


**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:

1. Legal Name: Grant Soil and Water Conservation District	2. Organization: Grant Soil and Water Conservation District			
3. Address (street, city, county, state, and zip code): 3082 32 nd Street Bypass Suite C Silver City, New Mexico 88061	4. Name, email, and phone number of contract person: William D. Woodward wwoodward7@yahoo.com (575) 538-8034			
5. TYPE OF APPLICATION (check one): <input type="checkbox"/> Final <input type="checkbox"/> Preliminary for review <input checked="" type="checkbox"/> Revised	6. TYPE OF APPLICANT (CHECK BOX): <input type="checkbox"/> local governments or municipalities <input checked="" 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: This proposal is for a feasibility study of water recharge for well fields in the drainage area of San Vicente, Twin Sisters and Cameron creeks using both natural precipitation and New Mexico Unit water. This would entail a study of availability, percolation and turbidity of water within the defined water sheds.	8. AREAS AFFECTED (describe by county, municipality, township, etc. as applicable): Grant County, Silver City, Santa Clara, Bayard, Hurley and Freeport McMoran Copper & Gold's Chino mining operations.			
9. TOTAL FUNDING REQUESTED (in \$1,000):				
2012: \$80	2013:	2014:	2015:	2016:
2017:	2018:	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 GOVERNI9NG 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: William Woodward	11. TITLE: Supervisor	12. PHONE NUMBER: (575) 538-8034		
13. SIGNATURE: 			DATE: May 2, 2011	

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.

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

This proposal is for a Geo- hydraulic study that will be used to determine the validity of recharging the aquifers and with both water from the New Mexico Unit and natural precipitation under the water utilization alternative. Well fields in these drainages have been in production since the 1940’s and 50’s. The well fields in the lower reaches are experiencing much faster declines in water levels and consequentially larger cones of depressions. Initial estimates suggest that a large storage capacity could exist in this area.

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.

Currently the towns of Santa Clara, Bayard, Hurley and Freeport McMoran utilize water from well fields in the drainage area. The Town of Silver City also has unused water rights in the drainage area. Prolonging the life of the aquifer feeding these well fields will greatly improve the economic vitality of central Grant County by reducing the perceived future need to convert “industrial water” to meet municipal uses. There is no question that there is currently a “demand” for water in this area. Infrastructure is already in place to utilize water resources whether it is from existing water or future New Mexico Unit water. The study will answer the question as to whether these well fields will be able to supply water past their projected useful life. The study will also be able to answer questions on the impact of recharging the target area to downstream users.

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

This proposal will have no impacts on the Gila environment.

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.

This project is for a hydraulic study. It is impossible to predict what the conclusions will be. With that said, we feel it is safe to say that the study will either prove or disprove the feasibility of recharging the aquifers. If recharge is found not to be feasible, the status quo will remain, and no immediate effects will result to use and demand. Future demands for water, however, will pit municipal users against agricultural and mining users. The net effect will be a change in the traditional economical activity in the area. If recharge is found to be a viable alternative, then long term effects could be seen. Water users will have a higher chance of retaining the historic uses of water (agriculture and mining) and prolong the time until these historic uses must be transformed to meet municipal needs.

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.

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.

Project: San Vicente / Cameron Creek Recharge

Location: Headwaters of the watershed to the South of the Grant County Airport

This project's goal is to study flood waters of these two drainages and the relevant issues regarding percolation into the aquifers. The primary focus we feel is to determine the potential of using both flood waters and New Mexico Unit water to recharge the aquifers in the vicinity of the various well fields. The Grant Soil and Water Conservation District does not have the expertise to conduct a proper peer reviewed project.

The watershed covers approximately 246 square miles at the confluences of San Vicente Arroyo, Cameron Creek and Oak Grove Creek. This location could easily support a structure that would provide approximately 3,000 acre feet of surface storage. The intent of a dam in this vicinity would be to release flood water slowly downstream and allow the water to percolate into the aquifer. Extensive gullying in the southern reaches of the drainages over the last 100 years, show the highly erosive nature of the soils in the area. Controlling the rate of silting in this structure would be critical for long-term viability. Silt retention structures would be needed upstream on San Vicente Arroyo, Cameron Creek and Oak Grove Creek. A detailed cost/benefit evaluation has not been undertaken at this time. Preliminary data suggests a dam structure of 500,000 yd³ could be constructed at this location. Cost of a slow-release structure could be in excess of \$10 million. Silt retention structures could be built over time to prolong the useful life of the main structures. Preliminary estimates indicate that \$500,000 to \$2.5 million would be needed for these structures. Annual maintenance is another variable that must be evaluated.

It is possible that more numerous, smaller, slow release structures in the uplands of the watershed could accomplish the same goal. If large flood events can be slowed down with less turbidity, a higher percentage of the total flood volume should be able to percolate into the aquifers. The communities of Santa Clara, Bayard and Hurley could benefit from more regular flows from Cameron and Twin Sisters Creeks. Management of the uplands in the watershed could play a vital role in the development of water. Vegetative treatments will help stabilize soils and might possibly increase soil moisture content.

New Mexico Unit water could be imported to the aquifer serving Freeport McMoran well fields and the Town of Silver City's Marvin Glenn water rights. A twelve mile extension of the Tyrone Mine's pipeline to Bill Evans Lake would be needed. Once water was lifted over the Continental Divide, it would flow by gravity to the aquifer. The best method of injection would need to be determined. Luna County could be served by the same initial infrastructure. Granted, there is considerable physical distance between the potential source of N.M. Unit water and the current demand, but the pumping costs would be nonexistent east of the Continental Divide.

Conclusions:

The watershed (246 mi²) is large enough to yield a significant amount of rechargeable water. Well fields south of the Grant County airport have significant cones of depression for storage of both New Mexico Unit water and flood waters. A logical first step in investigating this project would be the development of several gauging stations to determine the amount of water currently migrating downstream. Silt movement within the channels will be a detriment to any future project and need to be investigated. We would propose a detailed study of the various reaches to determine if certain areas are better suited for recharge sites. We would request \$80,000 for a project manager to conduct these studies.