

## **TIER-1 CRITERIA**

1. State whether the proposal is for the “New Mexico Unit,” a “water utilization alternative,” or both. A “New Mexico Unit” is a project or activity that will develop additional water from the Gila basin above that allocated to New Mexico prior to the 2004 AWSA and require the Secretary of the Interior to exchange CAP water for any additional depletions in New Mexico. A “water utilization alternative” is a project or activity that does not develop additional water from the Gila basin above that allocated to New Mexico prior to the 2004 AWSA or does not require exchange of CAP water for additional depletions by New Mexico in the Gila basin. (see Exhibit A. **Interstate Stream Commission Gila Policy Statement, September 2004, and 2004 Arizona Water Settlements Act, Section 212 (i)**)
2. Describe how the proposal will meet a “water supply demand” in the Southwest New Mexico Water Planning Region, comprised of Catron, Grant, Hidalgo and Luna Counties. The 2004 AWSA requires a “New Mexico Unit,” a “water utilization alternative,” or both to meet a water supply demand in the Southwest New Mexico Water Planning Region. The proposal must identify the demand that will be met and how the proposal will meet the demand identified. (see Exhibit A. **Interstate Stream Commission Gila Policy Statement, September 2004, and 2004 Arizona Water Settlements Act, Section 212 (i)**)
3. Describe how the proposal considers the Gila environment and describe how any negative impacts might be mitigated. The ISC Gila Policy requires full consideration of the Gila environment. If the proposal impacts the Gila environment, the proposal must describe the impact, whether negative or positive, or both. The proposal must indicate how negative impacts are to be mitigated. (see Exhibit A. **Interstate Stream Commission Gila Policy Statement, September 2004, and 2004 Arizona Water Settlements Act, Section 212 (i)**)
4. Describe how the proposal considers the historic uses of and future demands for water in the Southwest New Mexico Water Planning Region and the traditions, cultures and customs affecting those uses. The proposal must demonstrate how it conforms to the ISC Gila Policy to fully consider historic uses of and future demands for water in the Basin and the traditions, cultures and customs affecting those uses. Describe any impacts on historic uses of and future demands for water in the Basin and the traditions, cultures and customs affecting those uses, whether negative or positive, or both. The proposal must indicate how the negative impacts are to be mitigated. (see Exhibit A. **Interstate Stream Commission Gila Policy Statement, September 2004, and 2004 Arizona Water Settlements Act, Section 212 (i)**)

TIER-1 SCHEDULE:

<u>Date</u>	<u>Action</u>
May 1, 2011	: Submission of preliminary Tier-1 proposals for review (optional)
June 1, 2011	: Review and return of preliminary Tier-1 proposals
June 30, 2011	: Final Tier-1 submission
July 30, 2011	: Evaluation panel review and ranking of Tier-1 proposals complete
August 6, 2011	: Request for reconsideration of evaluation panel rankings
August 22, 2011	: Response to request for reconsideration : Evaluation panel submission to Commission of ranking of Tier-1
August 29, 2011	proposals
September 28, 2011	: Commission action on Tier-1 proposals

**(TIER-2 TIER-2 PROCESS, CRITERIA, APPLICATION, AND SCHEDULE ARE TO BE FINALIZED AND NOT CURRENTLY AVAILABLE. )**

Grant County AWSA Tier 1 Application

**TIER-1 APPLICATION TO THE NEW MEXICO INTERSTATE STREAM COMMISSION  
FOR NEW MEXICO UNIT OR WATER UTILIZATION ALTERNATIVE  
UNDER THE ARIZONA WATER SETTLEMENTS ACT**

