



**Water Quality Improvement Grant Program
Grant Agreement EV09-0036 (11-002)**

Project Title: E. coli Reduction on the San Francisco River through Alternative Livestock Water on Kaler Ranch
Expiration Date: June 30, 2011
Dollars Matched: \$55,267.25
Dollars Awarded: \$42,750.00

**Between
Arizona Department of Environmental Quality
and
Gila Watershed Partnership**

This Grant Agreement is established between the State of Arizona Department of Environmental Quality, located at 1110 West Washington Street, Phoenix, Arizona 85007 ("ADEQ" or "Department") pursuant to Arizona Revised Statutes (A.R.S.) § 41-2701 et. seq. and A.R.S. § 49-104 and the Gila Watershed Partnership ("Grantee"). This Grant Agreement includes the attachments listed below. Incorporated by reference, this Grant Agreement also includes the ADEQ Water Quality Improvement Grant Program Request for Grant Applications (EV09-0036) and *Water Quality Improvement Grant Manual*.



Attachment 1: Grant Application & Applicant Responses to ADEQ Comments and Requests for Clarification

Attachment 2: Water Quality Improvement Grant Agreement Terms and Conditions

Special Conditions

1. Attachment 1 includes the approved project budget. Any adjustments must be pre-approved by ADEQ.
2. Prior to beginning work on the project, ADEQ must receive written commitment from the landowner (Mr. Kaler) that the cattle will be excluded from the San Francisco River and riparian area during times of highest risk for human exposure to *E. coli* contamination of the river (summer).
3. Prior to beginning work the grantee must provide ADEQ with a management plan documenting where cattle are grazed throughout the year and their associated access to the riparian area both before and after the implementation of this project.
4. Grantee shall incorporate a quantifiable measurement of riparian area improvements into the project verification/evaluation and monitoring activities. ADEQ must approve these methods prior to beginning work on the project.
5. All applicable permits must be obtained prior to beginning work on this project.

In witness whereof the parties hereto agree to carry out the terms of this Grant Agreement.

Arizona Department of Environmental Quality	Gila Watershed Partnership
Henry Darwin, ADEQ Acting Water Quality Division Director	Jan Holder, Gila Watershed Partnership Executive Director
	
Signature of Authorized Individual	Signature of Authorized Individual
Date: 6/25/09	Date:

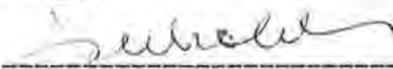
Grant Application

Part I – Grant Application Form and Signature Page

Arizona Department of Environmental Quality Water Quality Improvement Grant Program <i>Grant Application Form</i>													
Project Title – <i>Please limit the length of the title to one line.</i> E.coli Reduction on the San Francisco River through Alternative Livestock Water on Kaler Ranch													
Project Description – <i>The project description should identify the type of project and the name of the waterbody and/or ground water basin that the project will improve.</i> This grant is a match for an Arizona Department of Agriculture Livestock and Crop Conservation grant for a well on the Kaler Ranch.													
Authorizing Agency – <i>Enter the name of the company, agency, or tribal authority who is applying for the grant.</i> Name: <u>Gila Watershed Partnership</u> Address: <u>711 South 14th Avenue</u> City: <u>Safford</u> State: <u>Arizona</u> Zip Code: <u>85546</u>	Authorized Agency Contact – <i>Enter the name of the person who will be accepting responsibility for the terms and conditions of the Grant Agreement. This person must sign the signature page.</i> Name: <u>Jan Holder</u> Title: <u>Executive Director</u> Phone #: <u>520-395-2499</u> Fax #: <u>520-829-3660</u> E-mail: <u>watershedholder@yahoo.com</u>												
Project Manager – <i>Enter the name, title and contact information of the individual who will have the day-to-day knowledge of the project and should be contacted if clarification is required:</i> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">Name: <u>Jan Holder</u></td> <td style="width: 50%; border: none;">Title: <u>Executive Director</u></td> </tr> <tr> <td style="border: none;">Address: <u>2625 N. Avenida Empalme</u></td> <td style="border: none;">Phone #: <u>520-395-2499</u></td> </tr> <tr> <td style="border: none;">City: <u>Tucson</u></td> <td style="border: none;">Fax #: <u>520-829-3660</u></td> </tr> <tr> <td style="border: none;">State: <u>Arizona</u></td> <td></td> </tr> <tr> <td style="border: none;">Zip Code: <u>85715</u></td> <td></td> </tr> <tr> <td style="border: none;">E-mail: <u>watershedholder@yahoo.com</u></td> <td></td> </tr> </table>		Name: <u>Jan Holder</u>	Title: <u>Executive Director</u>	Address: <u>2625 N. Avenida Empalme</u>	Phone #: <u>520-395-2499</u>	City: <u>Tucson</u>	Fax #: <u>520-829-3660</u>	State: <u>Arizona</u>		Zip Code: <u>85715</u>		E-mail: <u>watershedholder@yahoo.com</u>	
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City: <u>Tucson</u>	Fax #: <u>520-829-3660</u>												
State: <u>Arizona</u>													
Zip Code: <u>85715</u>													
E-mail: <u>watershedholder@yahoo.com</u>													
Project Period <input checked="" type="checkbox"/> 0 – 2 Years (Preferred) <input type="checkbox"/> Greater than 2 years – <i>(Provide justification in Part IV, Project Milestones)</i>													
Project Costs Funds Requested: <u>\$42,750.00</u> Matching Funds: <u>\$55,267.25</u> Total Project Cost: <u>\$98,017.25</u>													
Are you or your organization currently debarred, suspended or otherwise lawfully prohibited from any public procurement activity? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													

Signature Page

The undersigned hereby offers and agrees to perform in compliance with all terms, conditions, specifications and scope in this grant application. Signature certifies understanding and compliance with the application attached hereto. ADEQ may approve the grant application with modifications to scope, methodology, schedule, final projects and/or budget.

Authorized Signature  Date January 2, 2009_____

Print Name Jan Holder_____

Title Executive Director_____

Company/Agency The Gila Watershed Partnership of Arizona_____

The Grant Application Form must be signed by the individual legally authorized to act on behalf of the applicant in conducting all official business relating to the project. Signing this form and submitting a grant application package, certifies that the applicant has authority to enter into the agreement, accept funding, and fulfill the terms of the proposed project if approved. Applicant is required to read the Water Quality Improvement Grant Agreement Terms & Conditions and be legally authorized to enter into an agreement with ADEQ.

PART II - PROJECT SUMMARY

The Problem

The San Francisco River in Greenlee County is listed on the EPA's 303(d) list for E.coli. The NEMO Watershed-based plan lists the San Francisco River as at risk for organics. The Gila Watershed Partnership has determined that the Kaler Ranch may be a major contributing factor to the E.coli problem. And Lois and Richard Kaler admit freely to watering their cattle directly in the San Francisco River. Although they have water rights which allow them to legally do this, they understand that it may be contributing to a serious health issue. Unfortunately, there is no other water available for their livestock. In order to remove the source of E.coli, we must provide the landowner sufficient alternative water sources. In addition, there is considerable pressure from the county to reduce the cattle in the riparian area. They understand that the ranchers need to water their cattle, but they are very concerned about the water quality issues involved.

PART III - ACTION PLAN

The Action Plan and Management Methods

The Gila Watershed Partnership has been working for three years to determine how to best address the known E.coli issues on the San Francisco River. To that end, we have applied for a Targeted Watershed Grant to research and address the E.coli issues. In that grant, we expect to determine the source(s) of the impairment. However, we know that the Kaler Ranch must be contributing to the impairment, as they have livestock regularly in the riparian area, and there is considerable evidence in the form of excrement.

