VALUATION ANALYSIS

FOR

WELLSITES 5 AND 6 AND RIGHT-OF-WAY
WEST OF RIO RANCHO, NM

BY

IAN R. VALENZUELA

AND

JOSEPH H. ROOS, SRA

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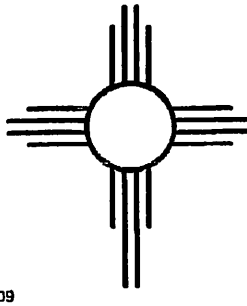
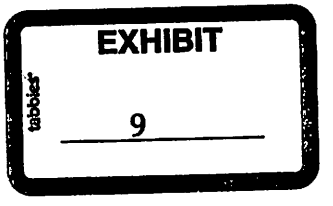


ROOS & OWENS
APPRAISAL SERVICE, INC.
4020 Peggy Rd., SE Suite #M-4 Rio Rancho, NM 87124
phone (505) 892-2668 fax (505) 891-8764

7/09



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APPRAISER'S CERTIFICATION: The Appraiser certifies and agrees that:

1. I have researched the subject market area and have selected a minimum of three recent sales of properties most similar and proximate to the subject property for consideration in the sales comparison analysis and have made a dollar adjustment when appropriate to reflect the market reaction to those items of significant variation. If a significant item in a comparable property is superior to, or more favorable than, the subject property, I have made a negative adjustment to reduce the adjusted sales price of the comparable, and if a significant item in a comparable property is inferior to, or less favorable than the subject property, I have made a positive adjustment to increase the adjusted sales price of the comparable.

2. I have taken into consideration the factors that have an impact on value in my development of the estimate of market value in the appraisal report. I have not knowingly withheld any significant information from the appraisal report, and I believe, to the best of my knowledge, that all statements and information in the appraisal report are true and correct.

3. I stated in the appraisal report only my own personal, unbiased, and professional analysis, opinion, and conclusions, which are subject only to the contingent and limiting conditions specified in this form.

4. I have no present or prospective interest in the property that is the subject to this report, and I have no present or prospective personal interest or bias with respect to the participants in the transaction. I did not base, either partially or completely, my analysis and/or the estimate of market value in the appraisal report on the race, color, religion, sex, handicap, familial status, or national origin of either the prospective owners or occupants of the subject property or of the present owners or occupants of the properties in the vicinity of the subject property.

5. I have no present or contemplated future interest in the subject property, and neither my current or future employment nor my compensation for performing this appraisal is contingent on the appraisal value of the property.

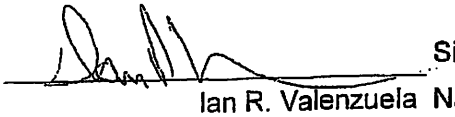
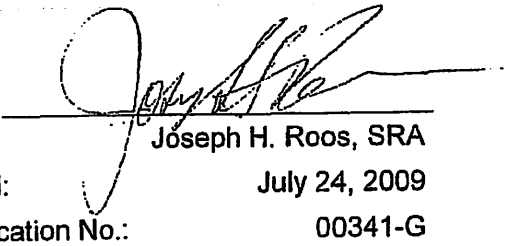
6. I was not required to report a predetermined value or direction in value that favors the cause of the client or any related party, the amount of the value estimate, the attainment of a specific result, or the occurrence of a subsequent event in order to receive my compensation and/or employment for performing the appraisal. I did not base the appraisal report on a requested minimum valuation, a specific valuation, or the need to approve a specific mortgage loan.

7. I performed this appraisal in conformity with the Uniform Standards of Professional Appraisal Practice that were adopted and promulgated by the Appraisal Standards Board of The Appraisal Foundation and that were in place as of the effective date of this appraisal, with the exception of the departure provision of those Standards, which does not apply. I acknowledge that an estimate of a reasonable time for exposure in the open market is a condition in the definition of market value and the estimate I developed is consistent with the marketing time noted in the neighborhood section of this report, unless I have otherwise stated in the reconciliation section.

8. I have personally inspected the subject property and the sites of all properties listed as comparables in the appraisal report. I further certify that I have noted any apparent or known adverse conditions on the subject site, or on any site within the immediate vicinity of the subject property of which I am aware and have made adjustments for these adverse conditions in my analysis of the property value to the extent that I had market evidence to support them. I have also commented about the effect of the adverse conditions on the marketability of the subject property.

9. I personally prepared all conclusions and opinions about the real estate that were set forth in the appraisal report. If I relied on significant professional assistance from any individual or individuals in the performance of the appraisal or the preparation of the appraisal report, I have named such individual(s) and disclosed the specific tasks performed by them in the reconciliation section of this appraisal report. I certify that any individual so named is qualified to perform the tasks. I have not authorized anyone to make a change to any item in the report, therefore, if any unauthorized change is made to the appraisal report, I will take no responsibility for it.

SUPERVISORY APPRAISER'S CERTIFICATION: I have personally inspected the property and directly supervised the appraiser who prepared the appraisal report, have reviewed the appraisal report, agree with the statements and conclusions of the appraiser, agree to be bound by the Appraiser's Certifications numbered 4 through 7 above, and am taking full responsibility for the appraisal and the appraisal report.

APPRAISER:		**SUPERVISORY APPRAISER:**	
Signature:		Signature:	
Name:	Ian R. Valenzuela	Name:	Joseph H. Roos, SRA
Date Signed:	July 24, 2009	Date Signed:	July 24, 2009
State Certification No.:	01734-G	State Certification No.:	00341-G
State:	New Mexico	State:	New Mexico
Expiration Date of Certification:	04/30/11	Expiration Date of Certification:	04/30/11

SUMMARY OF IMPORTANT FACTS AND CONCLUSIONS

Location

The subject property is in an unincorporated portion of Sandoval County, NM, west of the City of Rio Rancho, east of the Rio Puerco. The larger parcel is made up of two well sites, and approximately 5.7 miles of right-of-way which is currently a graded Ranch Road.

Legal Description

The legal description of the property is lengthy, mostly described only by metes and bounds. The exhibits provided by the client refer to the area in map form. Surveys and/or detailed maps are included within this report; the initial Request for Proposal, including project description, is included in the addenda. The Well Sites are in Township 12N, Range 1W, Sections 10 and 11. The Right-of-way is in these sections, as well as Sections 1 and 2, and also Township 12N, Range 1E, Sections 5 and 6.

Land Size

The land size is not finalized, and the value is subject to completion of the survey.

Zoning

The land is unincorporated, zoned RRA, Rural Residential/Agricultural District, by the County Zoning Authority.

Flood Zone

This is undeveloped land, with uncontrolled drainage, primarily following natural arroyos. In undeveloped areas, the washes can be between 25 and 150 feet wide, up to 50 feet in depth, usually dry but subject to flash flooding and washouts. The subject lies in FEMA flood maps 35043C 1850D and 1875D. FEMA does not publish detailed flood surveys in this part of the county, so none of the land is in defined flood areas, but it is likely that a portion of the land would be considered flood-affected.

Interest Appraised

Fee simple interest.

Improvements

There are some improvements in the well sites, including fencing, well improvements, and holding tanks. For the purposes of the current valuation, all properties are to be considered as vacant, so while there are some existing building improvements on many of the parcels, they are valued as vacant land in this analysis.

Highest and Best Use

The highest and best use of the site is to hold the property and improve infrastructure until the time it is economically feasible to develop the land.

Valuation Procedure

The Sales Comparison Approach, based on comparative analysis of current, similar sales and offerings, is considered the only valid indicator of value for land that is not leaseable.

Date of Value

The effective date of this appraisal is the last date of inspection, July 10, 2009, and the date of the report is July 24, 2009.

Conclusion of Value

Per Sales Comparison Approach: $5,000 per acre

GENERAL LIMITING CONDITIONS

1. The appraisers will not be required to give testimony or appear in court because of having made this appraisal, or with reference to the property in question, unless arrangements have been previously made.

2. Possession of this report, or a copy thereof, does not carry with it the right of publication. It may not be used for any purpose by any person other than the party to whom it is addressed without the written consent of the appraisers and in any event only with proper written qualification and only in its entirety.

3. Any allocation of the total value estimated in this report between the land and improvements applies only under the stated program of utilization. The separate values allocated to the land and buildings must not be used in conjunction with any appraisal and are invalid if so used.

4. Neither all nor any part of the contents of this report or copy thereof (especially any conclusions as to value, the identity of the appraisers, firm or professional organization with which the appraiser is connected) shall be disseminated to the public through advertising, public relations, news, sales or other media without the prior written consent and approval of the appraisers.

5. We are unaware of any easements, covenants, conditions or restrictions impacting the subject property unless otherwise stated in the report. We assume adequate ingress and egress to the property, and we assume any reasonable sale of the property would not be inhibited by any easements, covenants, and conditions.

GENERAL UNDERLYING ASSUMPTIONS

1. The legal description provided is assumed to be correct.

2. No survey of the property has been made by the appraisers; no responsibility is assumed in connection with such matters.