**APPLICANT INFORMATION (PRINT OR**

**DATE: 6/23/2011**

1. Legal Name: County of Grant		2. Organization: County		
3. Address (street, city, county, state, and zip code):  County of Grant Attn: Mr. Jon Saari, Manager P.O. Box 1183 Silver City, NM 88062		4. Name, email, and phone number of contract person:  Mr. Jon Saari, Grant County Manager <a href="mailto:jsaari@grantcounty.com">jsaari@grantcounty.com</a> (575) 574-0008		
5. TYPE OF APPLICATION (check one): <input checked="" type="checkbox"/> Final <input type="checkbox"/> Preliminary for review <input type="checkbox"/> Revised		6. TYPE OF APPLICANT (CHECK BOX): <input checked="" type="checkbox"/> Local governments or municipalities  <input type="checkbox"/> soil and water conservation districts, irrigation districts or commissions, acequias, or other political subdivision of the State of New Mexico  <input type="checkbox"/> institutions of higher education or a consortium of such institutions  <input type="checkbox"/> non-profit organizations or associations  <input type="checkbox"/> private individual/s  <input type="checkbox"/> federal agency (ies)  <input type="checkbox"/> Other (specify)		
7. BRIEF PROJECT DESCRIPTION: Creation of storage facility(s) in the vicinity of Ft. Bayard to store water for recreational uses and release a steady flow of water downstream of the storage facility(s) to recharge groundwater source locations for Bayard. The source of water includes effluent discharges from the Bayard Regional Wastewater Treatment Plant. Pipeline will transport effluent to the Santa Clara/Ft. Bayard area to irrigate ball-fields, parks and landscape. Improvements to the Ft. Bayard Medical Center Water System will be needed ( <b>Detailed Project Description on pg. 12</b> )				
8. AREAS AFFECTED (describe by county, municipality, township, etc. as applicable):  The primary areas that would be affected include: City of Bayard, Village of Santa Clara, Ft. Bayard and Grant County, New Mexico.				
9. TOTAL FUNDING REQUESTED (in \$1,000): \$9,150				
2012: \$200	2013: \$200	2014: \$750	2015: \$2,625	2016: \$2,625
2017: \$1,375	2018: \$1,375	2019:	2020:	2021:
10a. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION ARE TRUE AND CORRECT, THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED REQUIREMENTS AND ASSURANCES IF THE PROPOSAL IS ACCEPTED.				
10b. TYPED OR PRINTED NAME OF AUTHORIZED REPRESENTATIVE: Jon Saari		11. TITLE: County Manager		12. PHONE NUMBER: (575) 574-0008
13. SIGNATURE:			DATE:	

14. Evaluation criteria. Comprehensive responses to criteria A through D should be supported where possible by the best available science and scientific data, studies, models, and, where applicable, cite state, regional, or other water plans. Where such data and information is not available, applications should include best estimates and describe how such information would be obtained. Applications that do not include the requested information will not satisfy Tier-1 standards and, therefore, will not be eligible for Tier-2 consideration. Use Form 14a if needed. Print or type only.

**A. State whether the proposal is for the “New Mexico Unit,” a “water utilization alternative,” or both.**

The proposal is a water utilization alternative. This project does not require exchange of CAP water for additional depletions by New Mexico in the Gila Basin.

**B. Describe how the proposal will meet a “water supply demand” in the Southwest New Mexico Water Planning Region, comprised of Catron, Grant, Hidalgo and Luna Counties.**

This proposal addresses needs in the Grant County area. The water supply for the communities of Bayard, Santa Clara and Ft. Bayard will be positively affected by the proposed project. In addition to economic development, this project will affect Grant County as a whole and provide recreational opportunities for Catron, Hidalgo and Luna Counties.

Purpose and Need for Proposed Project:

Village of Santa Clara:

The Village of Santa Clara has historically obtained its water from two sources:

- 1) The Lone Mountain well-field is located approximately three (3) miles south of the Village. The total amount of water that may be diverted from the well-field is 272.9 acre-feet per year. In previous years, Santa Clara has withdrawn more than its appropriated amount of water from this well-field. The State Engineers Office (SEO) has required that Santa Clara “pay back” this over-appropriation by pumping less from the well-field. It is reported that the average rate of decline in the wells is about one foot per year since the start of production in 1955. There are also two industrial (mining) wells in the immediate vicinity with senior water rights. There is deep concern that an increase in mining use will impact Santa Clara’s water supply, as it has in the past.
- 2) The Twin Sisters Infiltration Gallery is located north of Highway 180. The total amount of water that may be diverted from either the surface source, or from well, or both cannot exceed 241.9 acre-feet per year. The maximum withdrawal that Santa Clara has been able to obtain from the Infiltration Gallery is about ninety five acre-feet per year. With the limited capacity of the Infiltration Gallery, the Village has not been able to “prove up” 241.9 acre-feet per year nor have they been able to re-pay for the over-appropriation on the Lone Mountain Well-field, as ordered by the SEO, by pumping more water from Twin Sisters. The Village has investigated the development of a well in the Twin Sisters area to supplement or replace the infiltration gallery and have determined that it is not geologically feasible.

