ORIGINAL

0000075403

50

RECEIVED

2007 JUL 24 A 9:51

AZ CORP COMMISSION
DOCKET CONTROL

Arizona Corporation Commission
DOCKETED

JUL 24 2007

DOCKETED BY nr

FENNEMORE CRAIG, P.C.
A Professional Corporation
Jay L. Shapiro (No. 014650)
Patrick J. Black (No. 017141)
3003 North Central Avenue
Suite 2600
Phoenix, Arizona 85012
Telephone (602) 916-5000

Attorneys for Northern Sunrise Water Company
and Southern Sunrise Water Company

BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF NORTHERN SUNRISE WATER COMPANY FOR A CERTIFICATE OF CONVENIENCE AND NECESSITY TO PROVIDE WATER UTILITY SERVICE IN COCHISE COUNTY, ARIZONA.	DOCKET NO. W-20453A-06-0247
IN THE MATTER OF THE APPLICATION OF SOUTHERN SUNRISE WATER COMPANY FOR A CERTIFICATE OF CONVENIENCE AND NECESSITY TO PROVIDE WATER UTILITY SERVICE IN COCHISE COUNTY, ARIZONA.	DOCKET NO. W-20454A-06-0248
IN THE MATTER OF THE JOINT APPLICATION OF NORTHERN SUNRISE WATER COMPANY AND SOUTHERN SUNRISE WATER COMPANY FOR THE APPROVAL OF SALE AND TRANSFER OF WATER UTILITY ASSETS, AND CANCELLATION OF CERTIFICATES OF CONVENIENCE AND NECESSITY, FOR MIRACLE VALLEY WATER COMPANY, COCHISE WATER COMPANY, HORSESHOE RANCH WATER COMPANY, CRYSTAL WATER COMPANY, MUSTANG WATER COMPANY, CORONADO ESTATES WATER COMPANY, AND SIERRA SUNSET WATER COMPANY, LOCATED IN COCHISE COUNTY, ARIZONA.	DOCKET NOS. W-20453A-06-0251 W-20454A-06-0251 W-01646A-06-0251 W-01868A-06-0251 W-02235A-06-0251 W-02316A-06-0251 W-02230A-06-0251 W-01629A-06-0251 W-02240A-06-0251 **NOTICE OF FILING**

Northern Sunrise Water Company ("Northern Sunrise") and Southern Sunrise Water Company ("Southern Sunrise") hereby submit this Notice of Filing in accordance with Decision No. 68826 (June 29, 2006). The decision required the companies to "file with Staff and docket control any proposed update to Exhibit B [ASAP] after they determine such modification is

reasonable." Decision No. 68826 at Finding of Fact No. 95. Exhibit B constituted a list of proposed plant improvements in the former McLain systems.

Westland Resources, Inc. ("Westland") was retained to conduct an extensive evaluation of the infrastructure needs for the former McLain Water Systems and attached hereto are the Infrastructure Evaluations for Northern Sunrise (Exhibit 1) and Southern Sunrise (Exhibit 2) prepared by Westland. In connection with its evaluation, Westland compared its recommendations with the plant improvement plan set forth in Exhibit B to Decision No. 68826 and has recommended certain modifications to the plan set forth in Exhibit B. A comparison of Westland's recommendations with those in Exhibit B is contained in the summary page at the beginning of each of the attached reports. *See* Exhibit 1 at Table A; Exhibit 2 at Table A.

Northern Sunrise and Southern Sunrise believe that Westland's recommended plant improvements are reasonable and prudent and that the modifications to Exhibit B are beneficial to the companies and their customers. Pursuant to Decision No. 68826, should Staff have an objection to any proposed modifications to Exhibit B, Staff is to file its objection within 10 business days.

DATED this 23rd day of July, 2007.

FENNEMORE CRAIG, P.C.

By:_____

Jay L. Shapiro
Patrick J. Black
Suite 2600
3003 North Central Avenue
Phoenix, Arizona 85012
Attorneys for Northern Sunrise Water Company
and Southern Sunrise Water Company

ORIGINAL and 33 copies filed
this 23rd day of July, 2007 to:

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

Two copies hand delivered
this 23rd day of July, 2007 to:

Steve Olea, Assistant Director
Utilities Division
Arizona Corporation Commission
1200 W. Washington St.
Phoenix, AZ 85007

Maria San Jose

1939179.1/20898.001

Exhibit 1

NORTHERN SUNRISE WATER COMPANY
INFRASTRUCTURE EVALUATION

To: Northern Sunrise Water Company

From: WestLand Resources, Inc.

Date: July 20, 2007

Project No. 1428.01 A 8000

Thomas Anthony Martinez
Registered Professional Engineer (Civil)
CERTIFICATE NO. 32983
THOMAS ANTHONY MARTINEZ
DATE SIGNED 7/20/07
ARIZONA U.S.A.

INFRASTRUCTURE EVALUATION COST SUMMARY

This report is provided by WestLand Resources, Inc. (WestLand) to review the existing water infrastructure needs for the Northern Sunrise Water Company. This company is comprised of four formerly separate water systems located north of Sierra Vista in Cochise County, Arizona. The former systems were known as Sierra Sunset, Coronado Estates, Crystal, and Mustang. The existing and proposed service areas are located in Sections 12, 13, and 14 of Township 20 South, Range 19 East, and Sections 18 and 19 of Township 20 South, Range 20 East. Portions of the service areas have been expanded into Land Grants (non-sectioned land) as shown in Figures 1 through 3.

The Arizona Corporation Commission (ACC) issued Decision Number 68826, docketed June 29, 2006, which granted control of these systems to the Northern Sunrise Water Company (a wholly owned subsidiary of Algonquin Water Services, LLC) to operate as one entity, pending asset sales. The decision included recommendations for the capital improvements required to bring the systems to an adequate level of service. The infrastructure proposed herein is based upon an engineering review of the existing system and is recommended in lieu of those improvements proposed in Decision 68826.

The original system upgrades and associated cost as proposed by the ACC are provided in Appendix A. These costs have been reviewed by WRI Construction Company (a wholly owned subsidiary of WestLand Resources, Inc) and updated and adjusted for design intent and to reflect current construction costs and as shown in Appendix B.

WestLand has evaluated each system on a capacity basis to verify infrastructure needs. The report will summarize WestLand's recommendations and will compare said recommendations to the ACC's recommendations for capital improvements. WestLand's proposed costs include for engineering and contingencies. Each system was evaluated individually for source (well capacity), storage, and supply (booster pump) capacity to identify deficiencies and/or surpluses within the individual systems and evaluate possible interconnects between adjacent systems.

The appendices provide a detailed analysis of each water system as stand alone systems and combinations of interconnected water systems. The evaluation indicates that interconnecting water systems and constructing combined water system infrastructure at regional water plants is typically more cost effective than constructing facilities required to operate stand-alone water systems. Table 1 provides a summary of the costs opinions provide by the ACC staff, the WestLand updated ACC design intent costs, and the cost to construct the infrastructure proposed by WestLand.

Table 1. Northern Sunrise Water Company Infrastructure Upgrades Summary of Costs

	ACC Decision Costs	WRI Cost Opinions for ACC Design Concept *1 (Appendix B)	WestLand Proposed Infrastructure Costs *1
Sierra Sunset Stand-Alone	$22,800	$106,605	$168,000*2
Coronado Stand-Alone	$148,800	$250,355	$308,100*3
Combined Sierra Sunset and Coronado Systems	-	-	$442,750
Babocomari Phase I Stand-Alone System	-	-	$606,050
Babocomari Phase I, Sierra Sunset, and Coronado Combined Systems	-	-	$675,050
Recommended Contribution by Existing Customers to Babocomari	-	-	**$200,000**
Crystal Stand-Alone System	$153,800	$230,230	$122,500
Mustang Stand-Alone System	$154,800	$230,805	$149,000
Combined Crystal and Mustang Systems	-	-	**$312,800**
Total	**$480,200**	**$817,995**	**$512,800**

*1 The 10% for contingencies included in the cost estimates in the appendices are recommended but are not included in Table 1.
*2 Westland's proposed cost is greater than the WRI Cost Opinions for ACC Design Concept primarily because of well improvements and 1,000 ft of water main replacement.
*3 Westland's proposed cost is greater than the WRI Cost Opinions for ACC Design Concept primarily because WestLand recommends the construction of a new well.

The table indicates that the Sierra Sunset and Coronado systems may save approximately $33,000 by combining infrastructure at a single water plant. The cost savings may be further increased by constructing combined facilities at a regional water plant within the Babocomari Development. For estimating purposes it is anticipated that the existing customer base may contribute approximately $200,000 to interconnect and oversize the Babocomari facilities to include capacity for Sierra Sunset and Coronado.

WestLand recommends an interconnect between the Crystal and Mustang systems to provide redundancy even though the estimated construction costs for this interconnection make combining the two water systems greater.

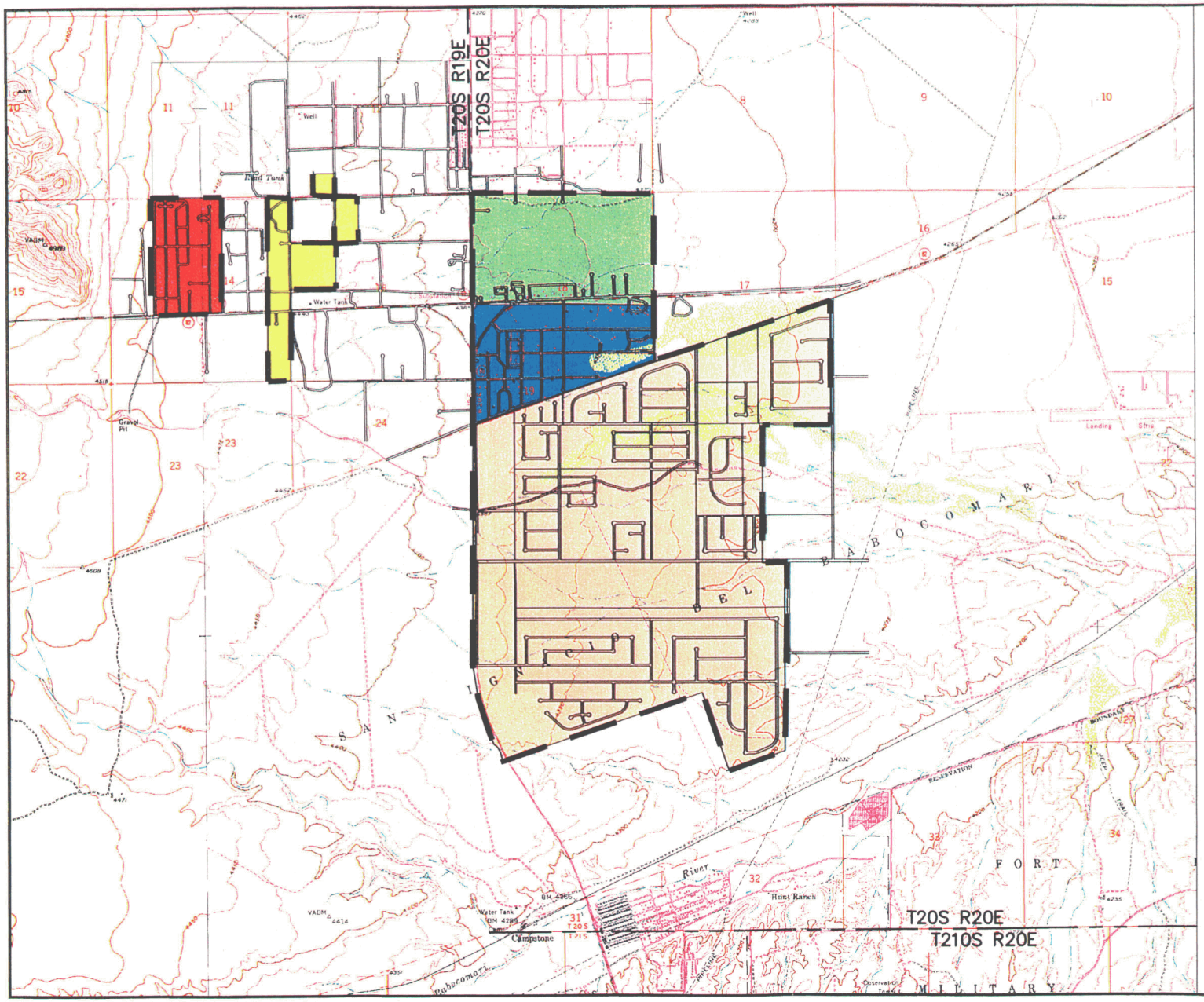
LIST OF FIGURES
(follow text)

Figure 1. Northern Water Sunrise Water Company
Figure 2. Sierra Sunset Coronado Estates and Babocomari Water System
Figure 3. Mustang and Crystal Water System

LIST OF APPENDICES

Appendix A ACC Proposed Capital Improvements
Appendix B Opinions of Probable Construction Costs for ACC Proposed Capital Improvements
Appendix C Demand Evaluation Criteria
Appendix D Demand and Infrastructure Projection Summary
Appendix E Lost and Unaccounted for Water
Appendix F Sierra Sunset (Stand-alone System)
Appendix G Coronado Estates (Stand-alone System)
Appendix H Combined Sierra Sunset and Coronado Water Systems
Appendix I Combined Sierra Sunset, Coronado, and Proposed Babocomari Water Systems
Appendix J Crystal (Stand-alone System)
Appendix K Mustang (Stand-alone System)
Appendix L Crystal and Mustang Combined Systems
Appendix M Babocomari Development Association Intent to Contribute

FIGURES



N
W E
S
N.T.S.

