supplies	250	350	450	500	500	2,050
Outside Services	40,440	54,960	71,280	88,800	107,040	362,520
Rents	-	-	-	-	-	-
Transportation	-	-	-	-	-	-
Other Taxes	3,000	3,000	3,000	3,000	3,000	15,000
Depreciation	147,036	160,040	207,969	223,682	239,937	978,665
Insurance	8,500	8,500	8,500	8,500	8,500	42,500
Income Taxes	-	-	-	-	-	-
Property Tax	543	10,501	4,430	6,994	9,186	31,654
Other Operating	1,000	1,000	1,000	1,000	1,000	5,000
<b>Total Expenses</b>	<b>205,386</b>	<b>244,745</b>	<b>305,051</b>	<b>343,273</b>	<b>382,823</b>	<b>1,481,278</b>
<b>Operating Income</b>	<b>(116,343)</b>	<b>(82,576)</b>	<b>(61,461)</b>	<b>(12,939)</b>	<b>55,693</b>	<b>(217,625)</b>

Red Rock Utilities, LLC  
 Andrada Wilmot 180 CC&N

Red Rock Utilities, LLC  
 Andrada Wilmot 180 CC&N

**Breakdown of Equity Vs. AIAC Funding**

		<b>ACCUMULATED ASSETS</b>				
		Year	Year	Year	Year	Year
		1	2	3	4	5
<b>OWNERS EQUITY:</b>						
301	Organization	25,000	25,000	25,000	25,000	25,000
303	Land and Land Rights	110,000	110,000	110,000	110,000	110,000
307	Wells and Springs	750,000	750,000	1,750,000	1,750,000	1,750,000
310	Power Gen	106,250	106,250	106,250	106,250	106,250
311	Electric Pumping Equipment	625,000	625,000	625,000	625,000	625,000
330	Distribution Reservoirs & Sandpipe	675,000	675,000	675,000	675,000	675,000
331	Transmission and Distribution Mains	187,500	187,500	187,500	187,500	187,500
<b>Total Assets funded by Owners Equity</b>		<b>2,478,751</b>	<b>2,478,752</b>	<b>3,478,753</b>	<b>3,478,754</b>	<b>3,478,755</b>

**AIAC FUNDED:**

101331	Transmission & Distribution Mains	190,960	399,280	633,640	885,360	1,145,760
101333	Services	116,490	243,570	386,535	540,090	698,940
101334	Meters	44,000	92,000	146,000	204,000	264,000
101335	Hydrants	27,830	58,190	92,345	129,030	166,980
<b>Total Assets funded by AIAC</b>		<b>379,280</b>	<b>793,040</b>	<b>1,258,520</b>	<b>1,758,480</b>	<b>2,275,680</b>
<b>Total Assets</b>		<b>2,858,031</b>	<b>3,271,792</b>	<b>4,737,273</b>	<b>5,237,234</b>	<b>5,754,435</b>

**Red Rock Utilities, LLC**  
**Andrada Wilmot 180 CC&N**

**Red Rock Utilities, LLC**  
**Andrada Wilmot 180 CC&N**  
**Financials**

		Year 1		
		Original Cost	Accum Depreciation	Orig. cost less Depr
301	Organization	25,000	-	25,000
303	Land and Land Rights	110,000	-	110,000
307	Wells and Springs	750,000	(24,975)	725,025
310	Power Gen	106,250	(13,281)	92,969
311	Electric Pumping Equipment	625,000	(78,125)	546,875
330	Distribution Reservoirs & Sandpipe	675,000	(14,985)	660,015
331	Transmission and Distribution Mains	378,460	(7,569)	370,891
333	Services	116,490	(3,879)	112,611
334	Meters & Meter Installations	44,000	(3,665)	40,335
335	Hydrants	27,830	(557)	27,273
		<b>2,858,030</b>	<b>(147,036)</b>	<b>2,710,994</b>

# Exhibit 4

to

Red Rock Utilities, LLC

Application for an Extension Certificate of  
Convenience and Necessity (“Water”)