Santa Clara would like to prove up the full 241.9 acre-feet at Twin Sisters and then either seek a transfer of a portion of the Twin Sisters water rights to the Lone Mountain Well-Field (if possible, using the Balleau Groundwater Model) or develop an alternative diversion point within the administrative block. Recharging the groundwater in the Twin Sisters and/or Cameron Creek areas could enable either of these options. In additions the use of effluent to irrigate parks and ball-fields will free up potable water for other uses.

**(Continued on Form 14A, pg. 7)**

**C. Describe how the proposal considers the Gila environment and describe how any negative impacts might be mitigated.**

The County is very proactive in preserving the Gila environment and will utilize the following environmental mitigative measures in their feasibility study phase:

Geology/Climate/Soils

Appropriate temporary and permanent soil stabilization measures will be taken to reduce erosion. Stabilization practices, structural controls, and storm water management measures will be used to mitigate the water erosion of soils. Wind erosion of soils can be partially mitigated by scheduling construction activities during the fall and winter and by restoring and stabilizing areas as soon as possible after the disturbance.

A National Pollutant Discharge Elimination System (NPDES) Construction General Permit is required to comply with Section 402(p) of the Clean Water Act and will be applied for in the case of soil disturbance activities that exceed one acre.

There is not an expected impact on climate or geology as a result of this project and mitigative measures are not foreseen to be required. In the event that mitigative measures are deemed necessary, the County will contact the appropriate agency.

Land Use/Important Farmland/Formally Classified Land

A land use assessment will be implemented during the feasibility study phase of the project. No adverse impacts are anticipated to area farms because the project area does not encompass prime and/or unique farmlands of statewide or local importance. Mitigative measures are not required. **(Continued Form 14A, pg. 9)**

**D. Describe how the proposal considers the historic uses of and future demands for water in the Southwest New Mexico Water Planning Region and the traditions, cultures and customs affecting those uses.**

a) Historic use, traditions, cultures, and customs:

The project will enhance the preservation and use of the historic Fort Bayard Medical Complex, established in the late 1800s, by providing a safe and sustainable water supply. This project also provides recreational opportunities that are readily accessible to those in the county and surrounding areas with limited financial resources.

b) Current and future demands for water in the southwest planning region.

The project provides for sustainability of groundwater supply to the City of Bayard. By utilizing effluent discharges from the Bayard Regional Wastewater Treatment Plant for irrigation of ball-fields, parks and landscape areas, the project frees up additional water for other uses, including growth.

c) Environmental Protection and/or enhancement.

The project will enhance the environment downstream of the storage facility(ies) by creating a continuous steady flow of water.

**FORM 14A**

**USE THIS FORM TO COMPLETE ANSWERS TO CRITERIA 1 THROUGH 4. NUMBER EACH ADDITIONAL RESPONSE WITH THE CORRESPONDING CRITERIA NUMBER AND SUB-CRITERIA. USE AS MANY PAGES AS NEEDED.**

**B.) Describe how the proposal will meet a “water supply demand” in the Southwest New Mexico Water Planning Region, comprised of Catron, Grant, Hidalgo and Luna Counties (Continued from pg. 4).**

City of Bayard:

A major portion of Bayard’s water is pumped from wells located between Twin Sisters and Cameron Creeks, which serve as recharge sources for the shallow aquifer tapped by the wells. The aquifer depends on infiltration of rainfall and floodwaters into the arroyo streambeds and water levels are closely tied to precipitation rates. The wells are shallow and groundwater elevations are highly sensitive to the amount of recharge provided by precipitation. Static groundwater elevations have dropped by as much as five to six feet per year during periods of time in which precipitation rates were below average but were re-established during periods in which precipitation rates were above average.