3. No responsibility is assumed for the accuracy of diagrams, sketches, or maps included in this report. These are provided solely for the purpose of assisting the reader in visualizing the property being appraised.

4. No responsibility is assumed for matters of a legal nature affecting title to the property nor is an opinion of title rendered. The title is assumed to be good and merchantable.

5. Information furnished by others is assumed to be true, correct, and reliable. A reasonable effort has been made to verify such information; however, no responsibility for its accuracy is assumed by the appraisers.

6. All mortgages, liens, encumbrances, leases and servitudes have been disregarded unless so specified within the report. The property is appraised as though under responsible ownership and competent management.

7. It is assumed that there are no hidden or unapparent conditions of the property, subsoil, or structures which would render it more or less valuable. No responsibility is assumed for such conditions or for obtaining the engineering studies that may be required to discover such factors.

8. It is assumed that all applicable federal, state and local environmental regulations and laws have been complied with unless otherwise stated, defined and considered in the appraisal report.

9. It is assumed that the property conforms to all applicable zoning and use regulations and restrictions, unless a non-conformity has been identified, described, and considered in the appraisal report.

10. It is assumed the use of the land and improvements is confined within the boundaries or property lines of the property described and that there is no encroachment or trespass unless noted in the report.

11. It is assumed that all required licenses, certificates of occupancy, consents, or other legislative or administrative authority from any local, state, or national government or private entity or organization have been or can be obtained or renewed for any use on which the value estimate contained in this report is based.

12. Unless otherwise stated in this report, the existence of hazardous materials or environmental conditions, which may or may not be present on the property, was not observed by the appraiser. The appraisers have no knowledge of the existence of such materials or conditions on or in the property. The appraisers, however, are not qualified to detect such substances. The presence of substances such as asbestos, ureaformaldehyde foam insulation, radon gas or other potentially hazardous materials may affect the value of the property. The value estimate is predicated on the assumption that there is no material on or in the property that would cause a loss in value. No responsibility is assumed for such conditions, or for any expertise or engineering knowledge required to discover them. The client is urged to retain an expert in this field, if desired.

GENERAL DATA

Purpose of The Appraisal

The purpose of the appraisal is to estimate the value of the land controlled by the County, consisting of Well Sites 5 and 6, and right of way for access roads to these sites.

Effective Date of Appraisal and Date of The Report

The estimate of value contained in this report is as of July 10, 2009, the date of the last visual inspection of the property. The date of the report is July 24, 2009.

Property Rights Appraised

The valuation stated in this report relates to an easement of the property owners' rights as "fee simple." All of the subject sites are considered to be held in fee simple title. For purposes of this appraisal, fee simple title assumes:

a. No merchantable mineral or royalty interest;
b. Typical financing for the area; and
c. No abnormal or value detracting encumbrances.

Definition of Value

Market value is defined as "the most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently, knowledgeably and assuming the price is not affected by undue stimulus." Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

a. Buyer and seller are typically motivated;
b. Both parties are well informed or well advised and acting in what they consider their best interest;
c. A reasonable time is allowed for exposure in the open market;
d. Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and
e. The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.

Source: OCC 12CFR Part 34

For land which may be subject to condemnation, an alternate definition of value is "Fair Market Value", which is defined as:

> the highest amount of cash which the land would bring if exposed for sale in the open market with a reasonable time allowed in which to find a purchaser buying with knowledge of all the uses to which the property was adaptable and for which it is capable, the seller not being required to sell nor the purchaser required to purchase. (Source: Board of County Commissioners of Doña Ana County v. Gardner, 57 NM 478, 260P. 2d 682 1952).

This definition of market value is different than defined by USPAP; however, this departure is permitted for this type of valuation. Fair market value is typically, but not always, higher than market value as market value refers to "most probable price" as compared to fair value, which hinges on the "highest amount" the property would be likely to sell for on the open market. Because at least some of the land under consideration here may need to be condemned for acquisition, Fair Market Value is the definition of value employed in this analysis.

Ownership

The ownership of the land was not supplied to the appraiser, and the valuation is subject to title search.

Scope of The Appraisal

Per the client's request, the appraisal is a self-contained report. In accordance with the aforementioned purpose of the report, the scope of the appraisal includes data collection, research and analysis to reach the most supportable estimate of the current market value as of the effective date of the appraisal and subject to the general and special assumptions and limiting conditions contained herein.

We have personally inspected and analyzed the subject property and the surrounding neighborhood. We have collected and analyzed various community, district and neighborhood data as well as land sales data and general characteristics of general market area of the property in order to analyze and conclude the highest and best use of the property. We have gathered and analyzed comparable market data relative to land value and to the absorption of land with similar highest and best usages and, based on these analysis, have reached a conclusion regarding the value of the land.

Intended Use of The Appraisal

Intended users of the appraisal are Sandoval County, and its successors or assignees.

(4) the state engineer, after a preliminary investigation, finds the change does not impair existing water rights, and grants him a permit authorizing the drilling and use of the replacement well prior to the publication and hearing.

B. When the preliminary investigation by the state engineer causes him to reasonably believe that the drilling and use of a replacement well may impair existing rights, then no permit shall be issued until after publication and hearing.

History: 1953 Comp., § 75-11-24, enacted by Laws 1959, ch. 41, § 2.

State engineer. — See 72-2-1 NMSA 1978.

Law reviews. — For comment on *Kelley v. Carlsbad Irrigation Dist.*, 71 N.M. 464, 379 P.2d 763 (1963), see 3 Nat. Resources J. 340 (1963).

72-12-24. Supplemental well.

A. The owner of a water right may drill and use a supplemental well upon making application but prior to the publication and hearing set out in Section 72-12-3 NMSA 1978, if:

(1) the supplemental well is drilled into the same and only the same underground stream, channel, artesian basin, reservoir or lake as the well being supplemented; and

(2) the supplemental well does not increase the appropriation of water to an amount above the existing water rights; and

(3) an emergency situation exists in which the delay caused by publication and hearing would result in crop loss or other serious economic loss; and

(4) the state engineer, after a preliminary investigation, finds that the supplemental well does not impair existing water rights, and grants him a permit authorizing the drilling and use of the supplemental well prior to publication and hearing.

B. If the preliminary investigation by the state engineer causes him to reasonably believe that the drilling and use of a supplemental well may impair existing rights, then no permit shall be issued until after publication and hearing.

History: 1953 Comp., § 75-11-25, enacted by Laws 1959, ch. 41, § 3.

State engineer. — See 72-2-1 NMSA 1978.

Filing by agent. — Intent of this section is to provide procedure for determining whether proposed changes injuriously affect rights of others rather than to limit right of owners of water right seeking to change point of diversion to act only in person and not through a designated agency. Coldwater Cattle Co. v. Portales Valley Project, Inc., 78 N.M. 41, 428 P.2d 15 (1967).

Application, filed by nonprofit corporation which limited membership to property owners residing within boundaries of underground water basin who owned valid water rights therein, for supplementation of such water rights as well as partial change of point of diversion, was neither inoperative nor invalid, nor did application cast any cloud on title to lands upon which supplemental wells were to be drilled. Coldwater Cattle Co. v. Portales Valley Project, Inc., 78 N.M. 41, 428 P.2d 15 (1967).

Ownership of location of proposed change not required. — Ownership of land to which point of diversion is to be changed is not condition precedent to right to apply for authority to effect such change. Coldwater Cattle Co. v. Portales Valley Project, Inc., 78 N.M. 41, 428 P.2d 15 (1967).

Right of entry necessary for drilling. — Under statutory procedure for filing applications before state engineer for change of point of diversion and supplementation of existing water rights, filing did not authorize applicant to enter upon land of another to sink wells or to construct canals or ditches; such right could not be exercised without lawful right of entry. Coldwater Cattle Co. v. Portales Valley Project, Inc., 78 N.M. 41, 428 P.2d 15 (1967).

Law reviews. — For comment on *Kelley v. Carlsbad Irrigation Dist.*, 71 N.M. 464, 379 P.2d 763 (1963), see 3 Nat. Resources J. 340 (1963).

Am. Jur. 2d, A.L.R. and C.J.S. references. — 93 C.J.S. Waters § 90.

72-12-25. [Aquifer containing nonpotable water at a depth of twenty-five hundred feet or more excluded from underground basin.]

No past or future order of the state engineer declaring an underground water basin having reasonably ascertainable boundaries shall include water in an aquifer, the top of which aquifer is at a depth of twenty-five hundred feet or more below the ground surface at any location at which a well is drilled and which aquifer contains nonpotable water.

"Nonpotable water," for the purpose of this act [72-12-25 to 72-12-28 NMSA 1978], means water containing not less than one thousand parts per million of dissolved solids.

EXHIBIT 10

D. Periods of nonuse when water rights are acquired and placed in a state engineer-approved water conservation program by an individual or entity that owns water rights, an artesian conservancy district, a conservancy district, a soil and water conservation district organized pursuant to Chapter 73, Article 20 NMSA 1978, an acequia or community ditch association organized pursuant to Chapter 73, Article 2 or 3 NMSA 1978, an irrigation district organized pursuant to Chapter 73, Articles 9 through 13 NMSA 1978 or the interstate stream commission shall not be computed as part of the four-year forfeiture statute.