**Red Rock Utilities, LLC  
Andrada Wilmot 180 CC&N**

**Number of customers, by class, to be served:**

**Residential:**

First Year	<u>110</u>	Second Year	<u>120</u>	Third Year	<u>135</u>	Fourth Year	<u>145</u>	Fifth Year	<u>150</u>
Cumulative # of Customers	<u>110</u>		<u>230</u>		<u>365</u>		<u>510</u>		<u>660</u>

**Commercial/School:**

First Year	<u>0</u>	Second Year	<u>0</u>	Third Year	<u>0</u>	Fourth Year	<u>0</u>	Fifth Year	<u>0</u>
Cumulative # of Customers	<u>0</u>		<u>0</u>		<u>0</u>		<u>0</u>		<u>0</u>

**Industrial: (Please note this is for Construction Water by homebuilders, billed at the Commercial/Industrial water rate for 4" meter)**

First Year	<u>1</u>	Second Year	<u>0</u>	Third Year	<u>0</u>	Fourth Year	<u>0</u>	Fifth Year	<u>1</u>
Cumulative # of Customers	<u>1</u>		<u>1</u>		<u>1</u>		<u>1</u>		<u>2</u>

**Irrigation:**

First Year	<u>1</u>	Second Year	<u>1</u>	Third Year	<u>1</u>	Fourth Year	<u>1</u>	Fifth Year	<u>1</u>
Cumulative # of Customers	<u>1</u>		<u>2</u>		<u>3</u>		<u>4</u>		<u>5</u>

**Anticipated Construction Timeline:**

Date:

Approval for Construction of Water Infrastructure - Phase 1  
Subdivision improvements begin  
Approval of Construction of Water Infrastructure  
1st home built

December 2018  
April 2019  
December 2019  
April 2020

Approval for Construction of Water Infrastructure - Phase 1 2nd Well

March 2020

**Projected annual water consumption, in gallons, for each of the customer classes:**

**Residential:**

First Year	10,117,800
Second Year	21,155,400
Third Year	33,572,700
Fourth Year	46,909,800
Fifth Year	60,706,800

**Industrial(Construction Water):**

First Year	720,000
Second Year	720,000
Third Year	720,000
Fourth Year	720,000
Fifth Year	1,440,000

**Commercial/School:**

First Year	-
Second Year	-
Third Year	-
Fourth Year	-
Fifth Year	-

**Irrigation:**

First Year	1,498,924
Second Year	2,997,848
Third Year	4,496,771
Fourth Year	5,995,695
Fifth Year	7,494,619

**Red Rock Utilities, LLC**  
**Andrada Wilmot 180 CC&N**

**Total estimated annual operating revenue:**

**Residential:**

First Year	62,696
Second Year	128,315
Third Year	202,229
Fourth Year	281,466
Fifth Year	363,301

**Industrial(Construction Water):**

First Year	18,840
Second Year	18,840
Third Year	18,840
Fourth Year	18,840
Fifth Year	37,680

**Commercial/School:**

First Year	-
Second Year	-
Third Year	-
Fourth Year	-
Fifth Year	-

**Irrigation:**

First Year	7,507
Second Year	15,014
Third Year	22,521
Fourth Year	30,028
Fifth Year	37,535

**Total estimated annual operating expenses:**

**Residential:**

First Year	168,444.38
Second Year	208,162.46
Third Year	264,025.02
Fourth Year	300,283.51
Fifth Year	333,709.01

**Industrial(Construction Water):**

First Year	11,986.79
Second Year	7,084.57
Third Year	5,662.28
Fourth Year	4,608.93
Fifth Year	7,915.77

**Commercial/School:**

First Year	-
Second Year	-
Third Year	-
Fourth Year	-
Fifth Year	-

**Irrigation:**

First Year	24,954.56
Second Year	29,497.87
Third Year	35,363.86
Fourth Year	38,380.22
Fifth Year	41,198.38

# Exhibit 5

to

Red Rock Utilities, LLC

Application for an Extension Certificate of  
Convenience and Necessity (“Water”)