LEGEND

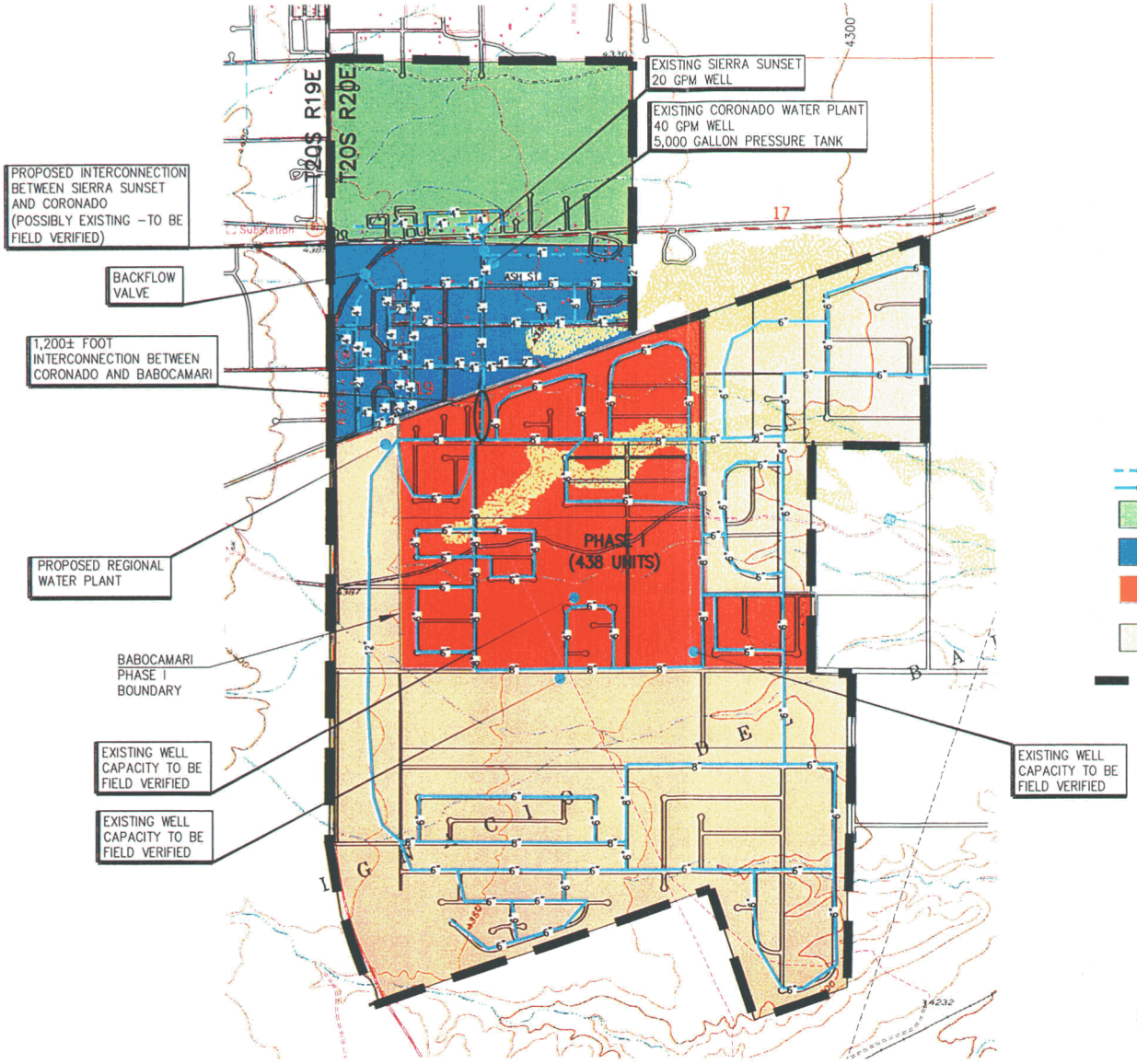
- SIERRA SUNSET WATER SYSTEM (FIGURE 2)
- CORONADO ESTATES WATER SYSTEM (FIGURE 3)
- BABOCAMARI WATER SYSTEM (FIGURE 2)
- CRYSTAL WATER SYSTEM (FIGURE 3)
- MUSTANG WATER SYSTEM (FIGURE 3)
- CC&N BOUNDARY

ALGONQUIN WATER

FIGURE 1
NORTHERN SUNRISE WATER COMPANY

JUNE 11, 2007

M:\projects\1428.01\NOR-Sunrise on Quads.dwg Jul 18, 2007 - 2:13pm erikc



N
W E
S

2000' 0' 2000'

SCALE: 1" = 2000'

LEGEND

- 4" EXIST. WATER MAIN WITH SIZE
- 6 FUTURE WATER MAIN WITH SIZE
- SIERRA SUNSET WATER SYSTEM
- CORONADO ESTATES WATER SYSTEM
- FUTURE BABOCAMARI WATER SYSTEM – PHASE I (438 UNITS)
- FUTURE BABOCAMARI WATER SYSTEM – ALL OTHER PHASES (1,383 TOTAL RESIDENTIAL UNITS, 262 Acres COMMERCIAL)
- CC&N BOUNDARY

* PIPELINES AND LOCATIONS ARE SHOWN BASED UPON UTILITY RECORDS AND HAVE NOT BEEN FIELD VERIFIED

ALGONQUIN WATER

FIGURE 2

SIERRA SUNSET, CORONADO ESTATES, AND BABOCAMARI WATER SYSTEM

JULY 18, 2007

M:\projects\1428.01\NOR-Sunrise on Quads.dwg Jul 18, 2007 - 2:11pm erikc

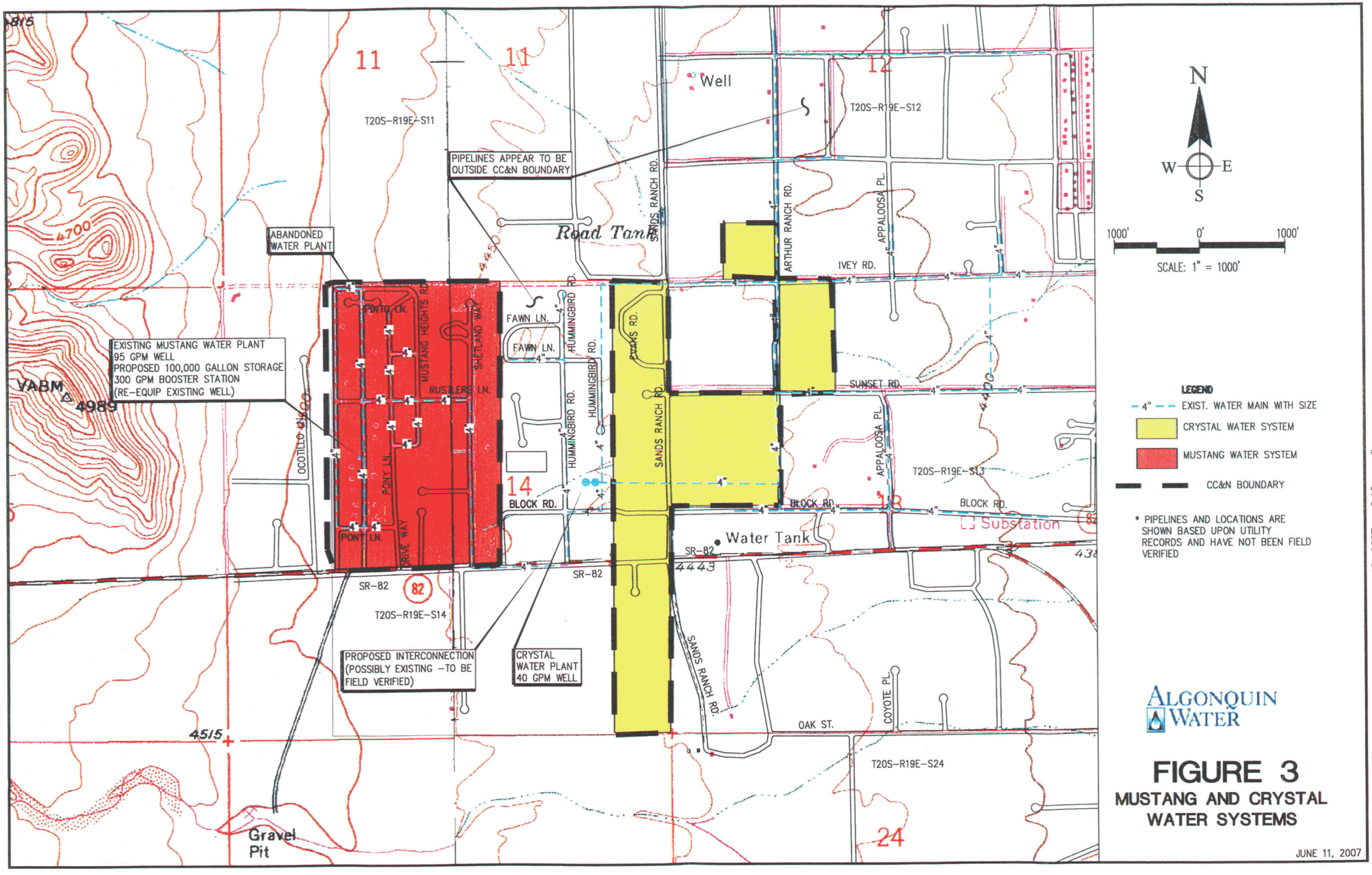


FIGURE 3
MUSTANG AND CRYSTAL WATER SYSTEMS

JUNE 11, 2007

M:\projects\1428.01\NOR-Sunrise on Quads.dwg Jul 18, 2007 - 2:12pm erikc

APPENDIX A

ACC PROPOSED CAPITAL IMPROVEMENTS

Cochise Water - Part of Southern Sunrise Proposed Capital Improvements		Project Start	Duration	Benefit to Customer
Project Description				
Naranja Well Site	Cost			
Add meters to wells	$10,000	ASAP after Closing	6-12 Months	Immediate
Construct a minimum 6 ft. high chain link fence with barbed wire 800 L.F.	$12,000	ASAP after Closing	6-12 Months	Immediate
Construct 12 ft wide chain link gate	$800	ASAP after Closing	6-12 Months	Immediate
Repair 5 hp booster pump	$500	ASAP after Closing	6-12 Months	Immediate
Rebuild Electrical Control and wiring system	$10,000	ASAP after Closing	6-12 Months	Immediate
Replace Air Compressor and controls on Pressure Tank	$1,000	ASAP after Closing	6-12 Months	Immediate
Replace Guages on Booster and Transfer Pumps	$1,000	ASAP after Closing	6-12 Months	Immediate
Replace check valves on booster and transfer pumps	$500	ASAP after Closing	6-12 Months	Immediate
Build concrete pads to mount booster and transfer pumps	$1,000	ASAP after Closing	6-12 Months	Immediate
Install well pump high level shut off level contoller to storage tank	$5,000	ASAP after Closing	6-12 Months	Immediate
Install low level sensor in storage tank for booster & transfer pump shut off	$5,000	ASAP after Closing	6-12 Months	Immediate
Install telemetry system to start and stop transfer pumps filling Horseshoe storage	$10,000	ASAP after Closing	6-12 Months	Immediate
Add sampling taps to wells	$500	ASAP after Closing	6-12 Months	Immediate
Survey property to establish property boundaries of well site	$1,000	ASAP after Closing	6-12 Months	Immediate
Remove old storage tank and trash and grade well site	$5,000	ASAP after Closing	6-12 Months	Immediate
Total	$63,300			
Jaxell Road site				
Add Meter to well	$3,500	ASAP after Closing	6-12 Months	Immediate
Add additional booster pump	$3,500	ASAP after Closing	6-12 Months	Immediate
Survey property to establish property boundaries of well site	$1,000	ASAP after Closing	6-12 Months	Immediate
Total	$8,000			

EXHIBIT B

DECISION NO. 68826

W-20453A-06-0247 et al.

Horseshoe Ranch Water - Part of Southern Sunrise Proposed Capital Improvements		Project Start	Duration	Benefit to Customer
Project Description	Cost			
Replace 3 inch meter measuring transfer flow from Cochise	$3,000	ASAP after Closing	6-12 Months	Immediate
Replace fence with a minimum 6 ft. high chain link fence with barbed wire 200 L.F.	$3,000	ASAP after Closing	6-12 Months	Immediate
Construct 12 ft wide chain link gate	$800	ASAP after Closing	6-12 Months	Immediate
Replace 2 - 7.5 hp booster pumps	$5,000	ASAP after Closing	6-12 Months	Immediate
Rebuild Electrical Control and wiring system	$10,000	ASAP after Closing	6-12 Months	Immediate
Replace 3,000 gallon pressure tank	$13,000	ASAP after Closing	6-12 Months	Immediate
Design and construct interconnection with Bella Vista south system	$10,000	ASAP after Closing	6-12 Months	Immediate
Repair doors on storage building	$1,000	ASAP after Closing	6-12 Months	Immediate
Add air relief valve to tranmission line from Cochise and grade and secure site	$6,000	ASAP after Closing	6-12 Months	Immediate
Survey property to establish property boundaries of storage & well sites	$1,000	ASAP after Closing	6-12 Months	Immediate
Total	$52,800			

Miracle Valley Water - Part of Southern Sunrise Proposed Capital Improvements		Project Start	Duration	Benefit to Customer
Project Description	Cost			
Add meter to well	$3,500	ASAP after Closing	6-12 Months	Immediate
Construct a minimum 6 ft. high chain link fence with barbed wire 400 L.F.	$6,000	ASAP after Closing	6-12 Months	Immediate
Construct 12 ft wide chain link gate	$800	ASAP after Closing	6-12 Months	Immediate
Add two 7.5 hp booster pumps	$5,000	ASAP after Closing	6-12 Months	Immediate
Rebuild Electrical Control and wiring system	$10,000	ASAP after Closing	6-12 Months	Immediate
Add storage tank Minimum 150,000 gallons	$150,000	ASAP after Closing	6-12 Months	Immediate
Replace 5,000 gallon pressure tank	$20,000	ASAP after Closing	6-12 Months	Immediate
Add sampling tap to well	$500	ASAP after Closing	6-12 Months	Immediate
Survey property to establish property boundaries of two well sites	$2,000	ASAP after Closing	6-12 Months	Immediate
Total	$197,800			

Mustang Water - Part of Northern Sunrise Water Company Proposed Capital Improvements		Project Start	Duration	Benefit to Customer
Project Description				
Main Well Site	**Cost**			
Add meter to well	$3,500	ASAP after Closing	6-12 Months	Immediate
Construct a minimum 6 ft. high chain link fence with barbed wire 400 L.F.	$6,000	ASAP after Closing	6-12 Months	Immediate
Construct 12 ft wide chain link gate	$800	ASAP after Closing	6-12 Months	Immediate
Replace existing well with new well	$25,000	ASAP after Closing	6-12 Months	Immediate
Replace well pump & piping	$7,500	ASAP after Closing	6-12 Months	Immediate
New Electrical Control and wiring system	$10,000	ASAP after Closing	6-12 Months	Immediate
New 5,000 Gallon Pressure Tank	$20,000	ASAP after Closing	6-12 Months	Immediate
New 60,000 gallon storage tank (At least this size)	$80,000	ASAP after Closing	6-12 Months	Immediate
Survey property to establish property boundaries of at least two well sites	$2,000	ASAP after Closing	6-12 Months	Immediate
Total	$154,800			
Note: As an alternative, determine if existing well can be rehabilitated If so, rehab well, and replace well pump instead of drilling new well				

Crystal Water - Part of Northern Sunrise Water Company Proposed Capital Improvements		Project Start	Duration	Benefit to Customer
Main Well Site				
Project Description	**Cost**			
Add meter to well	$3,500	ASAP after Closing	6-12 Months	Immediate
Construct a minimum 6 ft. high chain link fence with barbed wire 400 L.F.	$6,000	ASAP after Closing	6-12 Months	Immediate
Construct 12 ft wide chain link gate	$800	ASAP after Closing	6-12 Months	Immediate
Replace existing well with new well	$25,000	ASAP after Closing	6-12 Months	Immediate
Replace well pump & piping	$7,500	ASAP after Closing	6-12 Months	Immediate
New Electrical Control and wiring system	$10,000	ASAP after Closing	6-12 Months	Immediate
New 5,000 Gallon Pressure Tank	$20,000	ASAP after Closing	6-12 Months	Immediate
New 60,000 gallon storage tank (At least this size)	$80,000	ASAP after Closing	6-12 Months	Immediate
Survey property to establish property boundaries of well site	$1,000	ASAP after Closing	6-12 Months	Immediate
Total	$153,800			
Note: As an alternative, determine if existing well can be rehabilitated If so, rehab well, and replace well pump instead of drilling new well				

Coronado Estates Water - Part of Northern Sunrise Water Company Proposed Capital Improvements		Project Start	Duration	Benefit to Customer
Main Well Site				
Project Description	Cost			
Add meter to well	$3,500	ASAP after Closing	6-12 Months	Immediate
Construct a minimum 6 ft. high chain link fence with barbed wire 400 L.F.	$6,000	ASAP after Closing	6-12 Months	Immediate
Construct 12 ft wide chain link gate	$800	ASAP after Closing	6-12 Months	Immediate
Replace well pump & piping	$7,500	ASAP after Closing	6-12 Months	Immediate
New Electrical Control and wiring system	$10,000	ASAP after Closing	6-12 Months	Immediate
New 5,000 Gallon Pressure Tank	$20,000	ASAP after Closing	6-12 Months	Immediate
New 100,000 gallon storage tank (at least this size)	$100,000	ASAP after Closing	6-12 Months	Immediate
Survey property to establish property boundaries of well site	$1,000	ASAP after Closing	6-12 Months	Immediate
Total	$148,800			

Sierra Sunset Water - Part of Northern Sunrise Water Company Proposed Capital Improvements		Project Start	Duration	Benefit to Customer
Main Well Site				
Project Description	Cost			
Construct a minimum 6 ft. high chain link fence with barbed wire 400 L.F.	$6,000	ASAP after Closing	6-12 Months	Immediate
Construct 12 ft wide chain link gate	$800	ASAP after Closing	6-12 Months	Immediate
Survey property to establish property boundaries of well site	$1,000	ASAP after Closing	6-12 Months	Immediate
Install customer meters to 30 customers	$15,000	ASAP after Closing	6-12 Months	Immediate
Total	$22,800			

APPENDIX B

OPINIONS OF PROBABLE CONSTRUCTION COSTS FOR ACC PROPOSED DESIGN CONCEPT CAPITAL IMPROVEMENTS

WestLand Resources, Inc.
Engineering and Environmental Consultants

OPINION OF PROBABLE CONSTRUCTION COST

Project Name:	Sierra Sunset Water ACC Proposed Capital Improvements				
Project No.	1428.01	**Prepared by:**	SCH	**Date:**	5/31/2007
Location:	Cochise County	**Checked by:**	RSH/JL	**Date:**	6/11/2007
Description:	Water infrastructure improvements per ACC decision	**Client:**	Northern Sunrise Water Company		

Item No.	Item Description	Unit	Quantity	Unit Price	ACC Amount	Adjusted Amount [1]	Remarks
1	Site fencing	LS	1	$6,000	$6,000	$8,000	Minimum 6 ft.-high chain link fence with barbed wire around water plant site, approx. 400 LF.
2	Gate	LS	1	$800	$800	$1,200	12 ft.-wide chain link gate for site access.
3	Survey	LS	1	$1,000	$1,000	$3,500	Survey property to establish property boundaries of water plant site.
4	Water service meters	LS	1	$15,000	$15,000	$15,000	Install customer meters to 30 water service connections.
5	30,000 gallons Storage	LS	1	$45,000	$0	$45,000	ACC recommended storage but did not provide a cost.
6	Booster Station	LS	1	$20,000	$0	$20,000	A booster station is required to pump from the ACC recommended storage tank into the system.
7	**Subtotal**				**$22,800**	**$92,700**	
8	25% Engineering and Contingencies					$23,175	
9	**TOTAL**				**$22,800**	**$115,875**	Excludes taxes.