E. A lawful exemption from the requirements of beneficial use, either by an extension of time or other statutory exemption, stops the running of the four-year period for the period of the exemption, and the period of exemption shall not be included in computing the four-year period.

F. Periods of nonuse when water rights are acquired by incorporated municipalities or counties for implementation of their water development plans or for preservation of municipal or county water supplies shall not be computed as part of the four-year forfeiture statute.

G. Periods of nonuse when the nonuser of acquired water rights is on active duty as a member of the armed forces of this country shall not be included in computing the four-year period.

H. The owner or holder of a valid water right or permit to appropriate waters for agricultural purposes appurtenant to designated or specified lands may apply the full amount of water covered by or included in that water right or permit to any part of the designated or specified tract without penalty or forfeiture.

I. Water deposited in a lower Pecos river basin below Sumner lake water bank approved by the interstate stream commission or an acequia or community ditch water bank shall not be computed as part of the four-year forfeiture period.

History: Laws 1931, ch. 131, § 8; 1941 Comp., § 77-1108; 1953 Comp., § 75-11-8; Laws 1957, ch. 118, § 1; 1959, ch. 7, § 1; 1961, ch. 32, § 1; 1963, ch. 195, § 1; 1965, ch. 250, § 2; 1967, ch. 182, § 2; 1978, ch. 153, § 2; 1983, ch. 2, § 3; 1985, ch. 198, § 2; 1987, ch. 113, § 2; 1991, ch. 102, § 2; 1996, ch. 36, § 2; 1997, ch. 134, § 2; 1998, ch. 37, § 2; 2002, ch. 77, § 3.

Food Security Act of 1985. — The Food Security Act of 1985, P.L. 99-198, referred to in Subsection C, appears primarily as various sections in Titles 7, 15 and 16 of the United States Code.

The 1998 amendment, in Subsection D, inserted "an individual or entity that owns water rights," and "a soil and water conservation district organized pursuant to Chapter 73, Article 20 NMSA 1978". Laws 1998, ch. 37, contains no effective date provision, but, pursuant to N.M. Const. art. IV, § 23, is effective on May 20, 1998, 90 days after adjournment of the legislature. See Volume 14 NMSA 1978 for "Adjournment Dates of Sessions of Legislature" table.

The 2002 amendment, effective May 15, 2002, added Subsection I.

Distinction between holders and owners. — The legislature was aware of the distinction between holders of permits and owners of water rights. Hanson v. Turney, 2004-NMCA-069, 136 N.M. 1, 94 P.3d 1.

72-12-25. Declaration of basin; nonpotable deep aquifers.

A. An undeclared underground water basin having reasonably ascertainable boundaries that consists of an aquifer, the top of which aquifer is at a depth of two thousand five hundred feet or more below the ground surface at any location at which a well is drilled and which aquifer contains only nonpotable water, is subject to state engineer administration in accordance with Sections 72-12-25 through 72-12-28 NMSA 1978.

B. If the state engineer declares the type of underground water basin described in Subsection A of this section, all appropriations of nonpotable water from that basin for:

(1) oil and gas exploration and production, prospecting, mining, road construction, agriculture, generation of electricity, use in an industrial process or geothermal use shall remain subject to Sections 72-12-25 through 72-12-28 NMSA 1978; and

(2) all other uses shall be subject to Sections 72-12-1 through 72-12-24 NMSA 1978.

C. "Nonpotable water", for the purpose of Sections 72-12-25 through 72-12-28 NMSA 1978, means water containing not less than one thousand parts per million of dissolved solids.

History: 1953 Comp., § 75-11-37, enacted by Laws 1967, ch. 86, § 1; 2009, ch. 35, § 1.

The 2009 amendment, effective March 30, 2009, added the title of the section; in Subsection A, added "undeclared" before "underground basin"; deleted "shall include" and added "that consists of"; changed "twenty-five hundred feet" to "two thousand five hundred feet"; added "only" before "nonpotable water"; and added the phrase at the end of sentence that subjects the aquifer to state engineer administration; and added Subsection B.

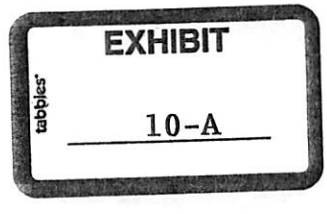


EXHIBIT 11

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SANDOVAL COUNTY ADMINISTRATIVE OFFICES

April 6, 2009

David Maniatis
RECORP
7835 E. Redfield Road, Ste. 102
Scottsdale, AZ 85260

Dear Mr. Maniatis:

Sandoval County is proceeding with Phase II of our Desalination Project. We have expended $6 million on Phase I (exploratory) of the project. Phase II (the treatment pilot study) is funded by the Environment Department of the State of New Mexico. One of the State's mandatory requirements is *ownership of all well sites and rights-of-way by the County*. Discussions are underway with the State Land Office and other land owners regarding the transfer of well site(s) and roadway(s). The County respectfully requests your consideration of a transfer of 42 acres in order to bring the project into compliance.

The site requirement is approximately 2 acres for well 6, while the land requirements for well 5 are more substantial due to the planned location of the actual desalination plant on that site. It is also necessary to connect the source wells to the desalination plant with rights-of-way or easements for utility improvements and the current right-of-way of the North-West Loop (NWL) is a practical alignment for some of the infrastructure. The right-of-way for the NWL has been designated and surveyed. The County now seeks a 100-foot wide right-of-way for a road connecting 60th St NW (along the western edge of Rio Rancho Estates) to the North-West Loop alignment. This road should proceed generally west from 60th St to the North-West Loop and cross lands owned by the King Brothers, Recorp, and the State Land Office. This road is needed to access the NWL and well sites and to provide access for potable water delivery.

The County is currently preparing the surveys, plats, and appraisals needed for the granting of these right-of-ways and well sites. We believe the partnerships developed during Phase I will be instrumental in furthering this important project. When the appraisal is complete, the values of dedicated lands and / or easements can be considered as a basis for tax offsets.

We would appreciate favorable consideration. This series of projects supports the regional development of both a new water source for this region and facilitates continuation of both industrial and economic development. If you have any questions regarding this request, please contact Guy Bralley, the County's Water Resources Administrator at 505-771-7953. I am also available at my office, 505-867-7538. I look forward to meeting you on April 21st.

Sincerely,

Juan R. Vigil
County Manager

Board of County Commissioners; Michael Springfield; Guy Bralley

EXHIBIT
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New Mexico FINANCE AUTHORITY

September 3, 2009

Dianne Ross
County of Sandoval
P.O. Box 40
Bernalillo, NM 87004

RE: Desalination Project - WTB #168

Dear Ms. Ross:

The Water Trust Board met on August 24, 2009, to confirm the final terms, structure and conditions of Water Project Funding to County of Sandoval - Desalination Project. The Water Trust Board approved a funding structure that requires a 10% loan component in the amount of $347,385 with a 20-year term at a net effective interest rate of .25% (0% interest rate with an administrative fee component of ¼ of 1%) and a 90% grant in the amount of $3,126,467. The loan issued will be subordinate to the entity's existing debt, be structured without an additional bonds test and provide for hardship waivers of annual principal payments as determined by the Department of Finance and Administration.

This funding is conditional upon the completion of the following Readiness to Proceed items:

1. Verification of 10% match requirement in the amount of $347,385;
2. Copy of detailed final cost estimates for project;
3. A monthly draw-down schedule of project expenditures;
4. Approval from NMED on all construction plans and specifications;
5. All contingencies must be satisfied by June 30, 2010; and
6. Any additional information requested by the NMFA or Water Trust Board.

I will be your contact to receive this information and work with you in attaining these funds. By addressing all of the readiness to proceed criteria the funding agreement can then be drafted by NMFA counsel. This process is necessary to make the funds attainable to you to complete the project.

If you have any questions or need further assistance, please contact me at our toll free number (877) 275-6632. I look forward to working with you.

Sincerely,

Angela Gonzales-Rodarte
Senior Financial Advisor

Cc: Guy Bralley

EXHIBIT
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207 Shelby Street
Santa Fe, NM 87501

1-877-ASK-NMFA • Main Fax: (505) 992-9635
Accounting Fax: (505) 992-9640 • www.nmfa.net

FINANCE AUTHORITY

Sandoval County

Water Storage, Conveyance and Delivery Project

Water Trust Board

Application #: 168-WTB

A. EXECUTIVE SUMMARY

1. **Applicant:** Sandoval County **Board Date:** June 25, 2009

Project: Design & Construction

2. **NMFA Analyst:** Angela Gonzales-Rodarte **Amount:** $3,473,852

3. **Funding Description:**

90% Grant: Water Project Fund grant in the amount of $3,126,467

10% Loan: Water Project Fund grant in the amount of $347,385 with a 20-year term at a 0% interest rate secured by Net System Revenues

4. **Compliance with Water Trust Board Project Management Policies:** Yes ☑ No ☐

(If "No", explain:

5. **Recommendation:** Project Management Team recommends approval.