We are seeking funding to develop livestock watering facilities (as recommended in the NEMO watershed based plan) as an alternative to watering the Kaler livestock in the San Francisco River. The Kalers need five solar-pumped wells in order to permanently exclude all 100 head of livestock from the river. In the last cycle, we applied for an Arizona Department of Agriculture Livestock and Crop Conservation grant for the Kalers to dig three wells, but they were only awarded a portion of the money needed for the wells. They were awarded \$50,000, which is insufficient to dig and outfit even one well.

This first well will be placed on the Kalers private property. As you can see on the attached map, we have four additional wells planned, all of which will be placed on BLM property. We prefer to place at least one well on the Kaler's private land to ensure that in the event that the Kalers have to sell their ranch, whether due to financial pressures or the unfortunate death of the landowners, or if the grazing leases are transferred to another ranch, there is a livestock watering well on the private land. Distributing the wells among private and public land decreases the likelihood that any future owner would water their cattle in the river. We feel that adequate wells on both private and public land in conjunction with pressure from the county and local citizens will persuade most future landowners to do the right thing. The BLM, the Kaler's land management agency, supports this position.

We selected the wells locations to optimize the distribution of livestock among the available grazing areas, ensuring that each area was either fenced now, or would be before the wells would be installed. In addition, we ensured that each of the fenced pastures had the required AUMs (Animal Unit Months) needed, as stated in his Prescribed Grazing Forage Balance Worksheet developed in conjunction with the NRCS and BLM. The order of the wells was determined by 1) The proximity to their ranch house, to provide maximum protection for the livestock during birthing, for predator protection, and 2) Although the BLM is attempting to have the permissions necessary to place the

wells on BLM property completed in the next two months, they cannot guarantee it, and it has already taken 18 months longer than they estimated.

Support for this Grant - The Bureau of Land Management, who is the land management agency for one of the Kaler's grazing leases, has been willing and eager to assist the Kalers in developing livestock watering wells. Unfortunately, with the federal budget reductions, they do not have the funding for the wells themselves. However, the BLM personnel – Biologists Tim Goodman and Heidi Blasius, and Dave Arthun, Range Conservationist, have been working for the past two years on the environmental permits and clearances necessary to locate the future wells on BLM property. This is desirable, as it will allow for ideal cattle distribution, and will ensure a sustainable and permanent solution to the livestock watering issue. The paperwork should be complete by 2009. Even though their time is federal, and cannot be used as match, the BLM has estimated that their time for the permits and clearances is valued at over \$25,000.

Matching Funds - The requested funding will match the Arizona Department of Agriculture Livestock and Crop Conservation grant of \$50,000, which was funded in their 2007 cycle. Their funds will be paying for the solar well equipment.

The Kalers will be paying for labor, and materials for, and supplying in-kind match to build a concrete and rock tank immediately adjacent to the well for livestock watering. This configuration was recommended by a BLM team that included Fish Biologist Heidi Blasius, and Dave Arthun, Range Conservationist, Dan McGrew, Archeologist, Chris Morris, Hydrologist, and Lance Brady, Safford Assistant Field Manager. The configuration was determined by the team, as the Kalers have had continuing problems with inebriated recreationists on the river, who shoot holes in his tanks for entertainment.

Desired Outcomes With this grant, we will reduce the animal waste from the Kaler livestock that is currently being deposited in the San Francisco River riparian area by 20%. Eventually, with the additional planned wells installed, we will be able to completely exclude all Kaler livestock from the river. The de-listing of the San Francisco River for E.coli is our ultimate goal.

Statement of Opportunity The current landowners are good stewards of the land who have established numerous best management practices to improve the environment in the area. The landowner has the ADA LCCGP funds to supply the majority of the match. Because of the huge problems with the state and federal budgets, we are concerned about the availability of grant funds. We want to take advantage of the ADA funding that we have, as well as your funding, as we may not be able to secure money for this project in the foreseeable future.

PART IV - LOCATION INFORMATION

Location Map: See map attached.

Site Plan: See plan for tank, attached.