[1] Adjusted to reflect current actual construction costs based on consultation with WRI Construction.

WestLand Resources, Inc.
Engineering and Environmental Consultants

OPINION OF PROBABLE CONSTRUCTION COST

Project Name:	Coronado Estates Water ACC Proposed Capital Improvements				
Project No.	1428.01	**Prepared by:**	JAL	**Date:**	6/22/2007
Location:	Cochise County	**Checked by:**	TAM	**Date:**	6/22/2007
Description:	Water infrastructure improvements per ACC decision	**Client:**	Northern Sunrise Water Company		

Item No.	Item Description	Unit	Quantity	Unit Price	ACC Amount	Adjusted Amount [1]	Remarks
1	Well flow meter	LS	1	$3,500	$3,500	$3,500	Add meter to well outlet piping.
2	Site fencing	LS	1	$6,000	$6,000	$8,000	Minimum 6 ft.-high chain link fence with barbed wire around water plant site, approx. 400 LF.
3	Gate	LS	1	$800	$800	$1,200	12 ft.-wide chain link gate for site access.
4	Well pump	LS	1	$7,500	$7,500	$10,000	Replace submersible well pump and piping.
5	Electrical	LS	1	$10,000	$10,000	$10,000	New electrical control and wiring system.
6	Hydropneumatic pressure tank	LS	1	$20,000	$20,000	$35,000	5,000 gallon pressure tank, air compressor and controls
7	Reservoir	LS	1	$100,000	$100,000	$125,000	Minimum 100,000 gallon storage tank.
8	Survey	LS	1	$1,000	$1,000	$5,000	Survey property to establish property boundaries of water plant site.
9	Booster Station	LS	1	$20,000	$0	$20,000	A booster station is required to pump from the ACC recommended storage tank into the system. ACC recommended storage but did not recommend a booster station.
10	**Subtotal**				**$148,800**	**$217,700**	
11	25% Engineering and Contingencies					$54,425	
12	**TOTAL**				**$148,800**	**$272,125**	Excludes taxes.

[1] Adjusted to reflect current actual construction costs based on consultation with WRI Construction.

WestLand Resources, Inc.
Engineering and Environmental Consultants

OPINION OF PROBABLE CONSTRUCTION COST

Project Name:	Crystal Water ACC Proposed Capital Improvements				
Project No.	1428.01	**Prepared by:**	JAL	**Date:**	7/18/2007
Location:	Cochise County	**Checked by:**	TAM	**Date:**	7/18/2007
Description:	Water infrastructure improvements per ACC decision	**Client:**	Northern Sunrise Water Company		

Item No.	Item Description	Unit	Quantity	Unit Price	ACC Amount	Adjusted Amount [1]	Remarks
1	Well flow meter	LS	1	$3,500	$3,500	$3,500	Add meter to well outlet piping.
2	Site fencing	LS	1	$6,000	$6,000	$8,000	Minimum 6 ft.-high chain link fence with barbed wire around water plant site, approx. 400 LF.
3	Gate	LS	1	$800	$800	$1,200	12 ft.-wide chain link gate for site access.
4	Well	LS	1	$25,000	$25,000	$30,000	Drill new well, replace existing well with new well. As an alternative, determine if existing well can be rehabilitated. If so, rehab well and replace well pump instead of drilling new well.
5	Well pump	LS	1	$7,500	$7,500	$10,000	New submersible well pump and piping.
6	Electrical	LS	1	$10,000	$10,000	$10,000	New electrical control and wiring system.
7	Hydropneumatic pressure tank	LS	1	$20,000	$20,000	$35,000	5,000 gallon pressure tank, air compressor and controls
8	Reservoir	LS	1	$80,000	$80,000	$80,000	Minimum 60,000 gallon storage tank.
9	Booster Station	LS	1	$20,000	$0	$20,000	A booster station is required to pump from the ACC recommended storage tank into the system. ACC recommended storage but did not recommend a booster station.
10	Survey	LS	1	$1,000	$1,000	$2,500	Survey property to establish property boundaries of water plant site.
11	**Subtotal**				**$153,800**	**$200,200**	
12	25% Engineering and Contingencies					$50,050	
13	**TOTAL**				**$153,800**	**$250,250**	Excludes taxes.

[1] Adjusted to reflect current actual construction costs based on consultation with WRI Construction.

OPINION OF PROBABLE CONSTRUCTION COST

Project Name: Mustang Water ACC Proposed Capital Improvements
Project No. 1428.01
Location: Cochise County
Description: Water infrastructure improvements per ACC decision

Prepared by: JAL **Date:** 7/18/2007
Checked by: TAM **Date:** 7/18/2007
Client: Northern Sunrise Water Company

Item No.	Item Description	Unit	Quantity	Unit Price	ACC Amount	Adjusted Amount [1]	Remarks
1	Well flow meter	LS	1	$3,500	$3,500	$3,500	Add meter to well outlet piping.
2	Site fencing	LS	1	$6,000	$6,000	$8,000	Minimum 6 ft.-high chain link fence with barbed wire around water plant site, approx. 400 LF.
3	Gate	LS	1	$800	$800	$1,200	12 ft.-wide chain link gate for site access.
4	Well	LS	1	$25,000	$25,000	$30,000	Drill new well, replace existing well with new well. As an alternative, determine if existing well can be rehabilitated. If so, rehab well and replace well pump instead of drilling new well.
5	Well pump	LS	1	$7,500	$7,500	$10,000	New submersible well pump and piping.
6	Electrical	LS	1	$10,000	$10,000	$10,000	New electrical control and wiring system.
7	Hydropneumatic pressure tank	LS	1	$20,000	$20,000	$35,000	5,000 gallon pressure tank, air compressor and controls
8	Reservoir	LS	1	$80,000	$80,000	$80,000	Minimum 60,000 gallon storage tank.
9	Survey	LS	1	$2,000	$2,000	$3,000	Survey property to establish property boundaries of two water plant sites.
10	Booster Station	LS	1	$20,000	$0	$20,000	A booster station is required to pump from the ACC recommended storage tank into the system. ACC recommended storage but did not recommend a booster station.
11	**Subtotal**				**$154,800**	**$200,700**	
12	25% Engineering and Contingencies					$50,175	
13	**TOTAL**				**$154,800**	**$250,875**	Excludes taxes.

[1] Adjusted to reflect current actual construction costs based on consultation with WRI Construction.

APPENDIX C

DEMAND EVALUATION CRITERIA

DEMAND EVALUATION CRITERIA

The utility provided system specific water production data for winter months for use in evaluating each system. The limited data is not sufficient to estimate peak demands during the warmer summer months. The adjacent Bella Vista South water system's 2005 and 2006 data was used to approximate the peaking factors for these individual water systems. Table 1 provides a summary of the Bella Vista South water system pumped data.

Table 1. Bella Vista South Water Pumpage 2005-2006 (million gallons)

Year	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals
2005	3.33	2.91	3.72	5.03	4.75	7.05	6.63	4.33	4.96	4.94	4.78	3.65	**56.09**
2006	3.59	3.99	3.88	5.67	6.46	6.78	6.67	4.51	4.25	4.08	4.59	4.58	**59.06**
Avg.	**3.46**	**3.45**	**3.80**	**5.35**	**5.60**	**6.91**	**6.65**	**4.42**	**4.61**	**4.51**	**4.69**	**4.12**	**57.57**

The average demand for Bella Vista South for 2005 and 2006 is approximately 57.6 million gallons per year and an average monthly demand of 4.8 million gallons per month. The peaking factor from the lowest demand month (February) to the calculated average monthly demand is approximately 1.4. The peaking factor for the calculated average monthly demand to the peak demand month of July is approximately 1.5. These peaking factors have been applied to the winter demands provided by the utility to estimate the Northern Sunrise system's average day demands (ADD) and average day peak month (ADPM) demands as described below.

System specific well production data for December 2006, January 2007, and March 2007 were provided by the utility and used to calculate an average day demand by increasing the average day demand of the provided winter months by 1.4. This increase is applied to account for lower water use during winter months which is typical for this area. The average day demands have been multiplied by 1.5 to calculate an ADPM demand. The Table 2 provides a summary of the well production data and estimated ADD.

Table 2. Demand Calculations Using Historic Well Use Data

System Name	December 2006 Water Pumpage (gallons)	January 2007 Water Pumpage (gallons)	March 2007 Water Pumpage (gallons)	Estimated Winter Average Day Demand (gallons)	Estimated Average Day Demand (gallons)	Estimated Average Day Peak Month Demand (gallons)
Sierra Sunset	545,700	566,500	518,200	17,531	24,544	36,815
Coronado	-	1,212,000	1,513,200	43,955	61,537	92,305
Crystal	305,070	298,770	416,400	10,970	15,358	23,038
Mustang	360,000	361,000	408,700	12,147	17,006	25,509

Population data and meter connections were also provided by the water company for the existing systems and are summarized in Table 3.

Table 3. Meter Connections and Population

System Name	Meter Connections	Population
Sierra Sunset	28	110
Coronado	219	591
Crystal	67	175
Mustang	72	189
Totals	**386**	**1,065**

Arizona Department of Environmental Quality (ADEQ) rules for public water system capacity are based on Arizona Administrative Code, Title 18, Chapter 5, Article 5, Minimum Design Criteria, (AAC R18-5-502-509), and state that minimum storage requirements shall be equal to average daily demand during the peak month of the year. The minimum storage capacity for a multiple-well system that serves a residential population or a school may be reduced by the amount of the total daily production capacity minus the production from the largest producing well.

Future facilities will be designed to convey well water to forbay storage tanks. Pumping wells into adequately sized forebay storage tanks allows for longer well pump run times. This reduces pump cycling which is better mechanically for the well pump and motor assembly. Water is then pumped out of the reservoirs to the pressurized distribution systems using booster stations equipped with multiple pumps sized to accommodate various flow rates due to fluctuating demand throughout the day.

It is suggested that all new booster stations and other critical source and supply facilities be equipped with generator transfer switches to allow for continued operation during power failures.

The existing systems are served entirely by groundwater wells pumping directly into the pressurized water systems using pressure control. As a design goal, the groundwater wells shall provide sufficient capacity to meet the peak daily demand (PDD) with the largest well out of service.

The existing wells were not taken out of service for detailed inspections since some procedures including videoing the well casing, extracting the pump and motor assemblies, and pump testing require complete well shutdowns. These shutdowns are currently not possible as the existing customers rely on full production from most of the existing active wells. It is recommended that the conditions of the existing wells be reviewed in the future after the systems are upgraded with redundant source capacity.

This evaluation recommends combining water facilities into regional water plants wherever practical. The incremental cost of oversizing facilities at regional water plants typically requires less upfront capital than constructing numerous smaller facilities. Operations and maintenance may also be reduced by focusing infrastructure at regional water plants rather than maintaining several smaller facilities spread over a wide area.

The existing distribution piping systems will be evaluated for looping and sized for acceptable headlosses. Design criteria for each water system are described herein and these assumptions are used to size source (well) capacity, storage volume, and booster station pumping capacity.

APPENDIX D

DEMAND AND INFRASTRUCTURE PROJECTION SUMMARY

DEMAND AND INFRASTRUCTURE PROJECTION SUMMARY

As a project baseline, and for use in future planning, the following are provided to review water system demands for the purpose of future infrastructure sizing. These values are based upon historical calculations and data in Southern Arizona.

DEMAND AND PEAKING FACTORS

- Average daily per capita water usage for equivalent dwelling units ..... 125 GPCD
- Average number of persons per single-family dwelling unit.....2.5
- Ratio of peak day to average day.....2.0
- Ratio of peak hour to average day 3.5
- Instantaneous demands are taken from ADEQ engineering Bulletin #10, Appendix C, Table 3

SUPPLY

The criteria for the evaluation of supply projections to each individual service area is listed as follows:

- Well capacity to meet PDD with the largest well out of service in a system with multiple wells.
- Booster capacity to service areas without elevated storage shall meet instantaneous demand or PDD plus fire flow whichever is greater.
- Boosters shall be equipped with hydropneumatic tanks and/or Variable Frequency Drives (VFDs) to dampen water system transients (water hammer) during pump cycling.

STORAGE

The criteria for storage capacity requirements for the water system is based upon the following:

- Provide storage volume equal to a minimum of 1.50 times the ADD also known as ADPM.
- ADD plus fire flow storage when fire flow is required. Since the existing systems have not historically provided fire flow, it is excluded from the existing system calculations.

DISTRIBUTION SYSTEM

Pipeline design within the distribution system is based upon the following criteria:

- System design and construction to meet AWWA and ADEQ requirements.
- Transmission lines serving PDD only shall be designed for a maximum velocity of 5 feet per second (ft/sec) with a minimum pressure of 35 psi. At no time shall the system piping have a maximum velocity greater than 10 ft/sec or a pressure less than 20 psi.

- Maximum friction head loss for lines up to and including 8 inches in size is to be 8 feet per 1,000 feet or less. Head loss for lines between 8 and 10 inches in size is to be 5 feet per 1,000 feet or less, according to pipe size. Head loss for lines 12 inches and larger in size is to be 4 feet per 1,000 feet or less.

APPENDIX E

LOST AND UNACCOUNTED FOR WATER

LOST AND UNACCOUNTED FOR WATER

The difference between the quantity of water produced by the system, and the quantity of water metered and sold to customers is designated as lost or unaccounted. These quantities for the Northern Sunrise systems for a representative month are summarized in Table 1.