**red rock utilities**

WATER • WASTEWATER • RECLAIMED WATER

November 30, 2016

L. Kelly Udall, Town Manager  
Town of Sahuarita  
315 W. Sahuarita Center Way  
Sahuarita, AZ 85629

Re: Red Rock Utilities, LLC  
Arizona Corporation Commission  
Docket No. W-04245A-0392  
Application for Water Service Certificate of Convenience and Necessity ("CC&N")

Dear Mr. Udall,

Late last month, Red Rock Utilities, LLC ("Red Rock") filed the above-referenced Application requesting authorization from the Arizona Corporation Commission ("ACC") to provide water service to and within certain currently undeveloped acreage in an unincorporated area in Pima County east of the eastern municipal boundaries of the Town of Sahuarita. In that regard, attached to this letter is a copy of Appendix 5 to the Application, which shows the linear distance between the closest eastern boundary of the Town of Sahuarita and the closest western boundary of the acreage proposed to be served by Red Rock. As you will note, that distance is +/- 4.3 miles.

The ACC Staff has requested that Red Rock provide the Town of Sahuarita with notice of the filing of Red Rock's aforesaid CC&N Application, and this letter is intended to be responsive to that request. In that regard, it is Red Rock's understanding that the Town of Sahuarita does not own and operate a municipal water system.

Please let me know if you have any questions in connection with this matter.