County: Greenlee County

Watershed Name(s): Upper Gila Watershed of Arizona

HUC Code (USGS): 1504000409 Chase Creek San Francisco

Land Ownership: Private

Current Land Use: Livestock Grazing

Latitude: 33° 07' 38.93" N

Longitude: 109° 17' 08.75"

Part V – LAND OWNERSHIP

This project is located on the private land owned by Lois and Richard Kaler.

Part VI – AFFECTED WATERS

This project affects the San Francisco River in Clifton, Arizona.

Part VII – PROJECT LONGEVITY

The well is expected to last a minimum of 20 years, but may last as many as 50 years. Many wells last for over 100 years with proper maintenance. Many solar systems have lasted over 45 years in the county. Again, this is assuming proper maintenance is performed. The beneficial effects to the San Francisco will be at least 20 years, but may be permanent. We are hoping that when we are able to remove all of the livestock waste from the river, that the removal will be permanent.

Part VIII - EDUCATION AND OUTREACH

We will be writing an article in the Gila Watershed Partnership monthly newsletter, submitting the article to the Copper Era Newspaper in Greenlee County, and the Eastern Arizona Courier in Graham County. In addition, we will produce a power point that Mr. Kaler will present at the Gila Watershed Partnership meeting, and to the Greenlee County Supervisors meeting at the end of the project. The Kalers have agreed to participate in the Watershed Improvement Council we are organizing for the Targeted Watershed Grant we are applying for. They will assist us in outreach to other ranchers who may be watering their livestock in or near the river. This will be very helpful in our outreach efforts, as agricultural producers tend to believe other ranchers far more than "outsiders".

Part IX - KEY PEOPLE AND PARTNERS

Jan Holder will be administering the grant. Jan is the program manager for the Gila Watershed Partnership, the oldest watershed group in the state of Arizona. The group has been successful in surfacing and identifying solutions for environmental challenges throughout the Upper Gila Watershed. The group also acts as a focus for environmental community outreach and education and water planning efforts for both Graham and Greenlee counties.

Dick Kaler, the owner of the ranch, will be acting as site supervisor, and also providing his labor and his back hoe for leveling the site for the well digging equipment as an in-kind match. He will also be providing the match to pay for the cement and rock tank labor and supplies. He will be taking the photos and recording the cattle in the riparian area. He will be helping in the education and outreach.

Part X - WATER QUALITY IMPROVEMENT PLANS

The Upper Gila Watershed has an EPA approved watershed based plan in place that was prepared by the Arizona NEMO Program. The San Francisco River is listed in the EPA's 303(d) list for E.coli. The NEMO Watershed-based plan lists the San Francisco River as at risk for organics. In addition, the Gila Watershed Partnership has applied for a Targeted Watershed Grant through ADEQ for the San Francisco River to determine the sources of E.coli, and plan and prioritize the best management practices necessary to address the situation.

Task Description/Deliverables	Completion Date	Percent Complete
Task # 1. Task 1. Execute contract with ADEQ. Deliverable - Copy of fully executed contract	8/1/2009	0%
Task # 2. Other Contracts and agreements. Deliverable - Copy of signed contracts and agreements	9/1/2009	0%
Task # 3. Order materials and supplies. Deliverable - Copies of invoices	10/1/2009	0%
Task # 4. Site Leveling. Deliverable - Photos of completed work, timesheets and invoices	10/1/2009	0%
Task # 5. Drill well. Deliverable - Photos of completed work, invoices	11/1/2009	0%
Task # 6. Install well casing and pump. Deliverable - Photos of completed work, invoices	1/1/2010	0%
Task # 7. Build Tank. Deliverable - Photos of completed work and invoices	3/1/2010	0%
Task # 8. Quarterly Reports. Deliverable - Copy of completed report	Quarterly During Grant Period	0%
Task # 9. Grant Administration. Deliverable - Administration in accordance with ADEQ standards	Throughout grant period	0%
Task #10. Final Report. Deliverable - Copy of completed final report	5/1/2010	0%

