

SAN GORGONIO PASS WATER AGENCY
1210 Beaumont Avenue, Beaumont, CA
Water Conservation and Education
Committee Meeting
Agenda
June 12, 2018 at 1:30 p.m.

- 1. Call to Order and Flag Salute**
- 2. Adoption and Adjustment of the Agenda**
- 3. Public Comment**
Members of the public may address the Board at this time concerning items not on the agenda. To comment on specific agenda items, please complete a speaker's request form and hand it to the Board secretary.
- 4. Discussion of Water Conservation and Education Programs for Fiscal Year 2018/2019* (p. 2)**
- 5. Adjournment**

***Information included in Agenda Packet**

(1) Materials related to an item on this Agenda submitted to the Board of Directors after distribution of the agenda packet are available for public inspection in the Agency's office at 1210 Beaumont Avenue, Beaumont during normal business hours. (2) Pursuant to Government Code section 54957.5, non-exempt public records that relate to open session agenda items and are distributed to a majority of the Board less than seventy-two (72) hours prior to the meeting will be available for public inspection at the Agency's office, located at 1210 Beaumont Avenue, Beaumont, California 92223, during regular business hours. When practical, these public records will also be made available on the Agency's Internet Web site, accessible at: www.sgpwa.com (3) Any person with a disability who requires accommodation in order to participate in this meeting should telephone the Agency (951 845-2577) at least 48 hours prior to the meeting in order to make a request for a disability-related modification or accommodation.

*CONTRACT FOR PERFORMANCE OF
WATER CONSERVATION PUBLIC
OUTREACH PROGRAMS*

2018-19 Academic Year

Proposal To:

*San Geronio Pass Water Agency (SGPWA)
Contact: Jeff Davis, General Manager
1210 Beaumont Ave
Beaumont, Ca 92223*

Proposal From:

*Inland Empire Resource Conservation District
Contact: Mandy Parkes, District Manager
25864-K Business Center Drive
Redlands, CA 92374*



**INLAND EMPIRE
RESOURCE
CONSERVATION DISTRICT**

INLAND EMPIRE RESOURCE CONSERVATION DISTRICT BACKGROUND:

This proposal is being presented to the San Geronio Pass Water Agency (SGPWA), from the Inland Empire Resource Conservation District (IERCD/the "District"). The IERCD is a public agency, headquartered in the City of Redlands and serving the residents of both cities and unincorporated areas of San Bernardino and Riverside Counties. The District operates under the principle that the quality of the environment determines the corresponding quality of life; accordingly, IERCD board and staff work to perform the restoration, conservation, and education and outreach work designed to benefit local residents, wildlands, and dependent environs. Tasks associated with this work include preservation of open space, removal of invasive vegetation and replacement with appropriate native species, and dissemination of conservation information to area students and community groups.

The performance of environmental education programs to a variety of audiences within the District's service area is a key function of the Inland Empire Resource Conservation District. Three full-time educators and one part-time educator, overseen by one full-time education coordinator are tasked with presentation of eight core programs directly correlated to the Next Generation Science Standards for California Public Schools as well as the nationwide Common Core standards as part of the District's service to its residents. IERCD education programming has steadily increased since inception, with a total of 970 programs presented to 29,100 students in the 2015-16 school year, up from a total of 48 programs presented to 1,440 students in the 2003-04 school year. This significant increase in number of annual presentations has been accompanied by multi-disciplinary educator training, development of detailed lesson plans and pre/post-program activities to build content comprehension, and an improved distribution of programs among IERCD's service area. These improvements to IERCD presentations have resulted in a program package that is both highly attractive to requesting educators and effective for participating students as evidenced by administration of post-program content quizzes.

The 2018-19 proposal for water conservation programming on behalf of the San Geronio Pass Water Agency is being presented for consideration and possible adoption in the 2018-19 fiscal year.