B. PROJECT

1. **Project Description:**

Sandoval County has applied for funding for its regional groundwater supply project. The project seeks to develop a 3,500' deep brackish water aquifer in the Rio Puerco Basin as a potable water supply. Due to the brackish water quality of the source, water desalination treatment processes will be required. It is envisioned that as this region develops up to 38.6 MGD of potable water supply may be required. Of this requirement the City of Rio Rancho represents 10.7 MGD or just over a quarter of the anticipated demand.

2. **Timing:** Project Began on January 1, 2009

3. **Total Project Cost:**

SOURCES:	Water Project Funds Grant - 90%	$3,126,467
	Water Project Funds Loan - 10%	$347,385
	Total Sources	$3,473,852
USES:	WTB Project Fund	$3,473,852
	Total Uses	$3,473,852

4. OSE Water Rights Verification: YES ☑ NO ☐ N/A ☐

5. Consulting Professionals
   Engineer / Architect: Gary Lee Legal Counsel: David Matthews
   Financial Advisor: N/A

C. FINANCING

1. Financial Analysis
Section 2.4 of the Water Trust Board Project Management Policies require that non-tribal applicants supported by rate-paying constituents undertake a loan for 10%-20% of the Water Project Fund assistance, based on their ability to handle debt. Using a three year average of net revenues available for debt service, the applicant does not have the ability to undertake the maximum loan required by the policies.

2. Funding Structure

Grant Amount	$3,126,467	90%	Term (years)	20
Loan Amount	$347,385	10%	Interest Rate	0.00%

3. Security **

Pledge:	Net system revenues

** All WTB Project Fund Loans will contain waivers for annual principal and interest payments for hardship cases as determined annually by the Department of Finance.

4. WTB Funding History / Sandoval County

Project type	App #	Status	Grant Amt	Loan Amt	Maturity	Total Amt.
This Request	168-WTB	Approval	$ 3,126,647	$ 347,385	Pending	$ 3,474,032
			$ 3,126,647	$ 347,385		$ 3,474,032

D. READINESS TO PROCEED

Prior to funding of this application, the NMFA will require the Sandoval County to submit or meet the following criteria:

1. Verification that entity is in good standing on its governance structure; including the Open Meetings Act;
2 Copy of detailed final cost estimates for project;
3. Copies of the minutes of the meeting which discussed the submission of an application to the Water Trust Board;
4. A monthly draw-down schedule of project expenditures;
5. Approval from NMED on all construction plans and specifications;
2. Verification of 20% match requirement in the amount of $694,806;
7. All contingencies must be satisfied by December 31, 2010; and
8. Any additional information requested by the WTB or the NMFA Board.

New Mexico Finance Authority - VCFB
Sandoval County
Net Debt Service Schedule

Approval

Date	Principal	Admin. Fee	Periodic Fee	Net Debt Service
6/1/2010	16,959.00	0.25%	576.56	17,535.56
6/1/2011	17,002.00	0.25%	826.06	17,828.06
6/1/2012	17,045.00	0.25%	783.56	17,828.56
6/1/2013	17,087.00	0.25%	740.94	17,827.94
6/1/2014	17,130.00	0.25%	698.24	17,828.24
6/1/2015	17,173.00	0.25%	655.40	17,828.40
6/1/2016	17,216.00	0.25%	612.48	17,828.48
6/1/2017	17,259.00	0.25%	569.44	17,828.44
6/1/2018	17,302.00	0.25%	526.28	17,828.28
6/1/2019	17,346.00	0.25%	483.04	17,829.04
6/1/2020	17,389.00	0.25%	439.66	17,828.66
6/1/2021	17,433.00	0.25%	396.20	17,829.20
6/1/2022	17,477.00	0.25%	352.62	17,829.62
6/1/2023	17,520.00	0.25%	308.92	17,828.92
6/1/2024	17,564.00	0.25%	265.12	17,829.12
6/1/2025	17,608.00	0.25%	221.20	17,829.20
6/1/2026	17,652.00	0.25%	177.18	17,829.18
6/1/2027	17,697.00	0.25%	133.06	17,830.06
6/1/2028	17,741.00	0.25%	88.82	17,829.82
6/1/2029	17,785.00	0.25%	44.46	17,829.46
6/1/2030	-		-	-
6/1/2031	-		-	-
6/1/2032	-		-	-
6/1/2033	-		-	-
6/1/2034	-		-	-
6/1/2035	-		-	-
6/1/2036	-		-	-
6/1/2037	-		-	-
6/1/2038	-		-	-
6/1/2039	-		-	-
	347,385.00		8,899.24	356,284.24

New Mexico Finance Authority 5/2/2010

September 22, 2009 | Welcome Celina Sandoval (not Celina? Click here)

- Users
- Entities
- Applications
  - Submitted
  - Accepted
  - Rejected
  - Approved
- Logout

- Save as a Draft
- Print
- Accepted

WATER TRUST BOARD APPLICATION

APPLICATION INFORMATION

Application Type:	Water Trust Board Application
Application ID:	94
User:	Dianne Ross
Created On:	October 01, 2008 at 11:06 AM
Last Modification:	November 04, 2008 at 04:22 AM--
Status:	Accepted

2 Events

APPLICATION ACTIVITY LOG

- Application Saved and Submitted by Dianne Ross Comment: na / October 27, 2008

- Application Accepted by Comment: Accept for Technical Team Review / November 04, 2008

II. GENERAL INFORMATION

Date: * Wednesday 01 October 2008

Name of Entity: * County of Sandoval

Project Name: * Sandoval County Desalination Project

Type of entity: * County

Primary Contact Person:

Name: *Dianne Ross

Phone #: *505-867-7551 Fax #: *505-771-7184

Address: *P.O. Box 40

City: *Bernalillo Sate: *New Mexico Zip: *87004 County: *Sandoval

E-mail address: *dross@sandovalcountynm.gov

Secondary Contact Person:

Name: *Guy Bralley

Phone #: *505-867-7695 Fax #: *505-771-7184

Address: *P.O. Box 40

City: *Bernalillo Sate: *New Mexico Zip: *87004 County: *Sandoval

E-mail address: *gbralley@sandovalcountynm.gov

Consulting Engineers:

Name: *Gary Lee

Phone #: *816-887-4016 Fax #: *816-884-3206

Address: *801 Westchester

Ave.
City: *Harrisonville, Sate: *MO Zip: *64701 County: *Cass
E-mail address: glee@uam-llc.com

Legal Counsel:

Name: *David Mathews
Phone #: *505-867-7536 Fax #: *505-771-7184
Address: *P.O. Box 40
City: *Bernalillo Sate: *New Mexico Zip: *87004 County: *Sandoval
E-mail address: *dmathews@sandovalcountynm.gov

Other Consulting Professionals (Feasibility Consultants, etc.):

Name: *Rob Sengebush, R.G. - Intera
Phone #: *505-246-1600 Fax #: *505-246-2600
Address: *6000 Uptown NE, Suite 100
City: *Albuquerque Sate: *New Mexico Zip: *87110 County: *Bernalillo
E-mail address: *rsengebush@intera.com

Project Type: Please check the appropriate box for your project type.

Water Storage, Conveyance & Delivery.
Watershed Restoration and Management.
Endangered Species Act Collaborative Program Implementation.
Flood Prevention (dam rehabilitation).
Water Conservation Treatment, Recycling or Reuse.

Proposed Project Start Date: Thursday 01 January 2009

Proposed Project Completion Date: Monday 31 October 2011

Provide the water system's long-term (minimum 10 year) water plan; if no plan exists, indicate when and how it will be developed.

In January 2008 the County completed a long-term water plan. This plan was developed by INTERA, Albuquerque, NM. The intent of this long-term plan was to summarize the essential elements of the Sandoval County Rio Puerco Basin brackish groundwater development program. A copy of this plan is attached.

Outline the metering and measuring of all water diversion and uses in the water system; if the system is not fully metered, describe the plans to do so or the process for allocating water in the system.

The Sandoval County Wholesale Water Utility is a water treatment and supply project with the primary goal of meeting the water demands of municipalities and districts within the County boundaries. Generally these wholesale customers will be classified as either "sole source" or "partial source" user. Partial source users must contract for a consistant daily water consumption while a sole source user may take twice its average annual daily contracted rate on any one day to account for maximum day requirements. Customers will be required to provide storage for peak hour requirements and fire flow.

Because this groundwater source is expensive to develop, all water contracted from this source will be carefully monitored as follows:

1. Each well will have a meter.
2. Each major process through the plant will be metered to account for all product water and spent waste concentrate brine.
3. Each customer delivery point will be metered.

In addition all meters will be linked to a SCADA system, allowing for instant measurement and tracking of contract volumes and notification of line breaks.