Table 1. Lost and Unaccounted for Water (January 2007)

	Sierra*[1] Sunset	Coronado	Crystal	Mustang
Gallons Pumped	559,500	9,692,400	3,010,680	3,249,800
Gallons Sold	415,098	6,457,088	2,367,753	2,352,170
Difference	144,402	3,235,312	642,927	897,630
Percent Lost and Unaccounted Water (%)	**26**	**33**	**21**	**28**

*[1] Sierra Sunset figures are for May and June 2007 only
[2] Coronado figures are for January through June 2007

These water losses may be due to one or several reasons. Service connections may be unmetered or have inaccurate or uncalibrated meters. Undetected leaks in the distribution system allow the wasting of water until the leak is repaired. Maintenance and flushing can use great quantities of unmetered water. Undocummented existing interconnections between systems may allow water produces in one system to be consumed in another, which may be unaccounted for. To reduce these losses, the new ownership has implemented a program to locate unmetered services and install meters.

APPENDIX F

SIERRA SUNSET (STAND-ALONE SYSTEM)

SIERRA SUNSET (STAND-ALONE SYSTEM)

The Sierra Sunset system serves a residential area with 28 known service connections. The overall service area consists of the north half of Section 18, and the terrain slopes gently from the southwest to the northeast with elevations varying from about 4,330 to 4,385 feet (ft). Water is supplied to the system by a pressure-controlled submersible well pump producing approximately 22 gpm. The water plant includes two bladder tanks. Table 1 provides a summary of the existing infrastructure serving the Sierra Sunset water system.

Table 1. Sierra Sunset Existing Infrastructure Summary

Storage Capacity	0
Well (Source) Capacity	22 gpm
Booster Capacity	N/A[*1]

[*1] The existing well acts as both source and booster capacity.

Table 2 provides a summary of the calculated water demands for the Sierra Sunset system operating as a stand-alone water system.

Table 2. Sierra Sunset (Stand-alone) System Demand Calculation Summary

Calculation Method	Metered Connections	Population	ADD (gal)	ADPM (gal)	ADD (gpm)	PDD (gpm)	PHD (gpm)	Inst. Demand (gpm)
Based on Historical Data	28	110	24,544	**36,815**	17	**34**	60	**74**
Based on Engineering Criteria	28	70	8,750	13,125	6	12	21	74

The historical data indicates greater population than is calculated using standard engineering criteria. The historical well pumpage is also higher than is calculated using the design criteria. This excess pumpage may be due to a possible interconnection with an adjacent water system(s).

As a stand-alone system per the criteria listed herein, Sierra Sunset System requires a well capable of producing a minimum of 35 gpm, a 40,000 gallon storage tank, and 75 gpm VFD booster station. The existing 22 gpm may be re-equipped to provide 35, the required PDD. An additional 35 gpm well would also be required to provide system redundancy if the water system remains a stand alone system.

Approximately 1,000 ft of existing water main will require replacement based upon field observations made during construction of individual meter connections to homes.

Table 3 provides a summary of the ACC and WestLand recommendations.

Table 3. Sierra Sunset (Stand-alone) Infrastructure Requirement Summary

	ACC Requirements	ACC Costs	WestLand Calculated Requirements	WestLand Costs	WestLand Proposal
Storage (gal) *[1]	30,000	$0	40,000	$50,000	$50,000
Booster (gpm) *[2]	0	$0	75	$35,000	$35,000
Pipelines (lf)	0	$0	1,000	$50,000	$50,000
Wells (gpm) *[3]	0	$0	35	$10,000	$10,000
Fencing	1	$6,000	0	$0	$0
Electrical	0	$0	0	$0	$0
Survey	1	$1,000	1	$3,500	$3,500
HP Tank	0	$0	0	$0	$0
Miscellaneous	1	$15,800	1	$5,000	$5,000
Engineering	0	0	1	$14,500	$14,500
SUBTOTAL		**$22,800**		**$168,000**	**$168,000**
10% Contingencies				$16,800	$16,800
TOTAL		**$22,800**		**$184,800**	**$184,800**

*[1] Indicated in text but not included ACC cost summary.

*[2] Required to integrate at grade storage into the existing system.

*[3] Assumes existing well may be re-equipped to pump to at grade storage.

It is important to note that the 30,000 gallons of storage ordered in the text of the decision (Page 34-Line 7) is not quantified as a cost in the proposed capital improvements in Appendix A. Additionally, the booster station required to pump from the 30,000 gallon storage tank into the system is not identified as a project cost component either. The 1,000 ft. pipeline replacement and service tie-overs was recommended based on field observations made after the ACC decision was filed.

The cost provided by WRI Construction in Appendix B indicate that the current cost for the improvements recommended by the ACC including cost previously unaccounted for is $115,875.

APPENDIX G

CORONADO ESTATES (STAND-ALONE SYSTEM)

CORONADO ESTATES (STAND-ALONE SYSTEM)

The Coronado Estates system has 219 metered connections. The service area is residential and encompasses most of the south half of Section 18 and a portion of the north half of Section 19. The area slopes to the northeast with elevations generally varying from 4,330 to 4,390 ft. Coronado is supplied by a well with a pressure-controlled submersible pump producing approximately 40 gpm and pressurizing the system via an aged 5,000 gallon steel hydropneumatic tank. Table 1 provides a summary of the existing infrastructure.

Table 1. Coronado (Stand-alone) Existing Infrastructure Summary

Storage Capacity	0
Well (Source) Capacity	40 gpm
Booster Capacity	N/A[*1]

[*1] The existing well acts as both source and booster capacity.

Table 2 provides a summary of the calculated water demands for the Coronado system operating as a stand-alone water system.

Table 2. Coronado Estates (Stand-alone) System Demand Calculation Summary

Calculation Method	Metered Connections	Population	ADD (gal)	ADPM (gal)	ADD (gpm)	PDD (gpm)	PHD (gpm)	Inst. Demand (gpm)
Based on Historical Data	219	591	61,537	**92,305**	43	**85**	150	**261**
Based on Engineering Criteria	219	548	68,438	102,656	48	95	166	261

WestLand recommends capacity improvements for this system to provide a well source producing a minimum of 85 gpm, 90,000 gallons of storage, and a 300 gpm booster station to accommodate modest growth.

The additional well capacity may be possible with the installation of a new pump in the existing well pending further analysis. A second well will also be required for redundancy assuming Coronado remains a stand-alone system. All new wells will pump to the new at grade storage by reservoir level control. The new booster will be controlled by pressure within the water system, and will include a VFD pre-packaged pump station.

The ACC decision noted above recommends storage for this system of 100,000 gallons and a new 5,000 gallon hydropneumatic tank but did not include cost for a booster station to pump from the above ground storage into the water system. The ACC also recommends new site fencing, a well meter, and the

replacement of the existing electrical panel and wiring to the pump, with which WestLand concurs and also recommends a new concrete pad at the well head.

Table 3 provides a summary of the ACC and WestLand recommendations.

Table 3. Coronado (Stand-alone) Infrastructure Requirement Summary

	ACC Requirements	ACC Costs	WestLand Calculated Requirements	WestLand Costs	WestLand Proposal
Storage (gal)	100,000	$100,000	90,000	$120,000	$120,000
Booster (gpm)	0	$0	300	$45,000	$45,000
Pipelines (lf)	0	$0	0	$0	$0
Wells (gpm)	0	$7,500	85	$90,000	$90,000
Fencing	1	$6,000	1	$10,000	$10,000
Electrical	1	$10,000	1	$5,000	$5,000
Survey	1	$1,000	1	$5,000	$5,000
HP Tank	1	$20,000	0	$0	$0
Miscellaneous	1	$4,300	1	$4,300	$4,300
Engineering	0	$0	1	$28,800	$28,800
SUBTOTAL		**$148,800**		**$308,100**	**$308,100**
10% Contingencies				$30,810	$30,810
TOTAL		**$148,800**		**$338,910**	**$338,910**

Appendix B shows the adjusted cost for the ACC's recommendations which is $272,125.

As of June 2007, the temporary booster pump and 15,000 gallons of storage had been installed and were in service in time to meet the potential peak demand months. The booster has a capacity of 120 gpm, and the storage consists of three 8-foot diameter, 5,000 gallon tanks interconnected. These tanks are filled by a 2-inch line from the existing well, which is now controlled by the water level in the tanks. In addition to providing storage, the tanks act as forebay to the booster supplying the distribution system via the existing steel hydropneumatic pressure tank. The current improvements have been installed to temporarily supplement the capacity of the system, and can be removed or reassigned when permanent improvements are constructed.

APPENDIX H

COMBINED SIERRA SUNSET AND CORONADO WATER SYSTEMS

COMBINED SIERRA SUNSET AND CORONADO WATER SYSTEMS

An alternative methodology to provide service to the existing customers may include combining the Sierra Sunset and Coronado water systems. The waster systems range from 4,330 to 4,390 ft and both systems may be served by a single pressure zone.

Table 1 provides a summary the capacity requirements of the combined systems.

Table 1. Combined Sierra Sunset and Coronado Water System Demand Calculations Summary per Historical Data

System Name	Metered Connections	Population	ADD (gal)	ADPM (gpd)	ADD (gpm)	PDD (gpm)	PHD (gpm)	Inst. Demand (gpd)
Sierra Sunset	28	110	24,544	**36,815**	17	**34**	60	**74**
Coronado	219	591	61,537	92,305	43	85	150	261
Total	**247**	**701**	**86,080**	**129,121**	**60**	**120**	**209**	**286**

The combined storage, booster, and well requirements are approximately 130,000 gallons, 300 gpm, and 120 gpm respectively.

Table 2 provides a summary of the cost associated with the combined system upgrades. It is assumed that the new facilities will be located at the existing Coronado water plant.

Table 2 Combined Sierra Sunset and Coronado Water System Infrastructure Requirement Summary

	WestLand Calculated Requirements	WestLand Costs	WestLand Proposal
Storage (gal)	130,000	$130,000	$130,000
Booster (gpm)	300	$45,000	$45,000
Pipelines (lf) *1	500	$50,000	$50,000
Wells (gpm)	1	$90,000	$90,000
Fencing	1	$10,000	$10,000
Electrical	1	$30,000	$30,000
Survey	1	$10,000	$10,000
HP Tank	0	$0	$0
Miscellaneous	1	$20,000	$20,000
SUBTOTAL		**$385,000**	**$385,000**
25% Engineering and Contingencies		$96,250	$96,250
TOTAL		**$481,250**	**$481,250**

*1 Interconnect between Sierra Sunset and Coronado

Table 2 indicates that there is a modest cost savings of approximately $42,000 by combining both systems. This savings is calculated by subtracting the combined cost of $481,250 in Table 2 from the stand-alone cost of $184,800 and $338,910 for the Sierra Sunset and Coronado systems in Appendix F, Table 3 and Appendix G, Table 3, respectively.

APPENDIX I

COMBINED SIERRA SUNSET, CORONADO, AND PROPOSED BABOCOMARI WATER SYSTEMS

COMBINED SIERRA SUNSET, CORONADO, AND PROPOSED BABOCOMARI WATER SYSTEMS

An additional alternative would be to combine Sierra Sunset, Coronado Estates and the proposed Babocomari development. Service area elevations range between the three areas from about 4,330 to 4,390 feet which is adequate for a single pressure zone.

The proposed Babocomari Development is adjacent to and south of the Coronado water system. The Babocomari property has been incorporated into the Northern Sunrise Water Company CC&N as part of the recent decision. The buildout of Babocomari consists of approximately 1,400 new residential units and about 260 acres of commercial development adjacent to Highway 90. There are existing wells within the Babocomari Development that may be used to provide capacity to initial development of Babocomari. These wells may require additional equipping or permitting with the Arizona Department of Water Resources.

This section of the report analyzes the impact of interconnecting the Sierra Sunset, Coronado, and future Babocomari systems. The interconnection will allow for master planning of a regional water system with centralized facilities. Phase I of the Babocomari development is estimated to consist of 438 residential units. Table 1 provides a demand summary for a combined Sierra Sunset, Coronado, and Phase I of the Babocomari water system.

Table 1. Combined Sierra Sunset, Coronado, and Babocomari Phase I Water System Demand Calculation Summary per Historical Data

System Name	Metered Connections	Population	ADD (gal)	ADPM (gpd)	ADD (gpm)	PDD (gpm)	PHD (gpm)	Inst. Demand (gpd)
Sierra Sunset	28	110	24,544	36,815	17	34	60	**74**
Coronado	219	591	61,537	92,305	43	85	150	261
Sub Total	**247**	**701**	**86,080**	**129,121**	**60**	**120**	**209**	**286**
Babocomari Phase I*1	438	1,095	136,875	205,313	95	190	333	N/A
Total*2 *3	**685**	**1,796**	**222,955**	**334,433**	**155**	**310**	**542**	**N/A**

*1 Engineering Criteria described above applied since historical data is not available for Babocomari

*2 Add 90,000 gallons to total ADD for fire flow for storage requirement

*3 Add 750 gpm to total PDD for fire flow for booster requirement

It is our understanding that Babocomari Phase I will have a fire flow requirement of 750 gpm for two hours which requires an additional 90,000 gallons of storage for approximately 315,000 gallon combined system storage requirement (ADD plus fire flow). The booster requirement will also require upsizing by 750 gpm for a total of 1,060 gpm (PDD plus fire flow).

The combined system will require a well system capable of meeting PDD (310 gpm) with the largest well out of service.

At least two new interconnects are required to combine the three water systems, with one interconnect between Sierra Sunset and Coronado and the other between Coronado and Babocomari. The locations and sizes of the proposed interconnects may require additional analysis and are partly dependant on the final locations of regional facilities. Proposed interconnect locations are provided in Figure 2.

Table 2 indicates the additional cost to include the Sierra Sunset and Coronado infrastructure at a regional water plant in Babocomari will be $165,000, the difference between Babocomari Phase I stand-alone and Babocomari Phase I, Sierra Sunset, and Coronado combined plus the cost of the interconnect (including engineering and contingencies). WestLand estimates the cost of combining the Sierra Sunset and Coronado systems to be $481,250 as seen in Appendix H, Table 2.

Table 2. Combined Sierra Sunset, Coronado, Babocomari Phase I, and Buildout of Babocomari Infrastructure Requirement Summary

	Babocomari Phase I Stand Alone System	Babocomari Phase I, Sierra Sunset, and Coronado Combined	Babocomari Buildout All Phases, Sierra Sunset, and Coronado Combined*1
Storage (gal)	230,000	315,000	930,000*1
Storage Cost	$230,000	$275,000	$760,000*2
Booster (gpm)	940	1,060	2,500
Booster Cost	$80,000	$90,000	$100,000
Wells (gpm)	190	310	(3) 350*3
Well Cost	$90,000	$90,000	$270,000
Site Work and Fencing Cost	$40,000	$40,000	$50,000*4
Site Appurtenances	$15,000	$20,000	$25,000*5
Interconnect from Coronado to Babocomari (lf)	1,200	1,200	1,200
Interconnect Cost	$72,000	$72,000	$72,000
SUBTOTAL	**$527,000**	**$587,000**	**$1,277,000**
25% Engineering and Contingencies	$131,750	$146,750	$319,250
TOTAL	**$658,750**	**$733,750**	**$1,596,250**

*1 Assumes approximately 1,380 buildout units plus 262 acres of commercial @ 750 gallons per acre day (gpad) plus 1,500 gpm commercial fire flow (2 hour duration). Also includes Coronado and Sierra Sunset combined ADD.

*2 Assumes steel gravel base ring

*3 Assumes 500' wells

*4 Includes chain link fence and auto-dialer

*5 Includes concrete work, electrical connections, and site piping

For estimation purposes, it appears that the existing customers within the Sierra Sunset and Coronado systems may save approximately $280,000 in infrastructure cost if they participate in the construction of a regional water facility, which includes the cost of an interconnect between Coronado and Sierra Sunset.