Storing and releasing effluent water from the Bayard Regional Wastewater Treatment Facility to provide a continuous and steady flow of water into Twin Sisters Creek or Cameron Creek or both will provide a dependable source for recharging the Bayard Well-field.

The City of Bayard’s Wastewater Treatment and Disposal Master Plan calls for disposal of effluent by irrigating ball-fields, parks and landscaping elements in the Bayard, Santa Clara and Fort Bayard areas. It is projected that seven hundred to eight hundred acre-feet of effluent will be generated per year. Approximately one hundred fifty to two hundred acre-feet per year would be required for irrigation of the ball-fields, parks, lawns and other uses in the area. The excess effluent, which is not being used for irrigation, could be used for providing recreational facilities and to recharge the Bayard well-field.

Fort Bayard Medical Center:

The Fort Bayard Medical Center encompasses approximately four hundred sixty eight acres. Water is provided from springs about seven miles north of the Center with 282 acre-feet per year of water rights are available. This appropriation is subject to a set-a-side of approximately 43 acre-feet per year to be utilized for irrigation of a national cemetery adjacent to the center. The Water System is composed of fifteen (15) operating spring boxes which serve as water inlet structures that provide drinking water and irrigation water for the facility. In the past, the system has provided water for approximately 700 residents at the facility. The spring boxes outlet into a network of carbon steel or transite pipes. The springs join at a stainless steel settling tank from which a six-inch carbon steel pipe transmits the water to a chlorination system which feeds a five hundred thousand gallon ground storage tank. A pump then feeds seven hundred fifty gallons per

minute to a three hundred thousand gallon elevated storage tank from which it is gravity fed to the distribution system.

This application provides for correction of system deficiencies identified by Sanitary Survey Report (WSS# 382-09). Deficiencies include the following:

- 1) Lack of fencing at the spring boxes and storage tanks to protect from human or wildlife intrusion or contamination. Access hatches for all spring boxes must be redesigned and replaced to avoid contamination.
- 2) Structural deterioration of the spring boxes and tanks.
- 3) The elevated tank needs to be rehabilitated including replacement of the roof, addition of a ladder access, new access hatch and removal and re-application of interior and exterior coating systems.
- 4) Some of the existing facilities have potential to contaminate the water system. Back flow prevention devices must be installed at a number of locations.

A study is currently underway to determine future uses of the facility(ies). Out of the 239 acre-foot (after water for the national cemetery is subtracted) of available water rights, approximately 75 acre-foot is needed for irrigating the landscape, leaving about 164 acre-foot for other purposes. If effluent from the Bayard Regional Wastewater Treatment Plant is used for irrigation purposes, then additional water would become available for other uses.

Economic Development:

The copper mining industry, upon which Grant County is highly dependent for employment of its residents, as well as residents of the adjoining counties of Catron, Luna and Hidalgo, continues to decline. A significant number of jobs have been lost. Between 1980 and 2010 the population declined approximately 9%. The County is in need of economic development.

In addition to providing for the sustainability of water sources for the communities of Bayard, Santa Clara and Fort Bayard this project will provide recreational facilities and increase the attractiveness of Grant County as a tourist destination. Either a single lake, approximately the size of the Bear Canyon Dam (located northeast of Silver City), or multiple smaller lakes will be included as part of the project. Other funds will be used to develop roads, trails, an RV Park, camping and picnic facilities.

Summary of how and where water will be put to beneficial use:

Water will be put to beneficial use as a result of the proposed project.