Sincerely,

Mark Weinberg  
General Manager

Cc: Robert Gray, ACC Staff, w/attachments

# Appendix “5”

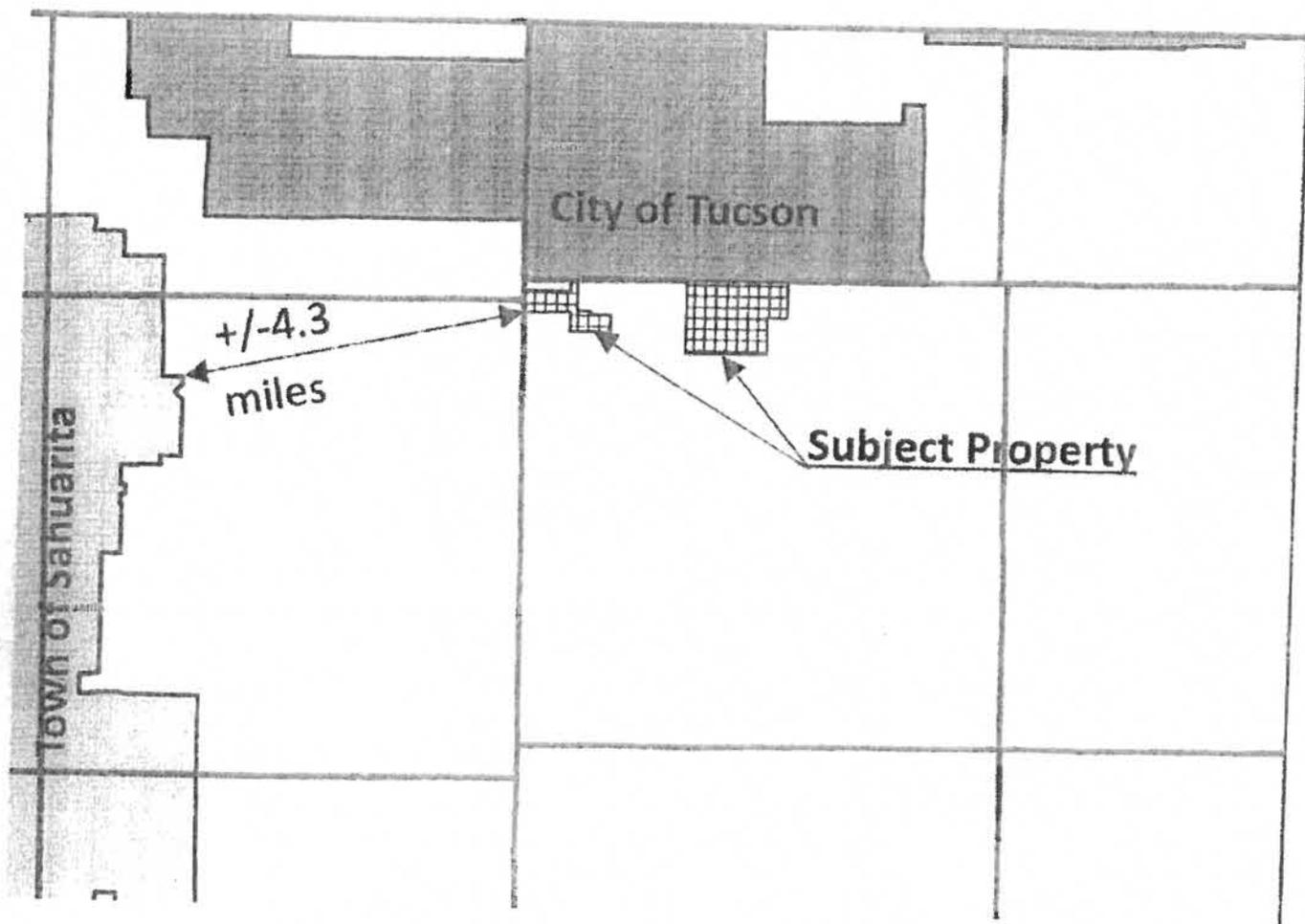
to

Red Rock Utilities, LLC  
Application for an Extension Certificate of  
Convenience and Necessity (“Water”)

for

Hook M. Ranch / Andrada Areas  
In Pima County, Arizona

Docket: WS-04245A-16-\_\_\_\_\_



M. Proximity to Jurisdictions



**red rock utilities**

WATER • WASTEWATER • RECLAIMED WATER

Michael Ortega, City Manager  
City Manager's Office, City of Tucson  
255 W. Alameda, 10<sup>th</sup> Floor  
Tucson, AZ 85701

November 30, 2016

Re: Red Rock Utilities, LLC  
Arizona Corporation Commission  
Docket No. W-04245A-0396  
Application for Water Service Certificate of Convenience and Necessity ("CC&N")

Dear Mr. Ortega,

Late last month, Red Rock Utilities, LLC ("Red Rock") filed the above-referenced Application requesting authorization from the Arizona Corporation Commission ("ACC") to provide water service to and within certain currently undeveloped acreage in an unincorporated area in Pima County east of the municipal boundaries of the Town of Sahuarita and south of the municipal boundaries of the City of Tucson. In that regard, attached to this letter is a copy of Appendix 5 to the Application, which depicts the location of the acreage proposed to be served by Red Rock in relation to the closest municipal boundaries of each of the aforesaid municipal entities.

The ACC Staff has requested that Red Rock provide the City of Tucson with notice of the filing of Red Rock's aforesaid CC&N Application, and this letter is intended to be responsive to that request. In that regard, also attached to this letter is a copy of a June 1, 2016 letter from the Tucson Water Department to the owner of the acreage that Red Rock is proposing to serve (i) stating that Tucson Water is unable to provide water service for the reason therein indicated, and (ii) suggesting that other potential sources of water be explored. Red Rock's CC&N Application represents the results of such "exploration," and the aforesaid June 1, 2016 letter from the Tucson Water Department is attached to Red Rock's Application as Appendix 9.

Please let me know if you have any questions in connection with this matter.