The Babocomari Development Association has agreed to participate in this regional facility as indicated in Appendix M.

APPENDIX J

CRYSTAL (STAND-ALONE SYSTEM)

CRYSTAL (STAND-ALONE SYSTEM)

The Crystal system is in parts of Section 12, 14, and 15, of Township 20 S Range 19 East and has 67 service connections in a residential area. Based on utility location information provided by the water company, it appears that portions of this water systems infrastructure are not located within the new CC&N. The CC&N area should be expanded to include all water infrastructure. The ground slopes from southwest to northeast with elevations varying from about 4,410 to 4,450 ft. Water is supplied to the system by a well with a pressure-controlled pump producing approximately 40 gpm and pressurizing the system through a 1,000 gallon hydropneumatic tank. The site was recently updated and improvements included the installation of a refurbished hydropneumatic tank and a new sodium hypochlorite disinfection system.

Table 1 provides a summary of the existing infrastructure.

Table 1. Crystal Existing Infrastructure Summary

Storage Capacity	0
Well (Source) Capacity	40 gpm
Booster Capacity	N/A[*1]

[*1] The existing well acts as both source and booster capacity.

Table 2 provides a summary of the calculated water demands for the Crystal system operating as a stand-alone water system.

Table 2. Crystal (Stand-alone) Demand Calculation Summary

Calculation Method	Metered Connections	Population	ADD (gal)	ADPM (gal)	ADD (gpm)	PDD (gpm)	PHD (gpm)	Inst. Demand (gpm)
Based on Historical Data	67	175	15,358	**23,038**	11	**21**	37	**127**
Based on Engineering Criteria	67	168	20,938	31,406	15	29	51	127

Based upon the historical data presented in Table 2, the Crystal System operating as a stand-alone water system will require the minimum installation of a new 20 gpm well for redundancy, 30,000 gallon storage tank sized for modest growth, and 130 gpm VFD booster station.

Table 3 compares these requirements with those in the ACC Decision. The decision did not include booster pumping facilities to lift water from the proposed 60,000 gallon storage tank into system pressure. Appendix B adds the required booster station costs with current construction costs for the ACC's design intent. Said cost is estimated to be $250,250.

Table 3 provides a summary of the ACC and WestLand recommendations.

Table 3. Crystal (Stand-alone) Infrastructure Requirement Summary

	ACC Requirements	ACC Costs	WestLand Calculated Requirements	WestLand Costs	WestLand Proposal
Storage (gal)	60,000	$80,000	30,000	$40,000	$40,000
Booster (gpm)	0	$0	130	$35,000	$35,000
Pipelines (lf)	0	$0	0	$0	$0
Wells (gpm)	1	$32,500	20	$15,000	$15,000
Fencing	1	$6,000	1	$0	$0
Electrical	1	$10,000	0	$0	$0
Survey	1	$1,000	1	$2,500	$2,500
HP Tank	1	$20,000	0	$0	$0
Misc.	0	$4,300	-1	$5,000	$5,000
Engineering	0	$0	1	$25,000	$25,000
SUBTOTAL		**$153,800**		**$122,500**	**$122,500**
10% Contingencies				$12,250	$12,250
TOTAL		**$153,800**		**$134,750**	**$134,750**

*1 Assumes re-equip existing well with new pump and motor to pump to at grade storage rather than system pressure.

MUSTANG (STAND-ALONE SYSTEM)

The Mustang system has 72 service connections in a residential area occupying part of the north half of Section 14. Portions of this water systems infrastructure do not appear to be located within the new CC&N based on information provided by the water company, and may require a modification to the CC&N boundary. The area slopes from the west to east with elevations varying from about 4,445 to 4,495 ft. The Mustang system is supplied by a well with a pressure-controlled pump producing approximately 95 gpm and pressurizing the system through a 5,000 gallon steel hydropneumatic tank which appears to be in poor condition. During a site visit in March 2007 by WestLand, the absence of a pressure relief valve on this tank was noted and installation of the same was strongly recommended as soon as practical as a safety measure. The Mustang service area also includes with an un-equipped well not currently in service. Table 1 provides a summary of the Mustang system existing infrastructure.

Table 1. Mustang Stand-alone Existing Infrastructure Summary

Storage Capacity	0
Well (Source) Capacity	95 gpm
Booster Capacity	N/A[*1]

[*1] The existing well acts as both source and booster capacity.

Table 2 provides a summary of the historic and calculated water demands for the Mustang system operating as a stand-alone water system.

Table 2. Mustang (Stand-alone) System Demand Calculation Summary

Calculation Method	Metered Connections	Population	ADD (gal)	ADPM (gal)	ADD (gpm)	PDD (gpm)	PHD (gpm)	Inst. Demand (gpm)
Based on Historical Data	72	189	17,006	**25,509**	12	**24**	41	**133**
Based on Engineering Criteria	72	180	22,500	33,750	16	31	55	133

Based upon the above criteria the existing Mustang water system will require a minimum 25 gpm well, 30,000 gallon storage tank, and 140 gpm VFD booster station.

Table 3 provides an infrastructure requirement summary for the Mustang water system. Appendix B shows the current value of the ACC's design concept to be $250,875. It should be noted that the ACC Decision did not allocate costs for booster pumping facilities to convey flows form the proposed storage tank to system pressure.

Table 3. Mustang (Stand-alone) Infrastructure Requirement Summary

	ACC Requirements	ACC Costs	WestLand Calculated Requirements	WestLand Costs	WestLand Proposal
Storage (gal)	60,000	$80,000	30,000	$50,000	$50,000
Booster (gpm)	0	$0	140	$35,000	$35,000
Pipelines (lf)	0	$0	0	$0	$0
Wells (gpm)	1	$32,500	25	$20,000	$20,000
Fencing	1	$6,000	1	$10,000	$10,000
Electrical	1	$10,000	1	$5,000	$5,000
Survey	1	$2,000	1	$3,000	$3,000
HP Tank	1	$20,000	0	$0	$0
Misc.	1	$4,300	0	$5,000	$5,000
Engineering	0	$0	1	$21,000	$21,000
SUBTOTAL		**$154,800**		**$149,900**	**$149,000**
10% Contingencies				$14,900	$14,900
TOTAL		**$154,800**		**$163,900**	**$163,900**

APPENDIX L

CRYSTAL AND MUSTANG COMBINED SYSTEMS

CRYSTAL AND MUSTANG COMBINED SYSTEMS

The Crystal and Mustang water system areas are located adjacent to each other and the combined service areas range in elevation from about 4,410 to 4,500 feet. It is our understanding these systems may already be interconnected. If they are not currently connected, WestLand recommends interconnecting these systems and combining capacity improvements. Combining systems allows merging recommended capacity improvements, likely at either the existing Mustang or Crystal well site.

Table 1 provides a summary of the combined water demands.

Table 1. Combined Crystal and Mustang Water Systems per Historical Data

System Name	Metered Connections	Population	ADD (gal)	ADPM (gpd)	ADD (gpm)	PDD (gpm)	PHD (gpm)	Inst. Demand (gpd)
Crystal	67	175	15,358	23,038	11	21	14	127
Mustang	72	189	17,006	25,509	12	24	41	133
Total	**139**	**364**	**32,365**	**48,547**	**22**	**45**	**56**	**200**

Based upon the data presented in Table 1, and modest growth projections, WestLand recommends a minimum of 60,000 gallons of storage and 300 gpm booster station. The existing well system is sufficient to meet PDD with either well out of service, but will need to be re-equipped to pump to an at-grade storage reservoir. Table 2 provides a summary of WestLand recommendations for this scenario which was not analyzed by the ACC.

Table 2. Combined Crystal and Mustang Systems Infrastructure Requirement Summary

	WestLand Calculated Requirements	WestLand Costs	WestLand Proposal
Storage (gal)	60,000	$80,000	$80,000
Booster (gpm)	300	$45,000	$45,000
Pipelines (lf)	1,000	$50,000	$50,000
Wells (gpm)	50	$20,000	$20,000
Fencing	1	$10,000	$10,000
Electrical	1	$20,000	$20,000
Survey	1	$5,000	$5,000
HP Tank	0	$0	$0
Miscellaneous	1	$10,000	$10,000
SUBTOTAL		**$272,000**	**$272,000**
25% Engineering and Contingencies		$68,000	$68,000
TOTAL		**$340,000**	**$340,000**

Table 2 indicates that combining the systems creates additional redundancy and is estimated to have less cost (excluding contingencies) than the ACC's original projections for the two stand alone systems.

APPENDIX M

BABOCOMARI DEVELOPMENT ASSOCIATION INTENT TO CONTRIBUTE

BABOCOMARI DEVELOPMENT ASSOCIATION
2160 E. FRY BOULEVARD, SUITE 200
SIERRA VISTA, AZ 85635
PHONE: 520.266.2029
FAX: 520.439.9399
EMAIL: SHADETREECONSULTING@COX.NET

Algonquin Water Services, L.L.C.
Attention: Matt Garlick
12725 W. Indian School Road, Suite 101
Avondale, AZ 85323

July 13, 2007

Re: Intent to Contribute

Dear Mr. Garlick:

The Babocomari Development Association (BDA) accepts your proposal and pledges to contribute monies towards the design and construction of the water facility located on lands within the Babocomari that shall be sufficient to meet the needs of Babocomari Developers and the Northern Sunrise Water Company Sierra Sunset and Coronado Estates water systems.

This intent to contribute shall be codified per a Joint Development Agreement to be constructed within the next 30 days.

Please do not hesitate to contact me if you have any questions at 520.834.7907.

Sincerely,

Dave Stephenson
President
Babocomari Development Association

Exhibit 2

SOUTHERN SUNRISE WATER COMPANY
INFRASTRUCTURE EVALUATION

Registered Professional Engineer (Civil)
32983
THOMAS ANTHONY MARTINEZ
DATE SIGNED 7-18-07
ARIZONA U.S.A.

To: Southern Sunrise Water Company

From: WestLand Resources, Inc.

Date: July 18, 2007

Project No. 1428.03 A 8000

INFRASTRUCTURE EVALUATION COST SUMMARY

This report is provided to assess the existing water infrastructure needs for the Southern Sunrise Water Company, which is comprised of three formerly-separate water companies south of Sierra Vista in Cochise County, Arizona. The former company names were Miracle Valley, Cochise and Horseshoe Ranch. The service areas are located in Sections 5, 8, and 17 of Township 23 South, Range 21 East, and Section 31 of Township 23 South, Range 22 East, as shown in Figures 1 through 3.

The Arizona Corporation Commission (ACC) issued Decision Number 68826, docketed June 29, 2006, which granted control of these systems to the Southern Sunrise Water Company (a wholly owned subsidiary of Algonquin Water Services, LLC) to operate as one entity, pending sale of the assets to Southern Sunrise. The decision included recommendations for the capital improvements required to bring the systems to an adequate level of service. The infrastructure proposed herein is based upon an engineering review of the existing system and is recommended in lieu of those improvements proposed in Decision 68826.

The original system upgrades and associated costs as proposed by the ACC are provided in Appendix A. These costs have been reviewed by WRI Construction Company (a wholly owned subsidiary of Westland Resources) and updated and adjusted for design intent and to reflect current construction costs and can be seen in Appendix B.

Each water system design concept is evaluated in detail in the Appendices. The following table provides a summary of the costs provided in the Appendices. The ACC-recommended improvements for the Cochise and Horseshoe Ranch systems are specific to the three individual water plant sites, while the Westland analysis considered the two interconnected systems together and proposes integrating system integrating system improvements. Table 1 summarizes said costs.

Table 1. Southern Sunrise Water Company Infrastructure Upgrades Summary of Costs

	ACC Decision Costs	WRI Cost Opinions for ACC Design Concept[1] (Appendix B)	WestLand Proposed Infrastructure Costs[1]
Miracle Valley	$197,800	$271,055	$275,770
Cochise – Naranja	$63,300	$180,665	-
Cochise – Jaxel	$8,000	$14,950	-
Horseshoe Ranch	$52,800	$112,355	-
Cochise, Jaxel & Horseshoe Ranch combined	-	-	$413,000
Total	**$321,900**	**$579,025**	**$688,770**

[1] Excludes 10% contingencies.

The costs included with the improvements recommended in the ACC Decision are less than the projected costs per WRI Construction. The updated costs also add 15% for engineering design. The costs of the improvements proposed in this analysis reflect a complete design and include engineering in the total. The revised ACC cost and the WestLand cost for Miracle Valley are approximately the same, while the Westland cost for the combined Cochise and Horseshoe Ranch improvements is greater than the revised ACC costs. The increased costs at Cochise and Horseshoe Ranch are primarily related to additional source capacity requirements and for substantial electrical upgrades. The total cost for the recommended improvement for the Southern Sunrise system is currently estimated to be $688,770.

LIST OF FIGURES

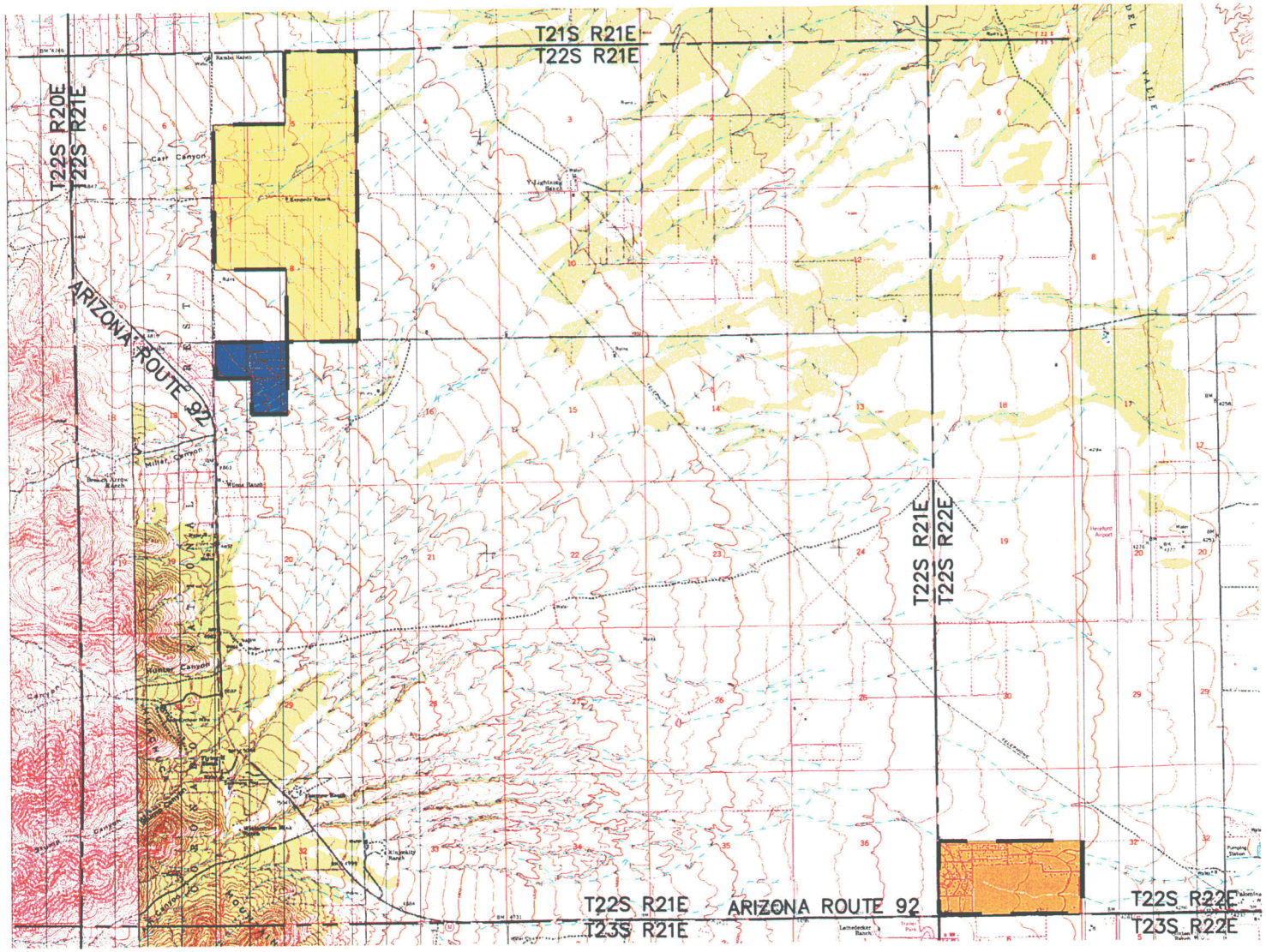
(follow text)

Figure 1. Southern Sunrise Water Company
Figure 2. Cochise and Horseshoe Ranch Water Systems
Figure 3. Miracle Valley Water Systems

LIST OF APPENDICES

Appendix A ACC Proposed Capital Improvements
Appendix B Opinions of Probable Construction Costs for ACC Proposed Design Concept Capital Improvements
Appendix C Demand Evaluation Criteria
Appendix D Demand and Infrastructure Projection Summary
Appendix E Lost and Unaccounted for Water
Appendix F Miracle Valley Water System
Appendix G Cochise and Horseshoe Ranch Demand Calculations
Appendix H Cochise Water System
Appendix I Horseshoe Ranch Water System
Appendix J Combined Cochise and Horseshoe Ranch Improvements

FIGURES



N
W E
S
N.T.S.