ADEQ Project Budget

ADEQ Grant Award #		Project Title: E.coli Reduction on the Kaler Ranch			
Time Period	From:	To:			
Grant Expenditures	Original Budget	Prior Expenditures	Current Expenditures	Cumulative Expenditures	Budget Remaining
Admin. Costs (10% Max)					
Administration costs	\$4,000.00	\$0.00	\$0.00	\$0.00	\$4,000.00
				\$0.00	\$0.00
Direct Costs					
Equipment					
Drill Rig*	\$10,000.00	\$0.00	\$0.00	\$0.00	\$10,000.00
Water Truck*	\$3,000.00	\$0.00	\$0.00	\$0.00	\$3,000.00
Back Hoe	\$1,000.00	\$0.00	\$0.00	\$0.00	\$1,000.00
Crane Truck	\$1,000.00	\$0.00	\$0.00	\$0.00	\$1,000.00
Supplies					
Casing, pipe, cable, gauges, wire, gravel, etc.	\$11,500.00	\$0.00	\$0.00	\$0.00	\$11,500.00
Misc. Well Fittings	\$500.00	\$0.00	\$0.00	\$0.00	\$500.00
				\$0.00	\$0.00
Personnel					
Salaries					
Well Driller	\$3,000.00	\$0.00	\$0.00	\$0.00	\$3,000.00
Well Equipment Operator	\$6,000.00	\$0.00	\$0.00	\$0.00	\$6,000.00
Reports	\$1,250.00	\$0.00	\$0.00	\$0.00	\$1,250.00
Education & Outreach	\$1,500.00	\$0.00	\$0.00	\$0.00	\$1,500.00
Sub-Total Grants	\$42,750.00	\$0.00	\$0.00	\$0.00	\$42,750.00
Verify Totals (This number should be the same as the Sub-Total Grants Budget Remaining cell above)					\$42,750.00
Totals	Original Budget	Prior Expenditures	Current Expenditures	Cumulative Expenditures	Budget Remaining
Sub-Total Match	\$55,267.25	\$0.00	\$0.00	\$0.00	\$55,267.25
Grand Total	\$98,017.25	\$0.00	\$0.00	\$0.00	\$98,017.25

Match Expenditures	Original Budget	Prior Expenditures	Current Expenditures	Cumulative Expenditures	Budget Remaining
Admin. Costs (10% Max)					
				\$0.00	\$0.00
Direct Costs					
Equipment					
Solar Motor	\$2,785.00	\$0.00	\$0.00	\$0.00	\$2,785.00
Solar Modules	\$27,540.00	\$0.00	\$0.00	\$0.00	\$27,540.00
Trackers	\$9,480.00	\$0.00	\$0.00	\$0.00	\$9,480.00
Tracker Poles	\$1,425.00	\$0.00	\$0.00	\$0.00	\$1,425.00
Controller	\$5,995.00	\$0.00	\$0.00	\$0.00	\$5,995.00
Fuse Assemblies	\$405.00	\$0.00	\$0.00	\$0.00	\$405.00
Grounding & Lightning Equipment	\$300.00	\$0.00	\$0.00	\$0.00	\$300.00
Back Hoe for Tank	\$320.00	\$0.00	\$0.00	\$0.00	\$320.00
Supplies					
Concrete for Posts and Tank	\$750.00	\$0.00	\$0.00	\$0.00	\$750.00
Solar wire, conduit, fittings, etc	\$1,000.00	\$0.00	\$0.00	\$0.00	\$1,000.00
Rebar	\$81.00	\$0.00	\$0.00	\$0.00	\$81.00
Other:					
Freight on Solar	\$300.00	\$0.00	\$0.00	\$0.00	\$300.00
Sales Tax on Solar	\$1,238.25	\$0.00	\$0.00	\$0.00	\$1,238.25
Personnel					
Salaries					
Labor for Rock Work	\$800.00	\$0.00	\$0.00	\$0.00	\$800.00
Back Hoe Operator	\$200.00	\$0.00	\$0.00	\$0.00	\$200.00
Site Supervision	\$2,000.00	\$0.00	\$0.00	\$0.00	\$2,000.00
Monitoring	\$432.00	\$0.00	\$0.00	\$0.00	\$432.00
Education and Outreach	\$216.00	\$0.00	\$0.00	\$0.00	\$216.00
Sub-Total Match	\$55,267.25	\$0.00	\$0.00	\$0.00	\$55,267.25
Verify Totals (This number should be the same as the Sub-Total Match Budget Remaining cell above)					\$55,267.25