In order to keep the effluent distribution system cost effective, it will be limited to locations where at least one (1) acre-foot per year can be distributed, which includes the following locations:

Location	Annual Irrigation
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	<b>Rate</b>
Grant County Park	2.0
Fort Bayard State Hospital Landscape Areas	75.2
Santa Clara Elementary School Ball-Fields	8.8
Cob0000000000000000re High School Ball-Fields	23.8
Bayard Elementary School Ball-Fields	5.7
Snell Middle School Ball-Fields	17.7
Ernie Christian Field	1.9
<b>Total Annual Irrigation Rate</b>	<b>135.1</b>

Use of effluent for irrigation will free up potable water for other uses including:

- 1) Provide the ability for Santa Clara to prove up and put to use additional potable water for growth including development of the Village’s industrial park.
- 2) Provide the ability to use additional potable water for implementation of plans for re-development of the Fort Bayard Medical Center.
- 3) Provide the ability to use additional potable water for growth within the City of Bayard.

It is projected that the Bayard Regional Wastewater Treatment Plant will discharge approximately 821 acre-feet per year by 2020. This would provide water for recreational use. Storage facilities for recreational use, located on either Cameron Creek or Twin Sisters Creek or both, would outlet a continuous and steady flow of approximately 500 gallons per minute. This will enhance vegetative growth along one or both creeks and enable additional riparian area development.

The continuous and steady flow of water down one or both creeks will re-charge the vulnerable well-fields for both Bayard and Santa Clara.

**C. Describe how the proposal considers the Gila environment and describe how any negative impacts might be mitigated (Continued from pg. 5).**

Land Use/Important Farmland/Formally Classified Land (Continued)

Construction activities associated with the proposed project may result in the temporary disruption of existing land uses and activities within the proposed project area. Upon completion of the project, uses and activities are expected to resume to existing conditions.

There is not an expected impact on land use, farmland or classified land as a result of this project and mitigative measures are not foreseen to be required. In the event that mitigative measures are deemed necessary, the County will contact the appropriate agency.

Floodplains



Executive Order 11988, Floodplain Management, requires that any potential impacts to floodplain areas be identified, studied and assessed to reduce the risk of flood loss; to minimize the impacts of floods on human safety, health, and welfare; and to restore and preserve the natural and beneficial values served by floodplains.

Therefore, Flood Insurance Rate Maps will be studied and correspondence with the Grant County Flood Plain Manager, Anthony Gutierrez, will be initiated. The proposed project is expected to have no adverse mitigation impacts to floodplains. Correspondence with New Mexico Environment Department (NMED) will also be initiated. In the event that mitigative measures are deemed necessary, the County will ensure that in accordance with Executive Order 11988, the proposed construction is compatible with the floodplain areas.

#### Wetlands

Wetlands are defined as lowlands covered with shallow and sometimes temporary intermittent water. Specifically, wetlands are defined by three essential characteristics: 1) hydrophytic vegetation, 2) hydric soils, and 3) wetland hydrology. The protection of wetlands is mandated by Executive Order 11990 in furtherance of National Environmental Policy Act (NEPA).

Since there are no wetlands within the project area, there will be no resulting environmental consequences and mitigative measures are not required; however, the U.S. Army Corp of Engineers and the Surface Water Quality Bureau of the New Mexico Environment Department will be notified of the project and their input utilized throughout the project.

#### Cultural Resources

The National Historic Preservation Act (NHPA) of 1996, as amended (16 U.S.C. § 470 *et seq.*) and the Advisory Council on Historic Preservation's (ACHP) implementing regulations, 36 CFR Part 800 (Section 106 regulations), require federal agencies to take into account the effect their actions may have on historic properties that are within the proposed project's area of potential effect.

As part of Section 106 regulations, coordination with Native American tribes that may be affected by proposed actions that may have a historical and cultural association with the area of said actions, are thereby entitled to an interest in any cultural artifacts or resources encountered during project activities.

There are currently no registered Native American tribal lands within the project area. Tribes that may have an interest include the Fort Sill Apache Tribe, Hopi Tribe, Isleta Pueblo, Mescalero Apache Tribe, Navajo Nation, and the White Mountain Apache Tribe. If any cultural

resources or artifacts are encountered during construction activities, work will be directed away from the affected area. An archaeologist will be retained to perform recovery activities in conjunction with notifying the State Historic Preservation Office (SHPO) and tribes associated with the cultural resources to mitigate the issue.