Is the system in compliance with Federal Safe Drinking Water and Clean Water Act regulations and applicable Department of Environment regulations? If not, please discuss major deficiencies.

The current project is in compliance with applicable federal and state rules and regulations. Currently drilling operations and discharges have occurred in accordance with the following authorizations:
- Well Permits from OSE for Well 6 is #RG88934 Exp 6, and for Well 5 is # RG 88934 Exp 5.
- Discharge Permit for Land application is from NMED DP-1682

All design of future facilities will meet State Guidelines and all water quality and operational

parameters will be in compliance with the Federal Safe Drinking Water Act and Clean Water Act.

Outline the billing system and its functionality in terms of invoicing and collecting revenues.

Sandoval County Wholesale Water Utility is designed and organized only for the purpose of providing "wholesale" water. No retail customers are anticipated. As such, there are two billing parameters:

1. User Charge: $6.01/1,000 gallons billed monthly with a minimum required "take" as stipulated in customer's water purchase agreement. This user charge is subject to adjustment in those cases where a customer makes an initial cash contribution in aide of construction for a dedicated capacity.
2. Impact Fee: $6,232.38 Equivalent Residential Customer to be billed to new wholesale customers requiring dedicated supply and treatment capacity. Impact fees must be paid prior to the issuance of a capacity dedication letter by the Utility.

Explain how the rate structure is designed to cover operations and maintenance, including leak detection and repair, infrastructure and equipment replacement, technical staff, and other elements required to ensure self-sufficiency in line with the long-term plan.

The water rate has been designed on a "cost of service" basis using a uniform rate structure. The cost of service was distributed using the Commodity Demand Method. System Development Charges have been constructed as impact fees with the intent to use this mechanism to construct future expansion of the Utility due to growth associated with permitted development.

All rate analysis and development of user charges have followed the guildelines of "Principals of Water, Rates, Fees, and Charges," Manual of Water Supply Practices M1 published by the American Water Works Association. A copy of the base rate calculations for Phase I of this project is attached.

Provide an adopted water conservation plan or any plans in progress, include hydrologic studies that show how the design of the project reduces consumptive use, carriage losses, or incidental losses.

see attached.

Provide the estimated water savings from the implementation of conservation measures and the expected extension of your presently available water supply for the first 10 years of the water system's long-term plan.

The largest single water conservation measure adopted in the Utility's Plan is the dedication to minimizing waste brine disposal quantities. Based upon recent engineering studies, the use of membrane technology would result in 1.25 MGD of waste flow to produce 5.0 MGD of water production (the Phase I target plant capacity over the next 10 years). By selecting a thermal process with a high efficiency brine concentrator, the waste flow was reduced to 0.5 MGD over a 50% reduction in groundwater resource depletion.

III. PROJECT INFORMATION

FY 09 Water Trust Board Financial Assistance Request $

4,637,560.00

Project Description

The Sandoval County Wholesale Water Utility is a proposed regional groundwater supply project. Sandoval County's efforts in this regard have been well publicized and are known by State officials. When fully implemented, the Utility will be capable of delivering potable water to existing and future wholesale customers throughout Sandoval County. The City of Rio Rancho has the most pressing and immediate need to identify a water supply source. This Utility has determined that Rio Rancho's critical water requirements should form the basis of the first phase of this program.

See attached document for graphic of project location.

The project seeks to develop a 3,500' deep brackish water aquifer in the Rio Puerco Basin as a potable water supply. Because of the brackish water quality of this source, water desalination treatment processes will be required. It is envisioned that as this region develops up to 38.6 MGD of potable water supply may be required. Of this requirement the City of Rio Rancho represents 10.7 MGD, or just over a quarter of the anticipated demand.

See attached document for graphic of base map with water demand.

The project will be comprised of five 4,000 feet deep wells each delivering between 500 to 1,000 gpm of brackish water to treatment facility. This provides four wells to meet a firm yield of 5 MGD plus a standby well. Those wells will be drilled in a "star" pattern centered on a section.

The treatment process will require desalination techniques. The brackish water has a temperature of between 140° to 155° F. Inland desalination plants exhibit three significant issues that must be addressed.

1. High energy consumption
2. Concentrated brine waste disposal
3. Low recovery rates

In order to address these issues, the project has selected a combination of lime softening, membrane R.O., and thermal desalination as its primary treatment process in order to significantly increase recovery and reduce waste brine disposal. In addressing the energy issue the project incorporates a 10 MW natural gas fired electrical generation plant. This plant will provide the equivalent of 3.5 MW of waste heat to the thermal process to greatly reduce the energy requirements of the desalination process.

See attached Engineering Report for additional information

Please describe any scientific, hydrologic or biological studies that demonstrate the water project will accomplish its planned objectives.

The following studies have been completed:

Intera - Long-Term Water Supply Study
Intera - Water Treatment Report
Combustion Engineering/Univeral Asset Management - Conceptual Engineering Report

List all of the "public benefits" from conducting this project (water quality, flood control, wildlife habitat, water quantity, water supply, public safety, etc.).

The primary public benefit of this project is derived from increasing the regional water supply. The benefits may be enumerated as follows:

a. Increase in the availability of potable water to existing communities and for future economic development.
b. Provision of a long term sustainable water supply for Sandoval County residents.
c. Improved water quality
d. Lessons learned in the development of this project will provide others a roadmap to similar solutions dealing with deep brackish water aquifers.
e. Puts to beneficial use a heretofore un-utilized water source.
f. Provides a water source with a long term predictable water quality.
g. Presents a regional solution focused on wholesale water production and benefits from the economics of scale derived there from.
h. Serves as a principal economic development tool for the county to utilize in attracting "job creating" industries to the area. The construction and operation of this project will have significant positive impacts on economic activities in the region and will generate regional income and employment to offset the initial and ongoing costs of the system. The regional entities, as well as the State and Federal tax base, will benefit directly and significantly from construction, operation, and maintenance of the system over the long term. Expenditures for the construction and operation of the system will generate demand for labor, equipment, construction materials, electrical supplies, pipeline, fuel, and other goods and services, which will, in part, be met by local suppliers. In order to meet this demand, local suppliers must hire workers and buy supplies in greater quantities than if the project were not built. The income derived from these sales is then spent on other goods and services and the process starts over again.

It should also be recognized that any commercial activity attributable to the water supply project, either through the attraction of businesses due to improved water supplies or through the retention of businesses that would have left if water supplies became worse in the future, would also generate positive regional economic impacts. The magnitude of these impacts cannot be estimated with any certainty because the extent to which business activity is affected is not known.

Describe any urgent needs that affect the health, safety and welfare of this project (i.e., public health, federal matching funds etc.).

Urgent Needs - The most urgent issue impacting this project is the time frame facing the City of Rio Rancho's search for an alternative water supply source. The city has expressed a concern that they must see this alternative manifest itself no later than 2011. If this project is not functional by this date the City will be facing the very expensive option of purchasing a minimum of 1,000 ac-ft of fresh water rights from the Rio Grande Basin which could cost in the

range of $25,000 per ac-ft. In addition, the City would incur the expense of conveyance and treatment.

Outline efforts towards wildlife and environmental compatibility.

Because this project utilizes ground water resources and minimizes waste brine discharges, the environmental impacts are minimal. Wildlife habitat should not be impacted by the project except briefly during construction of the facilities. All design documents will be submitted to appropriate authorities for review, comment, and public vetting as appropriate.

Hicks Environmental has initiated an environmental review of this project. A list of sensitive species is provided in the attached Engineering Report.

Describe how the project contributes to improved water quality and water conservation improvements.

Water Quality Improvement - Existing shallow aquifers currently providing water supply within the intended service area often exhibit high levels of arsenic. This is particularly the case with some of the wells serving the City of Rio Rancho. Under the county Wholesale Water Supply Utility plan, this water quality problem can be abated in one of two manners: 1) through the off setting of arsenic laced waters with the Wholesale Utility district water, or, 2) possibly through the use of Utility Wholesale water thru shallow aquifer replenishment thus diluting the effect of arsenic concentrations on water quality.

Water Conservation – The development of previously undiscovered deep aquifer ground water resources enhances the economic development of the area without diminishing known limited fresh water reserves. In addition, the new utility committed to reducing the water lost in process due to brine waste streams and the full exploitation of water recycling as new wastewater plants come online.

Wastewater generated within the service area will need to be treated to remove organic contaminants so that it can be beneficially re-used through a variety of different methods. The Rio West Master Plan's Wastewater Disposal Plan calls for using centrally located plants that "...provide preliminary , primary, secondary, and tertiary wastewater treatment along with disinfection" as needed to "produce an effluent suitable for irrigation of community parks, golf courses, and other landscaped areas" (Consensus Planning, 2006). The level of treatment being contemplated will yield a high quality effluent that likely meets the standards for Class 1A effluent as defined by NMED i.e.:

NMED Standards for Class 1A Effluent
Effluent Parameter 30-day Average Maximum
BOD5 10 mgl/L 15 mg/L
Turbidity 3 NTU 5 NTU
Fecal Coliforms 5 orgs. per 100 ml 23 orgs. Per 100 ml

Using reclaimed wastewater as a feedstock for a potable water treatment plant as described has not been done anywhere in New Mexico. The Village of Capitan reclaims its Class 1A effluent

by discharge to an impoundment that stores surface water it uses for its drinking water supply. This reclamation method however is still considered to be indirect potable re-use. As such, the concept described here for reclaiming wastewater in the service area will probably receive much regulatory agency scrutiny even at the pilot plant stage.