BUDGET DESCRIPTION

CLASSROOM PROGRAMS

Total Classroom Programs: 18, to be performed in a range of K-12 classrooms and including all of the following services:

- *Outreach to educators and community groups:*
 - Creation and distribution of SGPWA hard copy and electronic flyers

- Presentations directly to district-wide administrator meetings and/or grade level and full staff school meetings.
- Incentives for booking programs advertised to schools and community leaders
- Email outreach to SGPWA-service area partners advertising WUE programs
- *Each individual program will be performed to the following standards:*
 - Consistency with newly and in-progress education standards including:
 - Common Core Standards
 - Next Generation Science Standards
 - Program preparation and post-performance reinforcement of content: each requesting educator will receive grade-appropriate preparation vocabulary/abbreviated activity ideas to prepare students for program concepts, in addition to questions and activities designed to maximize content retention following program performance.
 - Minimization of waste through use of the following educational tools
 - Electronic presentation using Prezi rather than hard copy materials
 - Using portable hand-held white boards to minimize use of paper and maximize student engagement throughout all segments of programming
 - Hands-on activities consisting of one of the following:
 - Water Conservation Enviroscope® model or aquifer model
 - Native plant activity involving student planting of drought-tolerant wildflower/shrub seeds in individual peat pots to take home
 - Check for comprehension: at the end of every program, the educator will administer a short quiz entitled "Do you remember" focusing on major concepts of the Water Use Efficiency presentation
 - Other activities, time permitting:
 - Question wheel with small conservation-themed prizes for correct answers
 - Additional activities and short games designed to increase content retention for participating students.

FEE BREAKDOWN FOR CLASSROOM PROGRAMS:

Task	Description	Approximate Cost
Program Preparation/ Clean-up	Assembling materials, Travel, Set-up, Clean-Up	\$30.00
Presentation	Classroom Content Portion	\$60.00
Materials/Mileage/Outreach/ Misc Program Development	Enviroscope® or Aquifer Model Materials, Handouts, Mileage	\$60.00
Per-Program Total		\$150.00
Total Programs Proposed		18
Set-Up Fee		\$550.00
Total Potential Cost for FY 2017-18 Classroom Programs		\$3,250.00

GROUNDWATER DYNAMICS USING 3-DIMENSIONAL MODEL

Summary: The San Geronio Pass Water Agency (SGPWA) board of directors consistently works to determine most effective methods of water conservation education and outreach to residents within their service area. To date, the majority of these methods have focused on IERCD-led instruction in the classroom and at SGPWA headquarters; however, in the current fiscal year, the Agency and IERCD are exploring the potential to stretch the impact of these monies even further. The model suggested by SGPWA is to train educators within Agency boundaries on the fundamentals of water conservation presentation and model demonstration; once trained, these teachers would then be able to pass this training along to both colleagues and directly to their K-12 students. Using this model, the reach of dollars invested in annual resource management in SGPWA service area is projected to grow significantly, increasing total number of residents aware of the role of groundwater management in ensuring ongoing regional supply.

The approach for layering training on top of program requests is projected to include the following core elements:

1. SGPWA will purchase and provide four groundwater models for the three local high schools (Yucaipa, Beaumont, Banning) and one for IERCD use.
2. IERCD will develop protocol and train the pre-selected teachers on how to best prepare, facilitate presentations and model use, then provide content reinforcement opportunities to most effectively communicate importance of groundwater to participating students.
3. After initial training it would be up to the schools to decide how they would use them, how frequently, and for what classes, although IERCD will provide a suggested framework to lead teachers in an attempt to maximize model sharing and use among faculty members.
4. The IERCD will retain responsibility for models on behalf of SGPWA, through dropping them with the lead teacher at the beginning of each school year and picking them up at the end of each school year. This regular contact will help IERCD assist teachers with maintenance of models for maximum lifetime and function, and will also provide regular opportunities to update classroom and pre/post classroom content.