LEGEND

- COCHISE WATER SYSTEM
- HORSESHOE RANCH WATER SYSTEM
- MIRACLE VALLEY WATER SYSTEM
- CC&N BOUNDARY

ALGONQUIN WATER

FIGURE 1
SOUTHERN SUNRISE WATER COMPANY

JUNE 11, 2007

WestLand Resources Inc.
Engineering and Environmental Consultants
3343 E. Broadway Blvd. Suite 203
Tucson, AZ 85716 (520) 326-5592

M:\projects\1428.03\SOUTH-Sunrise on Quads.dwg Jul 18, 2007 - 10:32am erikc

SOUTHERN SUNRISE WATER COMPANY

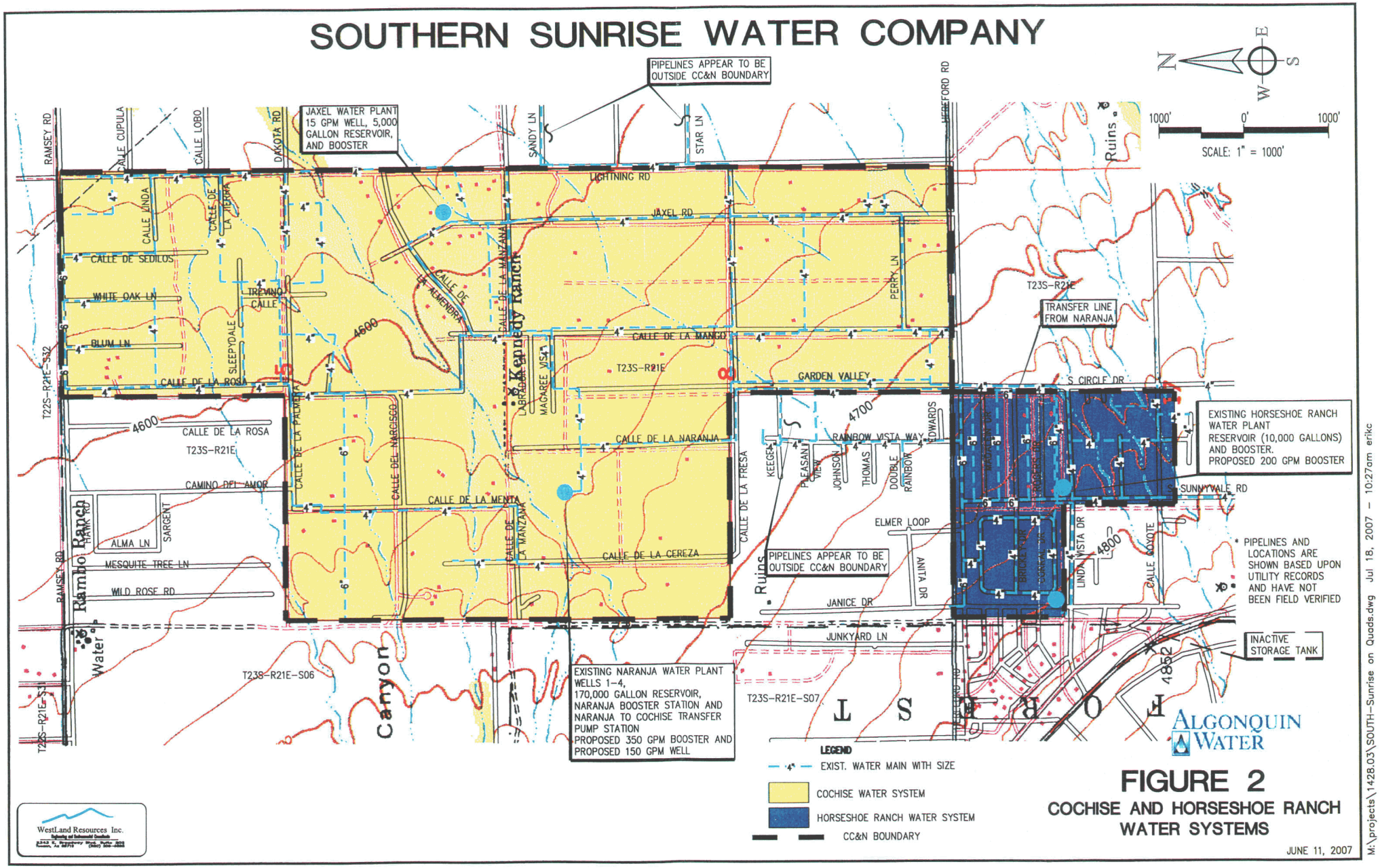


FIGURE 2

COCHISE AND HORSESHOE RANCH WATER SYSTEMS

JUNE 11, 2007

M:\projects\1428.03\SOUTH-Sunrise on Quads.dwg Jul 18, 2007 - 10:27am erikc

SOUTHERN SUNRISE WATER COMPANY

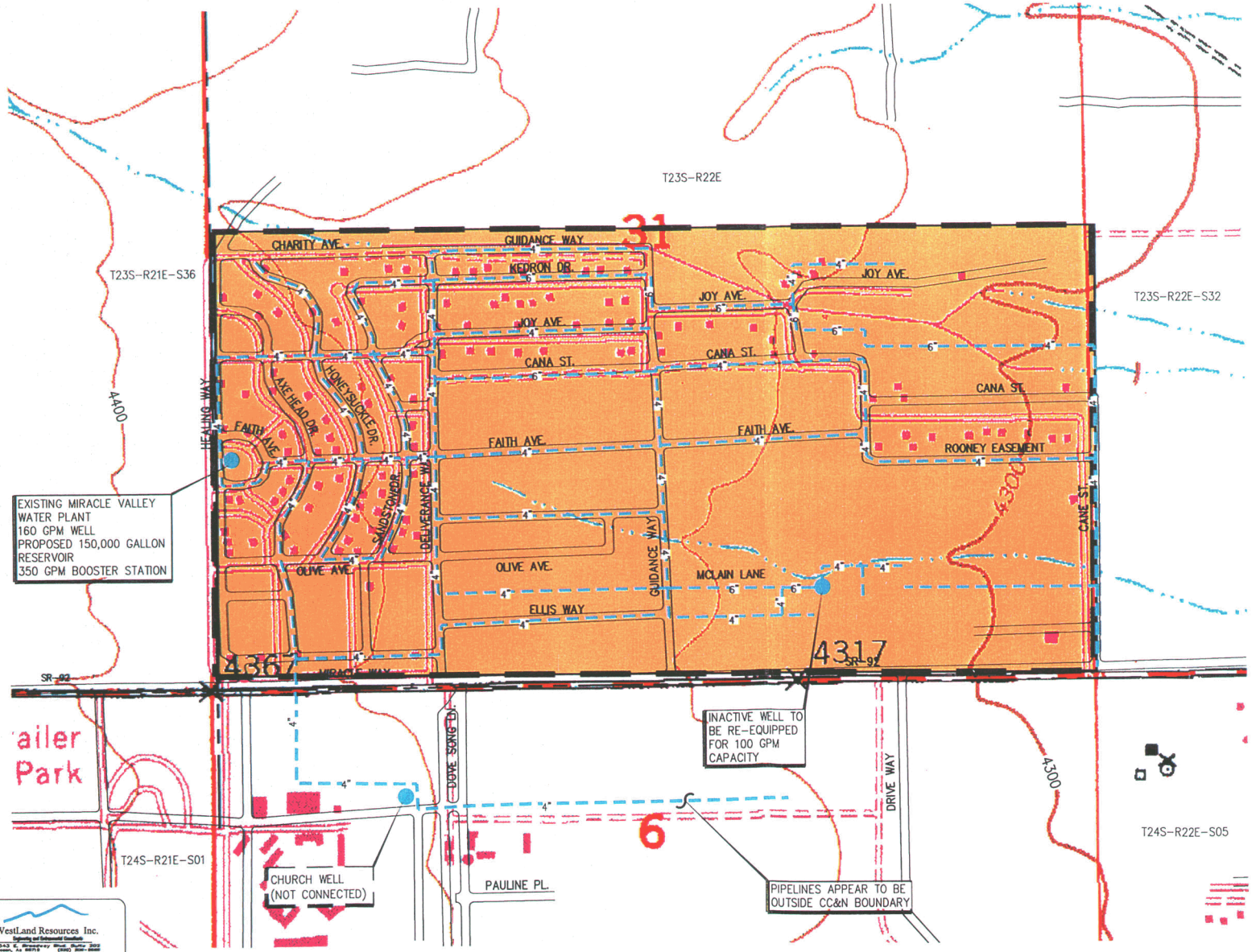


FIGURE 3
MIRACLE VALLEY WATER SYSTEM

APPENDIX A

ACC PROPOSED CAPITAL IMPROVEMENTS

Cochise Water - Part of Southern Sunrise Proposed Capital Improvements		Project Start	Duration	Benefit to Customer
Project Description	**Cost**			
Naranja Well Site				
Add meters to wells	$10,000	ASAP after Closing	6-12 Months	Immediate
Construct a minimum 6 ft. high chain link fence with barbed wire 800 L.F.	$12,000	ASAP after Closing	6-12 Months	Immediate
Construct 12 ft wide chain link gate	$800	ASAP after Closing	6-12 Months	Immediate
Repair 5 hp booster pump	$500	ASAP after Closing	6-12 Months	Immediate
Rebuild Electrical Control and wiring system	$10,000	ASAP after Closing	6-12 Months	Immediate
Replace Air Compressor and controls on Pressure Tank	$1,000	ASAP after Closing	6-12 Months	Immediate
Replace Guages on Booster and Transfer Pumps	$1,000	ASAP after Closing	6-12 Months	Immediate
Replace check valves on booster and transfer pumps	$500	ASAP after Closing	6-12 Months	Immediate
Build concrete pads to mount booster and transfer pumps	$1,000	ASAP after Closing	6-12 Months	Immediate
Install well pump high level shut off level contoller to storage tank	$5,000	ASAP after Closing	6-12 Months	Immediate
Install low level sensor in storage tank for booster & transfer pump shut off	$5,000	ASAP after Closing	6-12 Months	Immediate
Install telemetry system to start and stop transfer pumps filling Horseshoe storage	$10,000	ASAP after Closing	6-12 Months	Immediate
Add sampling taps to wells	$500	ASAP after Closing	6-12 Months	Immediate
Survey property to establish property boundaries of well site	$1,000	ASAP after Closing	6-12 Months	Immediate
Remove old storage tank and trash and grade well site	$5,000	ASAP after Closing	6-12 Months	Immediate
Total	$63,300			
Jaxell Road site				
Add Meter to well	$3,500	ASAP after Closing	6-12 Months	Immediate
Add additional booster pump	$3,500	ASAP after Closing	6-12 Months	Immediate
Survey property to establish property boundaries of well site	$1,000	ASAP after Closing	6-12 Months	Immediate
Total	$8,000			

EXHIBIT B

DECISION NO. 68826

W-20453A-06-0247 et al.

Horseshoe Ranch Water - Part of Southern Sunrise Proposed Capital Improvements		Project Start	Duration	Benefit to Customer
Project Description	Cost			
Replace 3 inch meter measuring transfer flow from Cochise	$3,000	ASAP after Closing	6-12 Months	Immediate
Replace fence with a minimum 6 ft. high chain link fence with barbed wire 200 L.F.	$3,000	ASAP after Closing	6-12 Months	Immediate
Construct 12 ft wide chain link gate	$800	ASAP after Closing	6-12 Months	Immediate
Replace 2 - 7.5 hp booster pumps	$5,000	ASAP after Closing	6-12 Months	Immediate
Rebuild Electrical Control and wiring system	$10,000	ASAP after Closing	6-12 Months	Immediate
Replace 3,000 gallon pressure tank	$13,000	ASAP after Closing	6-12 Months	Immediate
Design and construct interconnection with Bella Vista south system	$10,000	ASAP after Closing	6-12 Months	Immediate
Repair doors on storage building	$1,000	ASAP after Closing	6-12 Months	Immediate
Add air relief valve to tranmission line from Cochise and grade and secure site	$6,000	ASAP after Closing	6-12 Months	Immediate
Survey property to establish property boundaries of storage & well sites	$1,000	ASAP after Closing	6-12 Months	Immediate
Total	$52,800			

Miracle Valley Water - Part of Southern Sunrise Proposed Capital Improvements		Project Start	Duration	Benefit to Customer
Project Description	Cost			
Add meter to well	$3,500	ASAP after Closing	6-12 Months	Immediate
Construct a minimum 6 ft. high chain link fence with barbed wire 400 L.F.	$6,000	ASAP after Closing	6-12 Months	Immediate
Construct 12 ft wide chain link gate	$800	ASAP after Closing	6-12 Months	Immediate
Add two 7.5 hp booster pumps	$6,000	ASAP after Closing	6-12 Months	Immediate
Rebuild Electrical Control and wiring system	$10,000	ASAP after Closing	6-12 Months	Immediate
Add storage tank Minimum 150,000 gallons	$150,000	ASAP after Closing	6-12 Months	Immediate
Replace 5,000 gallon pressure tank	$20,000	ASAP after Closing	6-12 Months	Immediate
Add sampling tap to well	$500	ASAP after Closing	6-12 Months	Immediate
Survey property to establish property boundaries of two well sites	$2,000	ASAP after Closing	6-12 Months	Immediate
Total	$197,800			

Mustang Water - Part of Northern Sunrise Water Company Proposed Capital Improvements		Project Start	Duration	Benefit to Customer
Project Description	**Cost**			
Main Well Site				
Add meter to well	$3,500	ASAP after Closing	6-12 Months	Immediate
Construct a minimum 6 ft. high chain link fence with barbed wire 400 L.F.	$6,000	ASAP after Closing	6-12 Months	Immediate
Construct 12 ft wide chain link gate	$800	ASAP after Closing	6-12 Months	Immediate
Replace existing well with new well	$25,000	ASAP after Closing	6-12 Months	Immediate
Replace well pump & piping	$7,500	ASAP after Closing	6-12 Months	Immediate
New Electrical Control and wiring system	$10,000	ASAP after Closing	6-12 Months	Immediate
New 5,000 Gallon Pressure Tank	$20,000	ASAP after Closing	6-12 Months	Immediate
New 60,000 gallon storage tank (At least this size)	$80,000	ASAP after Closing	6-12 Months	Immediate
Survey property to establish property boundaries of at least two well sites	$2,000	ASAP after Closing	6-12 Months	Immediate
Total	$154,800			
Note: As an alternative, determine if existing well can be rehabilitated If so, rehab well, and replace well pump instead of drilling new well				