Engineering analysis shows that treating a 50/50 blend of RPB brackish water and reclaimed Class 1A wastewater will be less costly that treating 100% RPB brackish water. This concept warrants full evaluation as it provides a strong position for developing a sustainable water supply beyond the specific yield of the aquifer.

List all identified or expected positive and negative impacts resulting from the project development. If negative impacts may exist, please describe other alternatives examined or efforts to mitigate impact. Please limit this discussion to a single page.

Funding this project will explore the potential for development of a currently untapped source of water (which will be desalinated) to provide for the demands associated with future growth. To not fund this will deny the exploration of this source of water, and further continue demands against the Santa Fe Group aquifers, which are already stressed by the demands of Rio Rancho and Albuquerque, as well as the New Mexico Utilities systems. The project has the potential to provide water to multiple communities and systems (both existing and future). As Sandoval County is the fastest growing county in the state, driven largely by the City of Rio Rancho (the fastest growing city in the state), the demands for water are real, and they are here now. Development of desalination, and the wells to supply brackish water to the plant, will prove the potential of this source for water in the future.

III. COMMUNITY SUPPORT

List all of the partners involved in this project with the outlined responsibilities for each partner; describe how the surrounding communities are involved and identify the number of water users affected by the project.

The following entities have been involved in this project:

PARTNER
County: Sandoval County
INVOLVEMENT
The county has contributed funding, project administrative and management staff. The county has provided leadership and overall vision.

PARTNER
Municipal: City of Rio Rancho
INVOLVEMENT
The city has provided advice and support through participation in regularly scheduled project

meetings. The City has also provided a letter of interest which is attached to this application.

PARTNER
Developers: Aperion Partners
INVOLVEMENT
The county teamed with this partner to drill two deep test wells located within Rio West. These wells are being used to establish the sustainable yield and water quality.
King Ranch This partner has provided access to properties for surveys and has cooperated in planning sessions.
Quail Ranch This partner has regularly participated in planning meetings.

PARTNER
Newspapers: ABQ Journal (Print & Online)
INVOLVEMENT
The news media has regularly published public updates as to the county's efforts in developing this project. Relevant articles have been published on the following dates:
Oct 14, 2007 Jun 24, 2007
Aug 12, 2008 Jun 26, 2007
Jun 21, 2007 Jul 01, 2007
Jul 01, 2008 Aug 16, 2008
Apr 20, 2008 July 26, 2008
Apr 22, 2008 Dec 9, 2005
Jun 24, 2007 Aug 10, 2007

The number of potential users impacted by this project is illustrated in the attached document, Table Service Area Population and Water Use at Build-out.

Does this project require a Joint Powers Agreement (JPA), Memorandum of Understanding (MOU) or Agency Agreement?
If Yes, attach a copy of the JPA or Agreement in the Readiness to Proceed Section.

No

There aren't any attach document.

Identify the regional collaboration, nature and history of stakeholder group involvement and provide documentation of collaboration, including how stakeholders are participating both financially and programmatically.

Since early in 2005 as the county began to address water supply issues facing the region all local governments have been included in the planning process. As this utility has been incubated by the county government and officially established as an enterprise fund of the county, the issues have been discussed in public county meetings as part of the county public agenda. All impacted stakeholders are regularly updated in planning meetings and in periodic progress reports.

Please describe the water system's governance structure and the ability for this

structure to provide adequate direction and oversight. (Compliant with Opening Meetings Act; Inspection of Public Records Act; Regular Board elections held and members trained.)

Much like a municipal utility enterprise the county has selected and officially confirmed the establishment of this utility as an "enterprise fund" of the county. As such it will be governed by the elected officials of the county much as other county departments. The utility will be subject to all the policy and procedures of Sandoval County and the state laws and regulations with which the county is compelled to comply.

Provide a summary on the public involvement plan.

Public involvement programs for this utility will involve Citizens Advisory Committees (CACs) comprised of a broad spectrum of stakeholder representatives. CACs are particularly useful because of the zero-sum game nature of cost-of-service questions—every dollar of revenue responsibility not distributed to one customer class must be borne by other customer classes. Citizens Advisory Committees are generally comprised of a diverse mix of community representatives with competing interests. It is important to establish guidelines for committee interaction and its role in the public decision process. The county has adopted the attached guideline. Public involvement approaches may also include distribution of informational brochures or newsletters (possibly with accompanying survey instruments), speakers' bureaus, print or broadcast media articles as well as a variety of public meeting forms. Recently, computer technology advances have made available additional information exchange vehicles. This utility has an internet home page that can be modified to allow citizens to access a wealth of information and provide input on issues.

SANDOVAL COUNTY WHOLESALE WATER UTILITY
CITIZENS ADVISORY COMMITTEE GUIDELINES

The Citizens Advisory Committee (CAC) will primarily serve to advise the utility's project team on public concerns and perspectives regarding water supply issues. The CAC will operate under the following general guidelines and conditions, subject to consensus revision of rate study participants.

- CAC members will be appointed by the utility's governing board and will be selected to assure representation of a diversity of groups. CAC members are asked to solicit the opinions of their constituency and articulate the positions of their memberships.

- CAC meetings may be open to the public and may include a period for general public comment.

- Members of the CAC will not hold "voting" positions or adopt recommendations under majority rule requirements. Rather, members will participate in discussions with the objective of developing consensus recommendations. In the event that consensus may not be achieved on specific issues, both majority and minority opinions will be considered by the project team and reported to the utility's governing board.

◦ CAC discussions will review options for water supply issues to reflect, to the extent practicable, community values and concerns. The project team will provide objective information on these options to the CAC and solicit CAC recommendations. The project team will balance CAC recommendations with its fiduciary and management responsibilities in selecting from available options. CAC recommendations are non-binding on either the rate study project team or the utility's governing board. However, all CAC recommendations will be documented and forwarded to the utility's governing board for their review and consideration.

◦ Project team decisions will be reported to the CAC once determined but will not be subject to re-review during subsequent CAC meetings. Similarly, the CAC will not review and recommend reconsideration of past utility decisions. In particular, CAC activities will not duplicate existing budget practices or processes.

◦ Project team support of CAC activities will be limited to provision of information necessary for consideration of outstanding issues and decisions. The project team will provide information that is available from utility records that can be collected and distributed without extensive expenditures of staff time or budget resources.

The CAC will discontinue once the project is completed and water rates have been adopted for one year. CAC membership is voluntary and will not be compensated by the utility.

IV. FINANCIAL SUSTAINABILITY

Is a five-year financial plan in place that aligns projected revenues and expenses, including costs for regulatory compliance, debt, capital improvements, and needed reserves? Please describe the elements of plan. If no financial plan is in place, please describe the estimated timeline of implementing a five-year plan.

The following five (5) year financial plan has been developed on a "cash-needs" basis. This plan follows the traditional protocol for use of funds under typical tax-exempt municipal bond covenants. This protocol includes:

◦First - Funding O&M expenses
◦Second – Funding debt service requirements
◦Third – Short life equipment replacement fund Excess Funding
◦Fourth – Debt service reserve fund Used to Calculate
◦Fifth – Depreciation reserve Bond Coverage

Please describe the asset management plan including how it was developed, monitored and overseen.

The asset management plan was developed using Reliability Centered Maintenance (RCM) techniques. These techniques are industry-leading methods for assuring sustainable reliability of equipment performance.

The RCM philosophy employs Preventive Maintenance (PM), Predictive Testing and Inspection (PT&I), repair (also called reactive maintenance), and Proactive Maintenance techniques in an integrated manner to increase the probability that a machine or component will function in the required manner over its design life-cycle. The goal of the philosophy is to provide the stated function of the facility, with the required reliability and availability at the lowest cost. RCM requires that maintenance decisions be based on maintenance requirements supported by sound technical and economic justification. As with any philosophy, there are many paths, or processes, which lead to a final goal. This is especially true for RCM where the consequences of failure can vary dramatically.

Sandoval County has adopted a streamlined approach to the traditional, or rigorous, RCM process practiced in some industries. This is due to the high analysis cost of the rigorous approach, the relative low impact of failure of most facilities systems, the type of systems and components maintained, and the amount of redundant systems in place. Underlying Sandoval County's RCM approach is the concept that maintenance actions should result in real benefits in terms of improved safety, required operational capability, and reduced life-cycle cost. It recognizes that unnecessary maintenance is counterproductive and costly and can lead to an increased chance of failure.