### Biological Resources

The native vegetation is dominated by sideoat grama, blue grama, black grama, tobosa, pinyon, plains, lovegrass, and juniper. As the plant community deteriorates, the more desirable forage plants decrease and threeawn, burrograss, fluffgrass, bullgrass, hairy grama, and broom snakeweed make up a small part of the potential plant community in and around Fort Bayard according to Seager (1983).

The proposed project will be performed in a manner to leave as much of the native vegetation and wildlife undisturbed as possible. The proposed project may also positively impact the area by inviting more wildlife to the area.

In the case of an active bird's nest being found within right-of-way or easements, U.S. Fish and Wildlife (USFW) will be notified immediately and appropriate measures will be taken as outlined by U.S. Fish and Wildlife.

### Water Quality Issues

Water quality has emerged as an issue of primary concern for the economic and general welfare of the public. Water quality issues involve both surface and ground water resources. Section 404 of the Clean Water Act establishes permitting procedures for activities with the potential to effect surface and ground water resources.

Coordination with the U.S. Army Corp of Engineers, Drinking Water Bureau (NMDWB), Ground Water Quality Bureau (GWQB) and the Surface Water Quality Bureau of NM Environment Department (NMED) will be a priority in this project. If deemed necessary, a Section 404 permit will be obtained to comply with the Clean Water Act. There are no impacts foreseen by the project.

### Socio-Economic Issues/Environmental Justice

The state average of minority groups is approximately 49% and the population considered "economically stressed" is approximately 32% (USEPA). The population in Grant County considered to be "economically stressed" is approximately equal to the statewide average. The minority population within the affected areas of the project exceeds the state average.

The proposed project will not impact Grant County, City of Bayard, Village of Santa Clara or Fort Bayard in any negative consequences; therefore, mitigative measures will not be implemented unless deemed necessary. It is anticipated that the construction of the proposed project will stimulate growth within the mining district and provide additional employment opportunities. It is unlikely that the proposed project will adversely affect income levels.

#### Air Quality

Section 109 of the Clean Air Act (CAA) (42 U.S.C. 1857-1857a, as amended by Public Law 91-604), requires that national primary and secondary ambient air quality standards be established. National primary ambient air quality standards define levels of air quality that the U.S. Environmental Protection Agency (USEPA) has judged are necessary, with an adequate margin of safety, to protect the public health. National secondary ambient air quality standards define levels of air quality that the U.S. Environmental Protection Agency (USEPA) judges are necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

All vehicles and equipment will comply with 40 CFR; Part 85 entitled “Control of Air Pollution from Motor Vehicles and Motor Vehicle Engines”. No vehicle odors are anticipated beyond the immediate area of a particular active construction site. No hazardous air pollutants are anticipated to be released into the environment as a result of any construction associated with the project. If mitigation is required, the County will contact NMED’s Air Quality Bureau (AQB)

#### Transportation

The transportation network within the project area consists of paved and unpaved streets designed for residential neighborhoods. No new transportation patterns are anticipated to develop until after the project is complete. After the project is in place, slight increase in traffic due to increased development may result.

#### Noise

Changes in noise levels (measured in decibels) may result from a permanent project improvement or may be temporary as in the case of construction activities. 29 CFR 1926 establishes a standard, permissible noise exposure level of 85 decibels over an eight hour, four-day period. Noise generated by construction of the proposed project will be temporary and will not exceed the standard established by 29 CFR 1926 or 85 decibels over an eight hour, four-day period; therefore, there will be no mitigative measures required.

#### Hazardous Materials

Hazardous materials are defined by the Hazardous Materials Transportation Act as substances or materials that when transported in commerce is capable of posing an unreasonable risk to health,

safety, and property. The definition of hazardous materials includes hazardous substances as defined by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Hazardous materials present in either the existing or any proposed right-of-way are a serious concern because of public and construction workers' health and safety as well as a potential cleanup liability.

Hazardous materials may also be present in Underground Storage Tanks (USTs). A hazardous material properly contained within an UST is not a concern unless it is a Leaking Underground Storage Tank (LUST).

If hazardous materials are discovered during construction activities, all work will cease at that particular site and the proper agencies will be notified including the Hazardous Materials and Waste Bureau of the NM Environment Department (NMED).