SGPWA AQUIFER MODEL TRAINING PROGRAM

Training approach: in the current contract, SGPWA has requested that IERCD facilitate two teacher workshops on campuses within its service area. This requirement has the potential to focus on objectives stated in the contract covering 2017-18, but also has the potential to include a specific focus on aquifer model and instruction strategy

- Participants: SGPWA will identify one "lead" teacher from each high school; IERCD will also directly outreach to departments in each high school for additional participation
- Agenda for trainings: Aquifer model excerpt
 - Review of SGPWA role in groundwater management/long-term regional water supply development and sustainability; partnership between IERCD-SGPWA
 - Review of standards corresponding to aquifer demonstration: Next Generation Science Standards (NGSS); specifically, *HS-ESS2-5. Plan and conduct an investigation of the properties of water and its effects on Earth materials.*
 - *Emphasis is on mechanical and chemical investigations with water and a variety of solid materials to provide the evidence for connections between the hydrologic cycle and system interactions commonly known as the rock cycle.*
 - Review of topics directly/indirectly connected to aquifer use:
 - Geological materials; sand, soil, gravel, rock

- Infiltration
- Recharge
- Soil moisture
- Water table
- Storage
- Contaminants/Treatment
- Structure of classroom use of aquifer model:
 - Pre-program content
 1. Vocabulary
 2. Age/class-appropriate activities to conduct in days leading up to aquifer program
 - Prezi– online presentation capable of integrating audio/video with graphics that are easily updated; IERCD groundwater model Prezi will be provided in hardcopy, with training attendees walked through each frame, and Q/A on content. Focus on ability of each teacher to begin with existing Prezi template, and modify for individual class needs
 - Model facilitation
 - Post-program materials:
 1. Content comprehension quizzes
 2. Post-program activities
 3. Link to resources to allow instructors to tailor presentation and pre/post program content to class needs
- Small group work to experiment with models, ask additional questions
- All participants leave with flash drive of suite of documents covering aquifer model preparation, facilitation, post-program reinforcement, plus proper care and maintenance to lengthen life of model

PROGRAM OPERATIONS

Approach: the IERCD is also planning to develop a companion set of guidelines for individual campus use of models, to include the following elements:

- Design of individual campus trainings for participating teachers focusing on aquifer model storage and use guidelines
- Template calendar for teachers to allow transition of model among classrooms, to include a recommended timeframe for participating teachers
 - Role of Science team lead at each school site to keep model moving between users
- Development of training materials for use and care of models
- Additional availability of IERCD support for participating teachers, ranging from model care/maintenance to classroom support to pre/post-program help
- IERCD staff will collect models at end of school year, clean and store over the summer months, and then return to school sites at the beginning of the new school year.

PROPOSED COST

Task	Description	Estimated Staff Hours	Line Item Cost
Preparation	Materials/Content Development	80	\$2,800
Training	Teacher Training Day	40	\$1,400
Post-Training Educational Support	Emails, Calls, Classroom Visits with participating teachers	20	\$700
Annual Model Collection	Models cleaned, stored, returned at beginning of school year	10	\$350
Training Day Facility and Food			\$1,500.00
Total Cost			\$6,750.00

FINAL SGPWA BUDGET PROPOSAL FOR 2017-18

Task	Description	Approximate Cost
Water Conservation Classroom Programs	Performance of 18 programs plus set-up fee	\$3,250
Aquifer Model Training Program	Aquifer model support for each high school location plus training workshop	\$6,750
Total Potential Cost for all FY 2018-19 Water Conservation Proposed Programming		\$10,000

SIGNATURES

San Geronio Pass Water Agency
 1210 Beaumont Ave
 Beaumont, CA 92223

Inland Empire Resource Conservation District
 25864-K Business Center Drive
 Redlands, CA 92374

 Jeff Davis, General Manager

 Mandy Parkes, District Manager

 Date

 Date