Crystal Water - Part of Northern Sunrise Water Company Proposed Capital Improvements		Project Start	Duration	Benefit to Customer
Main Well Site				
Project Description	**Cost**			
Add meter to well	$3,500	ASAP after Closing	6-12 Months	Immediate
Construct a minimum 6 ft. high chain link fence with barbed wire 400 L.F.	$6,000	ASAP after Closing	6-12 Months	Immediate
Construct 12 ft wide chain link gate	$800	ASAP after Closing	6-12 Months	Immediate
Replace existing well with new well	$25,000	ASAP after Closing	6-12 Months	Immediate
Replace well pump & piping	$7,500	ASAP after Closing	6-12 Months	Immediate
New Electrical Control and wiring system	$10,000	ASAP after Closing	6-12 Months	Immediate
New 5,000 Gallon Pressure Tank	$20,000	ASAP after Closing	6-12 Months	Immediate
New 60,000 gallon storage tank (At least this size)	$80,000	ASAP after Closing	6-12 Months	Immediate
Survey property to establish property boundaries of well site	$1,000	ASAP after Closing	6-12 Months	Immediate
Total	$153,800			
Note: As an alternative, determine if existing well can be rehabilitated If so, rehab well, and replace well pump instead of drilling new well				

Coronado Estates Water - Part of Northern Sunrise Water Company Proposed Capital Improvements		Project Start	Duration	Benefit to Customer
Main Well Site				
Project Description	**Cost**			
Add meter to well	$3,500	ASAP after Closing	6-12 Months	Immediate
Construct a minimum 6 ft. high chain link fence with barbed wire 400 L.F.	$6,000	ASAP after Closing	6-12 Months	Immediate
Construct 12 ft wide chain link gate	$800	ASAP after Closing	6-12 Months	Immediate
Replace well pump & piping	$7,500	ASAP after Closing	6-12 Months	Immediate
New Electrical Control and wiring system	$10,000	ASAP after Closing	6-12 Months	Immediate
New 5,000 Gallon Pressure Tank	$20,000	ASAP after Closing	6-12 Months	Immediate
New 100,000 gallon storage tank (at least this size)	$100,000	ASAP after Closing	6-12 Months	Immediate
Survey property to establish property boundaries of well site	$1,000	ASAP after Closing	6-12 Months	Immediate
Total	$148,800			

Sierra Sunset Water - Part of Northern Sunrise Water Company Proposed Capital Improvements		Project Start	Duration	Benefit to Customer
Main Well Site				
Project Description	**Cost**			
Construct a minimum 6 ft. high chain link fence with barbed wire 400 L.F.	$6,000	ASAP after Closing	6-12 Months	Immediate
Construct 12 ft wide chain link gate	$800	ASAP after Closing	6-12 Months	Immediate
Survey property to establish property boundaries of well site	$1,000	ASAP after Closing	6-12 Months	Immediate
Install customer meters to 30 customers	$15,000	ASAP after Closing	6-12 Months	Immediate
Total	$22,800			

APPENDIX B

OPINIONS OF PROBABLE CONSTRUCTION COSTS FOR ACC PROPOSED DESIGN CONCEPT CAPITAL IMPROVEMENTS

OPINION OF PROBABLE CONSTRUCTION COST

Project Name: Cochise Water – Jaxel Site ACC Proposed Capital Improvements
Project No. 1428.03
Location: Cochise County
Description: Water infrastructure improvements per ACC decision

Prepared by: SCH **Date:** 5/31/2007
Checked by: RSH **Date:** 6/11/2007
Client: Southern Sunrise Water Company

Item No.	Item Description	Unit	Quantity	Unit Price	ACC Amount	Adjusted Amount [1]	Remarks
1	Well flow meter	LS	1	$3,500	$3,500	$3,500	Add meter to well outlet piping.
2	Booster pump	LS	1	$3,500	$3,500	$6,000	Add additional booster pump.
3	Survey	LS	1	$1,000	$1,000	$3,500	Survey property to establish property boundaries of water plant site.
4	**Subtotal**				**$8,000**	**$13,000**	
5	15% Engineering					$1,950	
6	**TOTAL**				**$8,000**	**$14,950**	Excludes taxes.

[1] Adjusted to reflect current actual construction costs based on consultation with WRI Construction.

OPINION OF PROBABLE CONSTRUCTION COST

Project Name: Cochise Water – Naranja Site ACC Proposed Capital Improvements
Project No. 1428.03
Location: Cochise County
Description: Water infrastructure improvements per ACC decision

Prepared by: SCH **Date:** 5/31/2007
Checked by: RSH **Date:** 6/11/2007
Client: Southern Sunrise Water Company

Item No.	Item Description	Unit	Quantity	Unit Price	ACC Amount	Adjusted Amount [1]	Remarks
1	Well flow meters	LS	1	$10,000	$10,000	$10,000	Add meters to well outlet piping for 4 existing wells.
2	Site fencing	LS	1	$12,000	$12,000	$16,000	Minimum 6 ft.-high chain link fence with barbed wire around water plant site, approx. 800 LF.
3	Gate	LS	1	$800	$800	$1,200	12 ft.-wide chain link gate for site access.
4	Booster pump repair	LS	1	$500	$500	$500	Repair existing 5 hp booster pump.
5	Electrical	LS	1	$10,000	$10,000	$90,000	New electrical control and wiring system.
6	Hydropneumatic pressure tank air compressor	LS	1	$1,000	$1,000	$2,200	Replace existing air compressor and controls on pressure tank.
7	Booster and transfer pump gauges	LS	1	$1,000	$1,000	$1,000	Replace gauges on four booster and transfer pumps.
8	Booster and transfer pump check valves	LS	1	$500	$500	$2,200	Replace check valves on four booster and transfer pumps.
9	Booster and transfer pump concrete pads	LS	1	$1,000	$1,000	$1,500	Build concrete pads to mount four booster and transfer pumps.
10	Storage tank high level sensor, pump shut off	LS	1	$5,000	$5,000	$5,000	Install high level sensor in storage tank for well pump shut off control.

OPINION OF PROBABLE CONSTRUCTION COST

Item No.	Item Description	Unit	Quantity	Unit Price	ACC Amount	Adjusted Amount [1]	Remarks
11	Storage tank low level sensor, pump shut off	LS	1	$5,000	$5,000	$5,000	Install low level sensor in storage tank for booster and transfer pump shut off control.
12	Telemetry system	LS	1	$10,000	$10,000	$10,000	Install telemetry system to start and stop transfer pumps filling Horseshoe storage.
13	Sampling taps	LS	1	$500	$500	$2,000	Add sampling taps to well outlet piping for 4 existing wells.
14	Survey	LS	1	$1,000	$1,000	$4,000	Survey property to establish property boundaries of water plant site.
15	Site improvements	1	LS	$5,000	$5,000	$6,500	Remove old storage tank and trash, grade water plant site.
16	**Subtotal**				**$63,300**	**$157,100**	
17	15% Engineering					$23,565	
18	**TOTAL**				**$63,300**	**$180,665**	Excludes taxes.

[1] Adjusted to reflect current actual construction costs based on consultation with WRI Construction.

OPINION OF PROBABLE CONSTRUCTION COST

Project Name: Horseshoe Ranch Water ACC Proposed Capital Improvements
Project No. 1428.03
Location: Cochise County
Description: Water infrastructure improvements per ACC decision

Prepared by: SCH **Date:** 6/20/2007
Checked by: JAL **Date:** 6/20/2007
Client: Southern Sunrise Water Company

Item No.	Item Description	Unit	Quantity	Unit Price	ACC Amount	Adjusted Amount [1]	Remarks
1	Transfer flow meter	LS	1	$3,000	$3,000	$5,000	Replace 3" meter on transfer main from Cochise system.
2	Site fencing	LS	1	$3,000	$3,000	$5,000	Replace existing fence with min. 6 ft.-high chain link fence with barbed wire around water plant site, approx. 200 LF.
3	Gate	LS	1	$800	$800	$1,200	12 ft.-wide chain link gate for site access.
4	Booster pumps	LS	1	$5,000	$5,000	$20,000	Replace existing booster pumps with 2-7.5-hp pumps.
5	Electrical	LS	1	$10,000	$10,000	$22,000	New electrical control and wiring system.
6	Hydropneumatic pressure tank	LS	1	$13,000	$13,000	$25,000	Includes installation, air compressor and controls.
7	Interconnection main	LS	1	$10,000	$10,000	$10,000	
8	Storage building doors	LS	1	$1,000	$1,000	$1,500	Repair existing doors on storage building at site.
9	Air relief valve	LS	1	$6,000	$6,000	$6,000	Add air relief valve to transfer main from Cochise system, and grade and secure ARV installation site.
10	Survey	LS	1	$1,000	$1,000	$2,000	Survey property to establish property boundaries of site.
11	**Subtotal**				**$52,800**	**$97,700**	
12	15% Engineering					$14,655	
13	**TOTAL**				**$52,800**	**$112,355**	Excludes taxes.

[1] Adjusted to reflect current actual construction costs based on consultation with WRI Construction

OPINION OF PROBABLE CONSTRUCTION COST

Project Name:	Miracle Valley Water ACC Proposed Capital Improvements				
Project No.	1428.03	**Prepared by:**	SCH	**Date:**	5/31/2007
Location:	Cochise County	**Checked by:**	RSH	**Date:**	6/11/2007
Description:	Water infrastructure improvements per ACC decision	**Client:**	Southern Sunrise Water Company		

Item No.	Item Description	Unit	Quantity	Unit Price	ACC Amount	Adjusted Amount [1]	Remarks
1	Well flow meter	LS	1	$3,500	$3,500	$5,000	Add meter to well outlet piping.
2	Site fencing	LS	1	$6,000	$6,000	$8,000	Minimum 6 ft.-high chain link fence with barbed wire around water plant site, approx. 400 LF.
3	Gate	LS	1	$800	$800	$1,200	12 ft.-wide chain link gate for site access.
4	Booster pumps	LS	1	$5,000	$5,000	$20,000	Two new 7.5-hp booster pumps.
5	Electrical	LS	1	$10,000	$10,000	$12,000	New electrical control and wiring system.
6	Reservoir	LS	1	$150,000	$150,000	$150,000	Minimum 150,000 gallon storage tank.
7	Hydropneumatic pressure tank	LS	1	$20,000	$20,000	$35,000	Includes installation, air compressor and controls.
8	Sampling tap	LS	1	$500	$500	$500	Add sampling tap to well outlet piping.
9	Survey	LS	1	$2,000	$2,000	$4,000	Survey properties of two well sites to establish property boundaries of water plant sites.
10	**Subtotal**				**$197,800**	**$235,700**	
11	15% Engineering					$35,355	
12	**TOTAL**				**$197,800**	**$271,055**	Excludes taxes.

[1] Adjusted to reflect current actual construction costs based on consultation with WRI Construction.

APPENDIX C

DEMAND EVALUATION CRITERIA

DEMAND EVALUATION CRITERIA

The utility provided system specific water production data for winter months for use in evaluating each system. The limited data is not sufficient to estimate peak demands during the warmer summer months. The adjacent Bella Vista South water system's 2005 and 2006 data was used to approximate the peaking factors for these individual water systems. Table 1 provides a summary of the Bella Vista South water system pumped data.

Table 1. Bella Vista South Water Pumpage 2005-2006 (in million gallons)

Year	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals
2005	3.33	2.91	3.72	5.03	4.75	7.05	6.63	4.33	4.96	4.94	4.78	3.65	**56.09**
2006	3.59	3.99	3.88	5.67	6.46	6.78	6.67	4.51	4.25	4.08	4.59	4.58	**59.06**
Avg.	**3.46**	**3.45**	**3.80**	**5.35**	**5.60**	**6.91**	**6.65**	**4.42**	**4.61**	**4.51**	**4.69**	**4.12**	**57.57**

The average demand for Bella Vista South for 2005 and 2006 is approximately 57.6 million gallons per year and an average monthly demand of 4.8 million gallons per month. The peaking factor from the lowest demand month (February) to the calculated average monthly demand is approximately 1.4. The peaking factor for the calculated average monthly demand to the peak demand month of July is approximately 1.5. These peaking factors have been applied to the winter demands provided by the utility to estimate the Southern Sunrise system's average day demands (ADD) and average day peak month (ADPM) demands as described below.

System specific well production data for December 2006, January 2007, and March 2007 were used to calculate an ADD by increasing the average day demand for these months by 1.4 to account for lower water use during the provided winter months which is typical for this area. The average day demands have been multiplied by 1.5 to calculate an Average Day Peak Month demand. Table 2 provides a summary of the well production data and the calculated ADD. Wells in the Cochise service area, including Jaxel, produce all water for both the Cochise and Horseshoe Ranch systems, so the data for these two systems is combined in this table.

Table 2. Demand Calculations Using Historic Well Use Data

System Name	December 2006 Water Pumped (gallons)	January 2007 Water Pumped (gallons)	March 2007 Water Pumped (gallons)	Estimated Winter Average Day Demand (gallons)	Estimated Average Day (ADD) Demand (gallons)	Estimated Average Day Peak Month (ADPM) Demand (gallons)
Miracle Valley	1,406,700	1,687,800	1,628,000	50,780	71,091	106,637
Cochise (including Jaxel) and Horseshoe Ranch	3,828,100	3,635,700	3,914,000	122,343	171,280	256,920

Service area population and connection data were also provided by the water company for the existing systems and are summarized in Table 3.

Table 3. Service Connections and Population

System Name	Service Connections	Population
Miracle Valley	268	795
Cochise (Including Jaxel)	387	1,080
Horseshoe Ranch	197	630
Totals	**852**	**2,505**

Arizona Department of Environmental Quality (ADEQ) rules for public water system capacity are based on Arizona Administrative Code, Title 18, Chapter 5, Article 5, Minimum Design Criteria, (AAC R18-5-502-509), and state that minimum storage requirements shall be equal to average daily demand during the peak month of the year. The minimum storage capacity for a multiple-well system that serves a residential population or a school may be reduced by the amount of the total daily production capacity minus the production from the largest producing well.

Future facilities will be designed to convey well water to forebay storage tanks. Pumping wells into adequately sized forebay storage tanks allows for longer well pump run times. This reduces pump cycling which is better mechanically for the well pump and motor assembly. Water is thence pumped out of the reservoirs to the pressurized distribution systems using booster stations equipped with multiple pumps sized to accommodate various flow rates during fluctuating demand throughout the day.

It is suggested that all new booster stations and other critical source and supply facilities be equipped with backup electrical facilities of a motor-generator unit and transfer switches to allow for continued water supply operation during power failures.

The existing systems are served entirely by groundwater wells. As a design goal, the groundwater wells shall provide sufficient capacity to meet the peak daily demand (PDD), with the largest well out of service in multiple well systems.

The existing wells were not taken out of service for detailed inspections since some procedures including videoing the well casing, extracting the pump and motor assemblies, and pump testing require complete well shutdowns. These shutdowns are currently not possible as the existing customers rely on full production from most of the existing active wells. It is recommended that the conditions of the existing wells be reviewed in the future after the systems are upgraded with redundant source capacity.

This evaluation recommends combining water facilities into regional water plants wherever practical. The incremental cost of oversizing facilities at regional water plants typically requires less upfront capital than constructing numerous smaller facilities. Operations and maintenance may also be reduced by focusing infrastructure at regional water plants rather than maintaining several smaller facilities spread over a wide area.