### **Detailed Project Proposal**

#### **Project Description:**

The project includes the following elements:

- 1) Element A: Study to evaluate alternatives and determine feasibility of project elements. The study will include the following:
  - a) Verification of the availability and quantity of effluent from the Bayard Regional Wastewater Treatment Plant that can be used for the project. Determination of the level of treatment that will be required.
  - b) Identification of alternatives for treatment, conveyance and storage of the effluent. Alternatives for a recreational complex, built around the storage facility, will also be identified.
  - c) Use of groundwater modeling for evaluation of the downstream impacts of identified storage alternatives on the groundwater. A groundwater model developed by Balleau Groundwater Inc. for the Town of Silver City encompasses the applicable area.
  - d) A preliminary hydrologic investigation to determine storm runoff rates and effects upon the storage facilities.
  - e) A preliminary geologic/geo-technical investigation of potential storage sites.
  - f) Preliminary cultural resources and biological investigations.
  - g) Elimination of any storage alternatives that could potentially damage the downstream groundwater condition.

- h) Evaluation of alternatives including positive impacts upon water supply, economic/recreational benefits, location/alignment, access, right-of-way requirements, development and construction costs, operation and maintenance costs, environmental impacts, public acceptance and other applicable criteria.
- i) Public input meetings.
- j) Identification and evaluation of options for maintenance and operation of the facilities.
- k) Determination of a project priority/phasing plan.
- l) Development of joint powers agreements as necessary.

It is anticipated that the study will take eighteen months to two years for completion. Agency participation will include but not be limited to the NM Interstate Stream Commission, U.S. Forrest Service, NM Department of Transportation, NM Game and Fish, State Parks Division, NM Environment Department, State Engineers Office, NM Property Control Division and the municipalities of Bayard, Santa Clara, Hurley and Silver City. **The estimated cost of the Study is \$400,000.00.**

- 2) Element B: Engineering Design, permitting and right-of-way acquisition for construction elements. If the Study (Element A) shows the project to be feasible and applicable agreements are in place for the development of the project then the design phase will be initiated. It is recommended that preliminary design together with environmental documentation be completed for all construction elements (Elements C-F) of the project. Final design, permitting and right-of-way acquisition could be completed in accordance with the Priority/Phasing Plan developed in the Study.

The preliminary design and environmental documentation phase will take approximately six to fifteen months for completion. The time for completion is highly dependent upon the scale of storage facility(ies) selected for the project. Reservoir(s) which exceed twenty-five (25) feet in height or fifty (50) acre-feet in storage capacity require review and approval by the Dam Safety Bureau (State Engineers Office). This is normally a lengthy process. **The estimated cost is \$750,000.00.**

- 3) Element C: Final Design and construction of pumping facility(ies) and a pipeline(s) to carry effluent from the Bayard Regional Wastewater Treatment Plant (WWTP) to storage facilities in the vicinity of Fort Bayard. Element C

would also include the construction of lateral pipelines necessary for irrigation of ball-fields, parks and landscape elements in the vicinity of Santa Clara and Fort Bayard.

The existing WWTP effluent discharge system is equipped with three (3) - 30HP pumps (800 GPM, 73 ft. TDH). The City of Bayard's Master Plan for the effluent includes: 1) irrigation of ball-fields, parks and the cemetery within the City of Bayard with the first two phases of the plan and 2) conveyance of the balance of effluent to the Santa Clara/ Fort Bayard area for irrigation of ball-fields, parks and landscape elements as a third phase. This project implements and expands upon phase three. It is expected that the effluent line will need to be designed for a capacity of 500 GPM and will include a 10-inch to 12-inch pipeline along U.S. Highway 180, a booster pumping station and tank and lateral pipelines for conveyance of irrigation water to Santa Clara and Fort Bayard. Time for completion of the final design, permitting and right-of-way acquisition is estimated at nine months. Bidding and construction is estimated to take an additional nine months for a total time of one and a half years. **The estimated cost of Element C is \$3,000,000.00.**