Part XIII - PROJECT VERIFICATION/EVAULATION

We will establish photo monitoring points in the riparian area to document the amount of animal waste. In addition, the landowners have agreed to keep monthly records of the livestock when they are in the riparian area, both before the start of the grant, and on a monthly basis. As we will be doing E.coli monitoring on the San Francisco River if we are funded for the Targeted Watershed Grant, we are not planning to collect any water quality data at this time. The equipment and labor costs would be too large for this grant to support.

Part XIV– State Historic Preservation Office (SHPO) Form

Any Arizona Department of Environmental Quality (ADEQ) action, including grant projects paid in-part with ADEQ funds, on state, federal, or private lands that may impact historic properties (i.e., any prehistoric or historic-period district, site, building, structure, or object included in, or eligible for inclusion in the State Register of Historic Places) require consultation with the State Historic Preservation Office (SHPO) pursuant to the State Historic Preservation Act (ARS 41-861 to 864). ADEQ is legally responsible for making determinations and findings. In order to make informed decisions and facilitate consultation with SHPO, ADEQ requires applicants to provide the "project related" information requested below. By working together, we can seek out ways that "the historical and cultural foundations of this state can be preserved as a living part of our community life and development" (State Historic Preservation Act).

Please prepare and answer the following questions pertaining to historic properties and preservation. Add map(s), drawings and pictures where appropriate.

I. Project Location and Area:

- County: Greenlee
- Township, Range and Section: T3S, R30E, Section 32
- Nearest Town or City: Clifton
- Describe the conditions of the land in the project area: Plowed, grazed and flooded for over 100 years

Attach a copy a USGS topographic map (*See Part III – Scope of Work, Section G-1*) with the project area clearly marked. On the map, please specify the area(s) where impacts will occur.

II. Project Description:

- Describe the buildings or structures within project area and their age: A very small rock house – 2 years old
- Describe any ground-disturbing activities: land leveling and well drilling
- Generally speaking, can this project impact historical properties, should they be present? Yes No The project is located in a cleared field.

III. Describe the steps taken to identify historic properties in the project area:

- Has the project area been previously surveyed to determine the presence or absence of historic properties? Yes No (If yes, include report.)
- Are buildings, structures, or objects that are 50 years old or older present in the project area? Yes No (If yes, include description.)
- Are any prehistoric or historic-period archaeological sites present? Yes No (If yes, please list and briefly describe.)
- What does the state or federal land manager, if any, say about historic properties present in the project area? (Attach letter if available.) The BLM's archeologist – Dan McGrew indicated that since the project area is very small, and the land

has been in continuing agricultural use for over 100 years, it is highly unlikely that there would be any historic property left in the area.

- What efforts, if any, would be reasonable to complete in determining the presence or absence of historic properties? The BLM usually assists in completing an archeological report on the permittees private property if the project benefits the entire operation. As the BLM highly supports this project, I am confident that they will complete the clearance, if necessary.

IV. In the applicant's opinion, which determination listed below is appropriate for this project based on the information presented above:

- No impacts/ historic properties not present
- No impacts/ historic properties present. Describe how historic properties will be avoided or protected:
- Negative impacts to historic properties. Suggest treatment measures:
- Positive impacts to historic properties. Describe:

For SHPO Use Only - Record of Consultation

SHPO advises ADEQ on the completeness of identification effort, determination of effect, and any proposed treatment measures.

- ___ Concur with determination
- ___ Do not concur with determination
- ___ Request More Information
- ___ Recommend that the project area be surveyed to determine the presence or absence of historic properties by a qualified professional
- ___ Additional comments below:

Signed: _____

Date: _____