Sincerely,

Mark Weinberg  
General Manager

Cc: Robert Gray, ACC Staff, w/attachments

# Appendix “5”

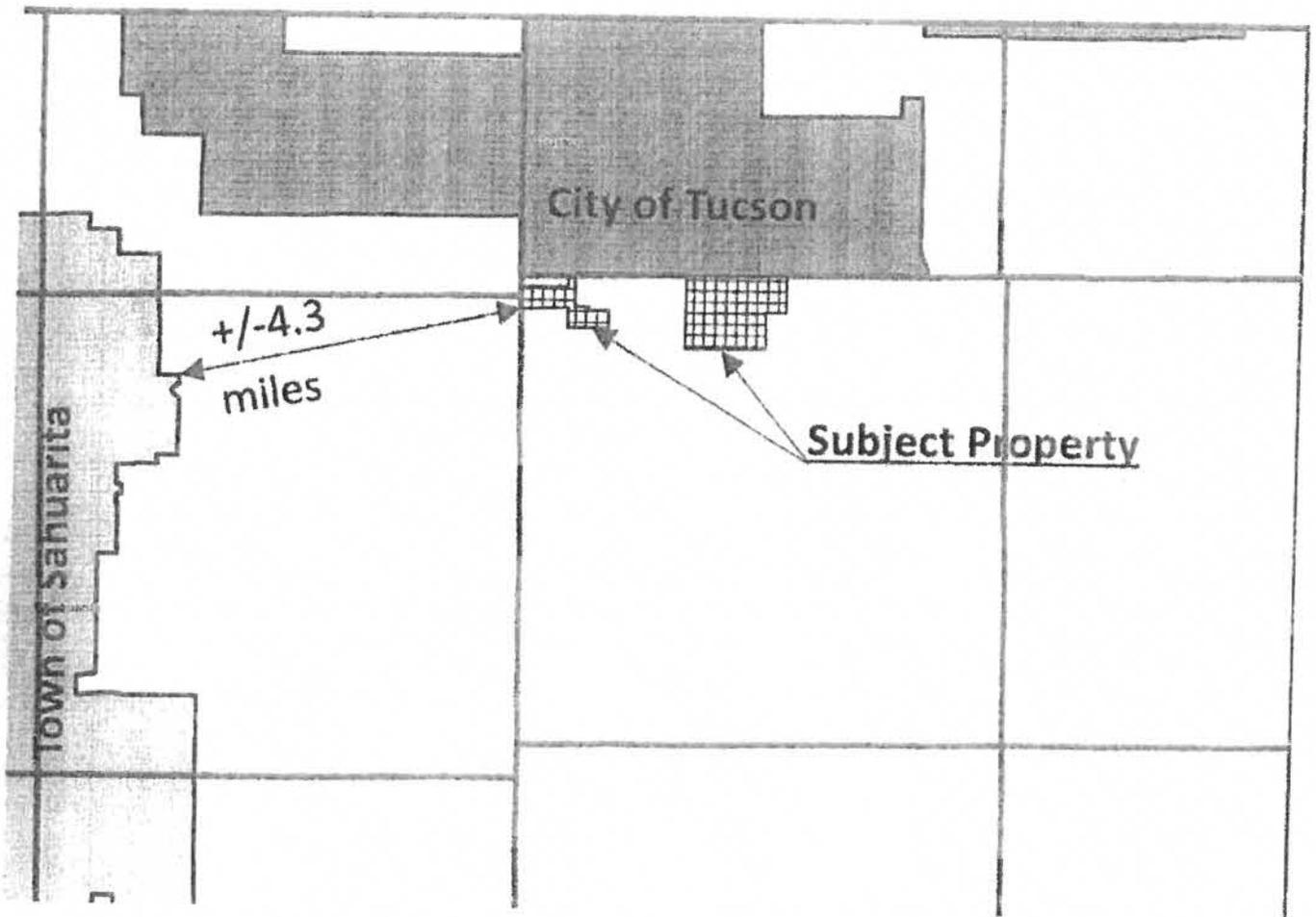
to

Red Rock Utilities, LLC  
Application for an Extension Certificate of  
Convenience and Necessity (“Water”)

for

Hook M. Ranch / Andrada Areas  
In Pima County, Arizona

Docket: WS-04245A-16-\_\_\_\_\_



M. Proximity to Jurisdictions



CITY OF  
TUCSON

TUCSON WATER  
DEPARTMENT

June 1, 2016

Diamond Ventures, Inc.  
2200 E. River Road, Suite 115  
Tucson, AZ 85718-6856

Attn: Robert Tucker

**SUBJECT: Water Availability for project: Hook M. Ranch, APN: Multiple Parcels, Case #:  
WA1980, T-17, R-15, SEC-03, Lots: 9999, Location Code: UNI, Total Area: 1093.5ac**

Tucson Water is unable to provide water service to this parcel due to the fact that it does not conform to the requirements of the Tucson Water Service Area Policy. Please contact the Arizona Corporation Commission at 628-6550 for information regarding other potential water sources.