4) Element D: Final design and construction of facility(ies) for treatment of the effluent to comply with regulatory nitrogen level requirements. Testing of effluent from the WWTP has yielded good results with recent tests showing nitrogen levels of less than 5 mg/l. The Study will determine the need and level of treatment required. If supplemental treatment is required then the Study will determine the most feasible location for the treatment facility(ies). It is anticipated, for the purpose of this application, that a filtration system will be needed to treat the effluent water prior to use for irrigation or recreational purposes. Since the proposed storage facility(ies) will not be used for full body contact (swimming), disinfection is not anticipated. Element D, if required will be completed concurrent with Element C. The estimated cost is \$1,000,000.00

5) Element E: Construction of a storage facility(ies) for recreational use and to enable a continuous steady flow of water downstream and lateral pipeline(s) for delivery of effluent water to storage site(s). If Element E involves a reservoir or reservoirs that require approval by the Dam Safety Bureau, then it is recommended that final design phase begin concurrent with the final design phase of Element C. The final design, permitting and right-of-way acquisition for storage facilities is expected to take considerably more time than the final design phase for other Elements, if Dam Safety Bureau review and approval is required.

The Study will determine whether a single or multiple storage facilities are to be constructed and the site location(s). The storage facilities will be designed so that a continuous steady flow of water downstream is sustained in order to recharge the aquifer in which Bayard's wells are located. The storage site(s) will likely be located within U.S. Forest Service land, so close coordination with the U.S. Forest Service will be required from the inception of the project. The anticipated time for completion of final design is nine months to fifteen months depending on the scale of the reservoir(s) and an additional nine months for construction for a total time of about one and one half years. **The estimated cost is \$2,750,000.00.**

- 6) Element F: Final design and construction of Improvements to the Fort Bayard Water System include: 1) fencing at the spring boxes and tanks to protect from human or wildlife intrusion or contamination, 2) rehabilitation of spring boxes, 3) rehabilitation of the elevated tank and 4) installation of backflow prevention devices to prevent contamination of the water supply. Some of the pipelines may also need to be replaced or upgraded. A study is underway to determine the future use of the old Fort Bayard Medical Complex. Based on the outcome of this study the needs for water system improvements may grow. Regardless of the future plans for the facility(ies), the deficiencies in the water delivery system, stated above, must be corrected. Accessibility, to multiple spring boxes and transmission lines, is limited and a great deal of handwork will be required. It is expected to take approximately six months for the final design phase and approximately six months for bidding and construction for a total time of about one year. **The estimated cost is \$1,250,000.00.**

Total Estimated project cost:

The total estimated cost of the project is \$9,150,000. The project would be implemented over a total time period of seven years.

**Exhibit A. Interstate Stream Commission Gila Policy Statement, September 2004, and 2004 Arizona Water Settlements Act, Section 212 (i)**

**INTERSTATE STREAM COMMISSION GILA POLICY STATEMENT, SEPTEMBER 2004:**

The Interstate Stream Commission recognizes the unique and valuable ecology of the Gila Basin. In considering any proposal for water utilization under Section 212 of the Arizona Water Settlements Act, the Commission will apply the best available science to fully assess and mitigate the ecological impacts on Southwest New Mexico, the Gila River, its tributaries and associated riparian corridors, while also considering the historic uses of and future demands for water in the Basin and the traditions, cultures and customs affecting those uses.

**2004 ARIZONA WATER SETTLEMENTS ACT, SECTION 212 (i)**

(i) NEW MEXICO UNIT FUND- The Secretary shall deposit the amounts made available under paragraph (2)(D)(i) of section 403(f) of the Colorado River Basin Project Act (43 U.S.C. 1543(f)) (as amended by section 107(a)) into the New Mexico Unit Fund, a State of New Mexico Fund established and administered by the New Mexico Interstate Stream Commission. Withdrawals from the New Mexico Unit Fund shall be for the purpose of paying costs of the New Mexico Unit or other water utilization alternatives to meet water supply demands in the Southwest Water Planning Region of New Mexico, as determined by the New Mexico Interstate Stream Commission in consultation with the Southwest New Mexico Water Study Group or its successor, including costs associated with planning and environmental compliance activities and environmental mitigation and restoration.