The existing distribution piping systems will be evaluated for looping and sized for acceptable headlosses. Design criteria for each water system are described herein and these assumptions are used to size source (well) capacity, storage volume, and booster station pumping capacity.

Portions of existing infrastructure appear to be located outside of the CC&N boundary as seen in Figures 2 and 3. The CC&N boundary should be modified to include all the water company's infrastructure and customers served.

APPENDIX D

DEMAND AND INFRASTRUCTURE PROJECTION SUMMARY

DEMAND AND INFRASTRUCTURE PROJECTION SUMMARY

As a project baseline, and for use in future planning, the following are provided to review water system demands for the purpose of future infrastructure sizing. These values are based on historical calculations and data in Southern Arizona.

DEMAND AND PEAKING FACTORS

- Average daily per capita water usage for equivalent dwelling units ..... 125 GPCD
- Average number of persons per single-family dwelling unit.....2.5
- Ratio of peak day to average day.....2.0
- Ratio of peak hour to average day 3.5
- Instantaneous demands are taken from ADEQ Engineering Bulletin #10, Appendix C, Table 3.

SUPPLY

The criteria for the evaluation of supply projections to each individual service area are listed as follows:

- Well capacity to meet PDD with the largest well out of service in a system with multiple wells.
- Booster capacity to service areas without elevated storage shall meet instantaneous demand or PDD plus fire flow whichever is greater.
- Boosters shall be equipped with hydropneumatic tanks and/or Variable Frequency Drives (VFDs) to dampen water system transients (water hammer) during pump cycling.

STORAGE

The criteria for storage capacity requirements for the water system are based upon the following:

- Provide storage volume equal to a minimum of 1.50 times the ADD also known as ADPM.
- Since these systems have not historically provided fire flow, it is assumed fire flow will not be required.

DISTRIBUTION SYSTEM

Pipeline design within the distribution system is based upon the following criteria:

- System design and construction to meet AWWA and ADEQ requirements.
- Transmission lines serving PDD only shall be designed for a maximum velocity of 5 feet per second (ft/sec) with a minimum pressure of 35 psi. At no time shall the system piping have a maximum velocity greater than 10 ft/sec or a pressure less than 20 psi.
- Maximum friction head loss for lines up to and including 8 inches in size is to be 8 feet per 1,000 feet or less. Head loss for lines between 8 and 10 inches in size is to be 5 feet per 1,000 feet or less, according to pipe size. Head loss for lines 12 inches and larger in size is to be 4 feet per 1,000 feet or less.

APPENDIX E

LOST AND UNACCOUNTED FOR WATER

LOST AND UNACCOUNTED FOR WATER

The difference between the quantity of water produced by the system, and the quantity of water metered and sold to customers is designated as lost or unaccounted. These quantities for the Southern Sunrise systems for a recent representative period are summarized in Table 1.

Table 1. Lost and Unaccounted for Water (December 2006 to June 2007)

	Miracle Valley	**Cochise (Including Jaxel) / Horseshoe Ranch**
Gallons Pumped	10,996,063	29,880,060
Gallons Sold	10,590,451	23,079,020
Difference	405,612	6,801,040
Percent Lost and Unaccounted Water (%)	**4**	**23**

These water losses may be due to one or more of the following reasons. Some service connections may be unmetered or have inaccurate or uncalibrated meters. Undetected leaks in the distribution system allow the wasting of water until the leak is repaired. Maintenance and main flushing can use substantial quantities of unmetered water. To reduce these losses, the new ownership has implemented a program to locate unmetered services and install meters.

APPENDIX F

MIRACLE VALLEY WATER SYSTEM

MIRACLE VALLEY WATER SYSTEM

The Miracle Valley system (Figure 3) encompasses approximately the south half of Section 31, Township 23 South, Range 22 East, in a rural area about 15 miles southeast of Sierra Vista. The area slopes east toward the San Pedro River and elevations vary by about 80 feet, ranging from 4290 to 4370 feet. This area serves approximately 268 service connections. A single 160 gpm well supplies the system directly and is pressure controlled via a 5,000 gallon hydropneumatic tank. There is a second well connected to the system at a separate site referred to as the McLain site. This site is located in the Miracle Valley service area and has historically only been used as a back-up well. Table 1 provides a summary of the existing infrastructure at the Miracle Valley site.

Table 1. Miracle Valley Existing Infrastructure Summary

Storage Capacity (gallons)	0
Well (source) Capacity (gpm)	160
Booster Capacity (gpm)	0

The following table provides a summary of the calculated water demands for the Miracle Valley water system.

Table 2. Miracle Valley System Demand Calculation Summary

Calculation Method	Metered Connections	Population	ADD (gal)	ADPM (gal)	ADD (gpm)	PDD (gpm)	PHD (gpm)	Inst. Demand (gpm)
Based on Historical Data	268	795	71,091	**106,637**	49	**99**	173	**296**
Based on Engineering Criteria	268	670	83,750	125,625	87	174	305	296

Based upon the demands calculated in Table 2, this system will require a well system capable of producing a minimum of 100 gpm with the largest well out of service, a reservoir with a minimum of 107,000 gallons of storage, and a 300 gpm booster station. WestLand recommends upsizing the reservoir to 150,000 gallons and the pump station to 350 gpm to accommodate modest future growth.

The recommended upgrades will include re-equipping the existing well pump to convey water to an at-grade forebay storage reservoir. Well operation will be controlled by the water level in the reservoir. Other improvements include site fencing, a meter and sampling tap at the well, rebuilding the electrical system, site fencing and a property survey. The existing well will also require a new sanitary seal, new meter, and well sampling tap.

Table 3. Miracle Valley System Infrastructure Requirement Summary

	ACC Requirements	ACC Costs	WestLand Calculated Requirements	WestLand Costs	WestLand Proposal
Storage (gal)	150,000	$150,000	150,000	$150,000	$150,000
Booster (gpm)	1	$5,000	350	$45,000	$45,000
Pipelines (lf)	0	$0	0	$0	$0
Wells (gpm)	0	$0	1*[1]	$20,000	$20,000
Fencing	1	$6,000	1	$6,000	$6,000
Electrical	1	$10,000	1	$10,000	$10,000
Survey	1	$2,000	1	$4,000	$4,000
HP Tank	1	$20,000	0	$0	$0
Miscellaneous	1	$4,800	1	$4,800	$4,800
Engineering	0	$0	1	$23,000	$23,000
Subtotal		**$197,800**		**$262,800**	**$262,800**
10% Contingencies				$26,280	$26,280
TOTAL		**$197,800**		**$289,080**	**$289,080**

*[1] Assumes existing McLain well can be re-equipped to pump to the system to meet PDD

Appendix B includes adjusted cost opinions for those improvements suggested by the ACC. The adjusted cost for said improvements including 25% for engineering and contingencies is **$294,625**.

APPENDIX G

COCHISE AND HORSESHOE RANCH DEMAND CALCULATIONS

COCHISE AND HORSESHOE RANCH DEMAND CALCULATIONS

The Cochise and Horseshoe Ranch water systems are located adjacent to each other and all source capacity is supplied by wells within the Cochise service area. Well water is pumped to the existing Naranja reservoir (Cochise service area) where it is distributed to the Cochise system and transferred to a storage reservoir in the Horseshoe Ranch service area. The Naranja reservoir site includes one booster station dedicated to serving the Cochise system and another booster station transferring well water to the Horseshoe Ranch storage reservoir via a 4-inch transmission main. The storage reservoir site in Horseshoe Ranch includes a booster station that pumps water from the Horseshoe reservoir into the water distribution system. Table 1 summarizes the calculated demands for Cochise and Horseshoe Ranch.

Table 1. Cochise and Horseshoe Ranch Combined System Demand Calculation Summary

Calculation Method	Metered Connections	Population	ADD (gal)	ADPM (gal)	ADD (gpm)	PDD (gpm)	PHD (gpm)	Inst. Demand (gpm)
Based on Historical Data	584	1,710	171,280	**256,920**	119	**238**	416	**517**
Based on Engineering Criteria	584	1,460	182,500	273,750	127	253	444	517

APPENDIX H

COCHISE WATER SYSTEM

COCHISE WATER SYSTEM

The Cochise service area (Figure 3) encompasses 1.5 square miles in Sections 5 and 8 of Township 23 South, Range 21 East. The area slopes northeast and surface elevations range from about 4,550 feet in the northeast corner of Section 5 to about 4,700 feet in the southwest portion of the area. The south boundary of the area is Hereford Road, and across this road is the Horseshoe Ranch water system. The available data indicate that there are 387 existing customers in the Cochise water system. The Cochise system currently operates as two pressure zones which are referred to as the Naranja and Jaxel pressure zones. Closed valves in the distribution mains separate the Jaxel and Naranja pressure zones. Both pressure zones are connected via a pressure reducing valve which allows for transfer of water from the Naranja Zone to the lower Jaxel Zone.

The Cochise system is supplied by wells at two sites, referred to as the Naranja and Jaxel water plants for the roads on which they are situated. The Naranja water plant includes a 170,000 gallon welded steel reservoir, and four wells. Three Naranja site wells are presently active and have a combined capacity of approximately 174 gpm. Capacity to the Naranja pressure zone is conveyed via a two-pump booster station which is pressure controlled via a 5,000 gallon hydropneumatic tank. The estimated highwater elevation (HW) of the Naranja pressure zone is 4,790 ft. Table 1 provides a summary of the existing infrastructure at the Naranja site.

Table 1. Cochise – Naranja Existing Infrastructure Summary

Storage Capacity (gallons)	170,000
Well (source) Capacity (gpm)	174
Booster Capacity (gpm)	280 (estimated)

As previously stated, the Naranja site includes two transfer pumps which convey water to the Horseshoe Ranch system. These transfer pumps are currently pressure controlled and do not have any surge protection.

The Jaxel site is about half a mile northeast of the Naranja site and 80 feet lower in elevation. The Jaxel site includes a well with a capacity of about 25 gpm, a 5,000 gallon reservoir, a small booster pump, and a 1,000 gallon hydropneumatic tank.
Table 2 provides a summary of the existing infrastructure at the Jaxel water plant.

Table 2. Cochise – Jaxel Existing Infrastructure Summary

Storage Capacity (gallons)	10,000
Well (source) Capacity (gpm)	25
Booster Capacity (gpm)	25 (estimated)

APPENDIX I

HORSESHOE RANCH WATER SYSTEM

HORSESHOE RANCH WATER SYSTEM

The Horseshoe Ranch service area encompasses areas in the northwest quarter of Section 17 of Township 23 South, Range 21 East, and has 197 service connections in several residential subdivisions. The area slopes to the northeast and elevations vary by 80 feet across the service area, from about 4,720 to 4,800 feet. As previously stated, source water for this system is supplied by the Cochise Naranja transfer booster station and conveyed to the Horseshoe reservoir via a 4-inch transmission main.

Infrastructure for this system consists of two steel reservoir tanks with a combined capacity of approximately 10,000 gallons, two booster pumps, and a 3,000 gallon hydropneumatic tank. The facilities are situated on a small lot which includes a 1,000 square ft concrete block storage building. Table 1 provides a summary of the existing facilities at the Horseshoe site.

Table 1. Horseshoe Ranch Existing Infrastructure Summary

Storage Capacity (gallons)	10,000
Well (source) Capacity (gpm)	0
Booster Capacity (gpm)	150 (estimated)

APPENDIX J

COMBINED COCHISE AND HORSESHOE RANCH IMPROVEMENTS

COMBINED COCHISE AND HORSESHOE RANCH IMPROVEMENTS

Demand calculations in Appendix G, Table 1 provide the required capacities for the Cochise and Horseshoe Ranch systems together as this is an integral system due to the combined water production facilities. This system will require wells capable of producing a minimum of 227 gpm with the largest well out of service and a minimum 245,000 gallons of storage. Since both water systems require booster stations to pump from forebay storage tanks to the distribution system, each system will require individual boosters designed to meet the instantaneous demand for each system. The Booster stations will be VFD pre-packaged units controlled by pressure in the distribution system.

The existing system well production is approximately 200 gpm from the three Naranja wells and one at the Jaxel water plant. Well pump controls will be designed to allow for operation based on reservoir water level. WestLand calculated a minimum well capacity requirement of 227 gpm with the largest well out of service. The largest existing well produces approximately 70 gpm. Assuming this largest well out of services results in 157 gpm available well capacity, 70 gpm less than the minimum requirement of 227 gpm. It is assumed the additional 70 gpm well capacity can be conveyed from an existing private well adjacent to the Naranja site.

The calculated storage requirement of 245,000 gallons is 70,000 gallons greater than the 185,000 gallons currently available in the system. Due to the limited space at the existing water plants and financial constraints of this project, additional storage is not recommended assuming the multiple well system is maintained and able to sustain modest growth. A minimum of 70,000 gallons of storage is recommended if above ground storage is required in the future.

Booster capacity will be satisfied with the addition of two 350 gpm booster stations, one each at the Horseshoe Ranch and Naranja water plants. The specified booster capacity meets the instantaneous demand of each system and will accommodate some increased future demands.

The ACC decision recommends other improvements not related to capacity including booster pads, pressure sensors, telemetry and controls, fencing, electrical upgrades, and site improvements. Replacement of the existing Horseshoe hydropneumatic tank per the ACC recommendations will not be required since the recommended VFD booster stations will be equipped with bladder tanks. The ACC also recommended an interconnection with the Bella Vista Water System to the south of the Horseshoe water system. This interconnection is expected to be completed in the summer of 2007.

Appendix B shows adjusted cost opinions for the Jaxell, Naranja and Horseshoe sites. The project total using the adjusted costs and infrastructure assumptions are estimated to be $307,750 which includes the cost of design and construction of the interconnect main to Bella Vista. WestLand's estimated project cost for the combined improvements is $454,300, as indicated in Table 1, and includes the interconnect. The additional costs are associated mainly with upgrading the existing source requirements including the acquisition and installation of a new production well along with substantial electrical upgrades.

Table 1 provides a summary of the ACC and WestLand's recommendations for infrastructure improvements and associated costs to the Cochise water system.

Table 1. Cochise and Horseshoe Ranch Infrastructure Requirement Summary

	ACC Req. Naranja	ACC Costs Naranja	ACC Req. Jaxel	ACC Costs Jaxel	ACC Req. Horseshoe	ACC Costs Horseshoe	ACC Combined Req.	ACC Combined Costs	WestLand Combined Calculated Req.	WestLand Combined Costs
Storage (gal)	0	$0	0	$0	0	0	0	$0	0	$0
Booster (gpm)	0	$0	1	$3,500	1	$5,000	2	$8,500	350 (2)	$90,000
Pipelines (lf)	0	$0	0	$0	2	$10,000	2	$10,000	0	$0
Wells (gpm)	0	$0	0	$0	0	0	0	$0	1	$50,000
Fencing	1	$12,000	0	$0	1	$3,000	2	$15,000	1	$12,000
Electrical	1	$10,000	0	$0	1	$10,000	2	$20,000	1	$120,000
Survey	1	$1,000	1	$1,000	1	$1,000	3	$3,000	1	$4,000
HP Tank	0	$0	0	$0	1	$13,000	1	$13,000	0	$0
Misc.	1	$40,300	1	$3,500	1	$800	3	$44,600	1	$60,000
Interconnect	0	$0	0	$0	1	$10,000	1	$10,000	1	$15,000
Engineering	0	$0	0	$0	0	0	0	$0	1	$62,000
SUBTOTAL		**$63,300**		**$8,000**		**$52,800**		**$124,100**		**$413,000**
10%Contingencies										$41,300
TOTAL		**$63,300**		**$8,000**		**$52,800**		**$124,100**		**$454,300**