If you have any questions, please call me at New Development at 791-4718.

Sincerely,

Richard A. Sarti, P.E.  
Engineering Manager  
Tucson Water Department

RS:ka  
CC: File



NEW DEVELOPMENT • P.O. BOX 27210 • TUCSON, AZ 85726-7210  
(520) 791-4718 • FAX (520) 791-2501 • TDD (520) 791-2639 • [www.tucsonaz.gov/water](http://www.tucsonaz.gov/water)



# Exhibit 6

to

Red Rock Utilities, LLC

Application for an Extension Certificate of  
Convenience and Necessity (“Water”)

Red Rock Utilities, LLC  
 Andrada Wilmot 180 CC&N

Projection of full buildout timeframes:  
 Estimated Customers by Class:

Customer Class	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Total
Residential	110	120	135	145	150	165	175	185	200	200	200	200	151	2,136
Commercial/School	-	-	-	-	-	-	-	1	-	-	1	-	2	4
Industrial (Construction Water for Home Builders)	1	-	-	-	1	-	1	-	-	-	-	-	-	3
Irrigation	1	1	1	1	1	1	1	1	1	1	1	1	1	9
<b>Total Customers</b>	<b>112</b>	<b>233</b>	<b>369</b>	<b>515</b>	<b>667</b>	<b>832</b>	<b>1,009</b>	<b>1,195</b>	<b>1,396</b>	<b>1,596</b>	<b>1,798</b>	<b>2,000</b>	<b>2,152</b>	<b>2,152</b>

Notes:

- Year 8 School site coming online
- Year 11 Apartment Complex
- Year 12 Commercial uses
- Irrigation - pocket parks within subdivisions as well as other common areas

# Exhibit 7

to

Red Rock Utilities, LLC

Application for an Extension Certificate of  
Convenience and Necessity (“Water”)

Red Rock Utilities, LLC  
Andrada Wilmot 180 CC&N

List of requested Water Conservation measures that the Utility will try to get Homebuilders to agree to:

1. Install a manual or motion activated on-demand hot water circulation pumping system.
2. Install lavatory faucets that meet the proposed EPA's WaterSense criteria or have a maximum flow rate of 1.5 gpm @ 80 psi of pressure.
3. Install showerheads that meet the proposed EPA's WaterSense criteria or have a maximum flow rate of 1.5 gpm @ 80 psi or pressure.
4. Install toilets that meet the EPA's WaterSense rating (1.28 gpf).
5. Install a rainwater harvesting system capable of retaining and storing 10% or more of the average annual available rainfall on the catchment surface. (min Catchment Area = 500 ft.)
6. Install a gutter and downspout system or canals that tie to storm water infiltration trenches, bioswales or rain gardens.
7. No decorative water features or mister systems that use potable water.

# Exhibit 8

to

Red Rock Utilities, LLC

Application for an Extension Certificate of  
Convenience and Necessity (“Water”)

# DIAMOND VENTURES

2200 East River Road, Suite 115  
Tucson, AZ 85718-6586  
www.diamondventures.com

December 15, 2016

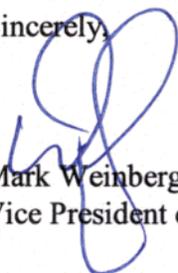
Ms. Guadalupe Ortiz  
Arizona Corporation Commission

**RE: Red Rock Utilities CC&N Application on Docket No. WS-04245A-16-0392**

Dear Ms. Ortiz:

As it relates to the sewer facilities necessary to serve the property, the developer is responsible for such costs, and/or may participate with other area landowners, developers, or Pima County in such costs. Red Rock Utilities has no obligation whatsoever to provide sewer capacity, or pay for any sewer facilities necessary to serve the property.

Sincerely,



Mark Weinberg  
Vice President of Diamond Ventures, Inc., Manager of Andrada Wilmot 180, LLC