The primary principles upon which RCM is based are the following:
◦RCM is function oriented. It seeks to preserve system or equipment function, not just operability for operability's sake. Redundancy of function, through multiple equipment, improves functional reliability but increases life-cycle cost in terms of procurement and operating costs.
◦RCM is system focused. It is more concerned with maintain system function than individual component function.
◦RCM is reliability centered. It treats failure statistics in an actuarial manner. The relationship between operating age and the failures experienced is important. RCM is not overly concerned with simple failure rate; it seeks to know the conditional probability of failure at specific ages (the probability that failure will occur in each given operating age bracket).
◦RCM Acknowledges design limitations. Its objective is to maintain the inherent reliability of the equipment design, recognizing that changes in inherent reliability are the province of design rather than maintenance. Maintenance can at best, only achieve and maintain the level provided for by design. However, RCM recognizes that maintenance feedback can improve on the original design. In addition, RCM recognizes that a difference often exists between the perceived design life and the intrinsic or actual design life, and addresses this through the Age Exploration (AE) process.
◦RCM is driven by safety and economics. Safety must be ensured at any cost; thereafter, cost-effectiveness becomes the criterion.
◦RCM defines failure as any unsatisfactory condition. Therefore, failure may be either a loss of function (operation ceases) or a loss of acceptable quality (operation continues)
◦RCM uses a logic tree to screen maintenance tasks. This provides a consistent approach to the maintenance of all kinds of equipment.
◦RCM tasks must be applicable. The tasks must address the failure mode and consider the failure mode characteristics.

◦RCM tasks must be effective. The tasks must reduce the probability of failure and be cost effective.
◦RCM acknowledges two types of maintenance tasks and run-to-failure. The tasks are Interval (Time or Cycle) Based and Condition-Based. In RCM, Run-to-Failure is a conscious decision and is acceptable for some equipment.

Does your system have a water accounting system? Is your system fully metered? Describe the methodology to quantify use & loss, quantify the input & output water loss, outline supply & demand projections.

The Utility will meter all water wells, all primary treatment process trains including waste streams, all finished water product and all customer take off points. Each meter will be linked through a SCADA system which will be designed to provide early alerts to possible pipeline breaks or process failures. This system will provide regular water audit reports, as well as a historical record to be useful in making future projections.

SERVICE AREA BOUNDARIES
The service area established for this project which has the following overall boundaries:
◦City of Rio Rancho to the east
◦Pueblo of Zia to the north
◦Pueblo of Laguna to the west
◦Bernalillo County to the south

Projected Population and Water Demands
(1)Rio West Development – The developers for Rio West have a community master plan on file with Sandoval County that specifies future residential dwelling units, schools, commercial acreage, and related development that will be implemented for this area along with an approximate timetable for build-out (Consensus Planning, 2006). These data for housing units, commercial development acreage, and schools were combined with the following criteria to yield a build-out population for Rio West along with a projection for average daily water demand:

◦Per capita occupancy rate for Dwelling Units (DU) = 2.6 persons/DU
◦Water consumption per residential DU = 190 gpd or equivalently 73 gallons per capita per day
◦Water consumption per acre of commercial development = 1,146 gpd
◦Water consumption per public school site – 31,300 gpd

The water consumption criteria are consistent with nominal criteria used by the Mid-Region Council of Governments to plan water needs in the Middle Rio Grande Valley as part of its Focus 2050 planning effort.

All told, the current Rio West master plan indicates 29,434 DUs at build-out along with 10 public schools (about one school per 3,000 DUs) and 2,046 acres of adjoining commercial development. The expected average daily potable water need at build-out for Rio West is projected to be 6.89 Million Gallons per Day (MGD) or equivalently 7,700 AFY. In comparing projected average daily demands for residential and commercial water use in Rio West, it was determined that commercial water used equaled 17% of the total residential water demand.

(2)Development in Adjacent Areas – With the exception of Quail Ranch Phases 2-4, land use planning for the other service area has not yet progressed to the same level as that performed for Rio West. In the absence of having land use master plans available to otherwise quantify future populations, expected schools and commercial development, and resultant water use at build-out, the following alternate approach was used to characterize expected growth for these areas:
◦A series of meetings were held with representatives of Alamo Ranch, Rio Rancho Estates, Breezy Point, and Rancho Grande to establish their best "guesstimate" for residential DUs being considered for their respective developments.
◦Residential population was next estimated at 2.6 persons per DU and water use at 190 gpd per DU.
◦Water use for commercial areas within each of these developments was then estimated at commercial water use-to-residential water use calculated for Rio West.
◦School water use was then calculated based on one school per 3,000 DUs as was done for Rio West and 31,300 gpd per school.

(3)Suggested Phasing of Water Supply Capacity – The year in which the 43,200 AFY build-out demand is actually realized depends on a number of variables in the region's economy. Tables 1 and 2 below respectively present a "high growth" scenario and a "low growth" scenario for future population and corresponding average day water demand.

See attached document for Table 1-Low Growth Projection and Table 2-High Growth Projection

The "high growth" scenario assumes the build-out condition will be achieved within 50 years i.e., by the Year 2060 and that 80% of the total growth will be achieved within the first 40 years. In contrast, the "low growth" scenario assumes the build-out condition will be achieved within 70 years i.e., by the Year 2080 and that 80% of the total growth will be achieved within the first 55 years. In both cases, population growth has been projected using a Verhulst relationship that is commonly used to make long-range population projections. The Verhulst relationship yields an S-shaped curve for population growth as a function of time and which factors in the following two overall concepts:
◦Population growth will be proportional to the population in place and;
◦Population growth will also be proportional to the available resource needed to sustain growth

The second overall concept provides a natural "braking action" to population growth and considers practical limits on growth e.g., availability of undeveloped land that can support growth.

Describe the long-term stewardship of this project, including a long-term project operations and maintenance plan which addresses stability of funding and overall project sustainability.

Long-term project operations and maintenance has been designed for sustainability. Using RCM methods and routinely applying strong organizational procedures.

MANAGEMENT OF FACILITIES MAINTENANCE PROGRAM

(1)Maintenance at Sandoval County is more than just repairing a leaking pipe or restoring power. It involves the coordinated effort of many talented people to ensure that facilities are in the best possible condition to support the Utility's mission. To accomplish this, the maintenance program must be managed to provide the maximum benefits from the available resources without waste.

See attached document for Figure - Whole Maintenance Universe

(2)A CMMS is an integral component of a Utility's facilities maintenance management operations. This automated system is designed to assist facilities maintenance managers in work reception, work planning, work control, work performance, work evaluation, and work reporting. This system is usually linked to other database systems, such as Integrated Asset Program Management (IAPM), material management, and personnel management.

(3)Figure 2 depicts the basic facilities maintenance management program. The program has four major aspects: Requirements Definition, Planning, Execution, and Analysis. Requirements Definition includes analyzing facilities condition assessments and the Utility's mission to identify, quantify, and document Utility operation and maintenance requirements.

See attached document for Figure - Basic Facilities Maintenance Program

(a)Facility Inventory – The facilities inventory is the cornerstone of facilities maintenance management. It provides the detailed identification of what is inspected, operated, and maintained. Without an accurate inventory, maintainable items may not receive required maintenance, and maintenance budgeting, planning, and scheduling cannot be effective. Note that the inventory is not static; it includes continuous updates based upon facility and equipment changes.
(b)Recurring Maintenance – After identification of what is inspected, operated, and maintained, a Utility's Reliability Centered Maintenance program starts with identifying recurring maintenance requirements. The requirements must be derived from analyzing the Utility's mission and facilities inventory and utilizing a well-established set of local standards. The standards used in assessing facilities and determining what recurring maintenance and operations effort is needed to maintain the Utility at specified quality level must include statutory, regulatory, and compliance requirements. Requirements are continually updated to include new facilities and changes based on the RCM analysis of work data provided during the acceptance process, which sets the baseline.
(c)Nonrecurring Maintenance – Nonrecurring requirements are determined by facility condition assessments and analyzing historical data, current inventory, and mission requirements. A part of nonrecurring work is facility repairs (breakdown maintenance), including facility TC's.

PLANNING
(1)Priorities set by management based upon mission requirements are important considerations in determining what is to be accomplished and in what order. The 5-year Maintenance Plan is an invaluable reference for the budgeting process, providing the information needed to plan allocation of resources.
(2)Upon receipt of the annual budget, the 5-year Maintenance Plan (including the maintenance organization's CoF work) is reviewed again, together with updated facility needs.

Does the water system have a professional manager?

Yes

Describe how the estimates for project contingencies were derived. Has a Professional Engineering Report been completed?

A groundwater study has been developed by a professional Hydro-Geologist, Intera. An engineering study has been provided by Intera, professional engineer ASCS, and supplemented by a financial project modeling program developed by a professional engineer, AWE - Engine and Compressor Systems, Inc, in coordination with Gary M. Lee, P.E. with Universal Asset Management. A conceptual engineering report is attached. This report was prepared by Gary M. Lee, P.E.

V. PROJECT COMPLIANCE

Is the water system in compliance with Office of the State Engineer regulations?

Yes. Please complete the OSE Water Rights Form as attached.

- Project compliance attachment.pdf

Is the project part of an Interstate Stream Commission-accepted regional water plan or part of a plan under development? Please explain how this project complies with such a plan. If not, please explain.

The project involves the utilization of a deep groundwater aquifer (below 2,500 feet) and therefore is not involved in an Interstate Stream Commission–accepted regional water plan.

Provide documentation of water rights availability (i.e., willing seller/leaser and necessary permitting from the state engineer and show compliance with law 2003 N.M. Laws, ch. 135 (effective March 1, 2004) if water will be acquired from an Acequia.

There aren't any attach document.

File No.1111 Application No.1111

Number of Acre Feet Available: 11

Type of Water Rights Available: (i.e. ground, surface, other)na

If water rights are not available, please explain why and outline a plan of action to obtain the necessary water rights.

The water source being developed is a deep groundwater aquifer (below 2,500 feet) and is not in

a declared basin and is not governed by water rights of the State of New Mexico. (See NMSA 72.12.25, Exhibit V.1.1). The approvals of the State Engineer for our preliminary testing wells are provided in Exhibit V.1.2.

Does the system supply, deliver, distribute or otherwise provide at least 500 acre feet annually for domestic, commercial, industrial or government customers for other than agricultural purposes, but does not include Indian tribes, pueblos, nations, chapters or any entity of a tribe, pueblo, nation or chapter? If so please provide a copy of the water conservation plan submitted to OSE in accordance with Chapter 72, Article 14 NMSA 1978).

The water produced by the system is not in a declared basin and is not governed by water rights of the State of New Mexico.

Briefly list and describe any alternative to this project that was considered and the decisions to reject or otherwise implement the alternatives. Please limit this description to no more than one page.

The system is projected to provide in excess of 500 acre feet of water annually. The system is a wholesale water distributor with, at this time, only one intended customer, the City of Rio Rancho. A copy of the City's Water Resources Management Plan, which contains the City's policies relating to conservation in Section VII, has been provided in Exhibit 1.

The wholesale water supply utility itself will utilize state-of-the-art SCADA and metering systems to allow for the identification of waters lost or unaccounted for in the delivery system, so corrective actions can immediately be taken to restore integrity to the system while minimizing any water loss.

Describe the methodology in measuring the project expected outcome and planned objectives. Outline the benchmarks for measuring project results.

This project is unique to this area, as it utilizes a deep groundwater aquifer as the low water source. This is an alternative source which will relieve the stresses on the traditional systems in current use by communities in the mid-Rio Grande Basin.

A number of desalination technologies and co-generation technologies have been reviewed during the preliminary design stages of the project.

VI. FUNDING DETAIL

List Total Project Costs and Sources of Funds for Project

Type	WTB Funds	Local Funds	State Funds	Fe
Feasibility Funds	0.00	1,000,000.00	0.00	

Planning and Design	4,637,560.00	0.00	0.00
Inspection of Construction	0.00	4,637,560.00	0.00
Special Engineering Services	0.00	1,000,000.00	0.00
Environmental Surveys	0.00	500,000.00	0.00
Archeological Surveys	0.00	250,000.00	0.00
Construction	0.00	71,639,095.00	0.00
Land Acquisition	0.00	274,290.00	0.00
Easements & Right of Way	0.00	200,000.00	0.00
Legal Costs	0.00	662,508.00	0.00
Fiscal Agent Fees	0.00	1,987,525.00	0.00
Total Costs	4,637,560.00	82,150,978.00	0.00

Are these costs certified by a resource specialist, engineer or architect? If so, please provide the date of certification and name of company.

Please Specifically Identify Source, Terms and Status of all State and Federal Funds

Source	Amount	Type	Terms (#
	$	Grant	
	$	Grant	

Provide evidence of existing debt in the form of debt documents, including Loan agreements, Debt Default Summary and if any a Pending Litigation Summary.

There aren't any attach document.

Outline the match component - identify form and source: (half of the required match component may be in kind services in labor and or equipment at fair market values; the second half o the match component may be in the form of a hard cash match).

The County has committed $6,000,000 towards this project to-date. The balance of local funds required will come from a County Enterprise Revenue Bond. The County will provide credit enhancement for these bonds in the form of a pledge of County gross receipts.

Outline the source of the local cost share.

The balance of local funds required will come from a County Enterprise Revenue Bond. The County will provide credit enhancement for these bonds in the form of a pledge of County gross receipts. The revenue bonds will be secured by the wholesale water purchase contracts entered between the untility enterprise and the individual wholesale customer.

VII. CERTIFICATION & READINESS TO PROCEED

I certify that
We have the authority to request funding as described in this application. We will comply with all applicable state and federal regulations and requirements. To the best of my knowledge all information contained in this application is valid and accurate and the submission of this application has been authorized by the governing body of the undersigned jurisdiction.

(Highest Elected Official)

Signature *: Joshua Madalena
Title *: Commission Chair
Print Name *: Joshua Madalena
Date *: Monday 27 October 2008

(Finance Officer/Director)

Signature *: Leroy Arquero
Title *: Finance Director
Print Name *: Leroy Arquero
Date *: Monday 27 October 2008

COMPLIANCE / READINESS TO PROCEED

The following items must accompany this application in order for this application to be considered complete: (These documents will not be considered part of the 30 page maximum).

- Three most recently completed fiscal year audit reports.
- Current financials, including current fiscal year budget.
- List of all debt, including debt holder, pledged revenues, payment schedule and any prohibitions or test for additional debt.
- Resolution of the governing body authorizing the submission of an application to the Water Trust Board.
- Articles of Incorporation and By-laws (if applicable).
- Documentation that each non-WTB project funding source has been approved.
- Joint Powers Agreement or MOU (if applicable).
- Detailed project phase schedule.
- Explanation of land ownership arrangements (if applicable).
- Documentation showing status of landowner/agency agreements (if applicable).
- List all required permits and licenses necessary to complete this project. Detail the status of each item, a plan of action, and time frame for completing incomplete permits and licenses. Also provide a copy of all permits and licenses.
- Is there litigation pending which would have a bearing on this project or applicant? If yes, provide a complete summary of all circumstances relating to such litigation.
- Conservation plans as required by law.
- Right of Way Acquisition Documentation.

ATTACH DOCUMENTS

- Section II Attachments.doc
- Section III Attachments.doc
- Section IV Attachments.doc
- Section III - Letter of Interest.pdf
- Compliance Readiness Attachment .pdf
- Engineering Report Sec I-XIII.pdf
- Engineering Report Sec XIV-XXVIII.pdf
- Engineering Report Appendices A-E.pdf
- Engineering Report Appendices G-J.pdf
- Engineering Report Appendix F.pdf
- well easements attachment.pdf
- Provide an adopted water conservation plan or any plans in progress.doc
- Signature Page.pdf

Monday, September 28, 2009

Desalination tests under way on Rio Puerco aquifer

By Rosalie Rayburn
Journal Staff Writer

Desalination tests have begun on a Rio Puerco water source that Sandoval County officials believe will be critical to future development.

County Development Director Mike Springfield said testing will continue for about six weeks. He hopes to have a report by December that will help the county evaluate the costs, materials and energy needed to desalinate the water on a scale large enough to supply several communities.

Springfield recently gave a presentation on the water project to the County Commission.

The water is in a briny aquifer more than 3,500 feet below the Rio Puerco basin. A county drilling project discovered the aquifer in 2007. Testing last year indicated it is big enough to support a community of 300,000 people for 100 years. The water contains dissolved solids that must be removed before it is suitable for domestic use.

The tests will employ a reverse osmosis technology, used successfully at other desalination plants, that uses lime to remove dissolved solids.

Springfield said his department chose the technology based on recommendations of Universal Asset Management, the Mississippi-based company the county hired to evaluate the most cost-effective desalination process.

The process will remove the unwanted solids in separate stages, which will allow the county to seek uses for the waste byproducts. Although this makes the desalination process more expensive, it may lower costs long term, Springfield said.

He said it would be cheaper for the county to give byproducts to an entity that can use them than to build a dedicated landfill.

Springfield's goal is to achieve 90 percent efficiency, meaning desalination will

remove 10 percent of the total water processed through the system. During testing, about 40 gallons of water per minute will be processed.

The county is considering building a desalination plant in phases. The first phase would produce 5 million gallons of desalinated water a day. At that level, the water would cost $6 per 1,000 gallons.

At full capacity of between 25 million and 30 million gallons a day, the cost is estimated to drop to around $3 per 1,000 gallons which would make it higher than rates in Albuquerque but comparable to rates in Rio Rancho.

The Albuquerque Bernalillo County Water Utility Authority charge is $1.89 per 1,000 gallons, while Rio Rancho charges $3.23 per 1,000 gallons up to 10,999 gallons.

Springfield said the county is seeking federal and state grants and other financing that could further lower the cost of the project and ultimately the water

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