



**Monterey Peninsula Water Management District  
GRANT PROPOSAL  
For  
Monterey Peninsula Unified School District**

Name of Applicant: Monterey Peninsula Unified School District

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Project Site Addresses: 1.. Ord Terrace Elementary 05-0303018-1 05-030144487-1  
05-0301546  
1755 La Salle Ave, Seaside, CA 93955

Proposed Projects: Proposal is re-designate the \$74,477 granted to MPUSD in the Flow Sensor and Master Valve Proposal. The funds with this new proposal will design and implement a master plan for water conservation at Ord Terrace Elementary School. The proposal will also set a standard and model for the larger District Wide Master Water Conservation plan. This proposal will also include a training and implementation of a water budget for all 11 California American Water serviced sites as well as potentially setting water budgets at every site in MPUSD as the School District Water Conservation Master Plan is implemented. The Ord Terrace master plan will include the design and implementation of updating the irrigation for the field. This design will reduce turf area, improve field quality and reduce water use by 46%. The master plan will also include the design and implementation of an educational water conservation model that will teach the students and community about water conservation, ground water quality and preventing storm water pollution. This part of the master plan will include active and passive rain water collection, cisterns, bioswale, rain gardens, outdoor classrooms, native arboretums and turf removal. The water conservation landscapes will reduce water use on the campus landscape by 50%+.

### **Preliminary to proposed project**

In Spring 2014 MPUSD received a grant from MPWMD to install Hydro-point weather trak ET Pro controllers at the Cal Am serviced sites. The grant proposal was met and exceeded by installing all the controllers, as well as eliminating manual and battery operated zones.

In Spring 2014 Cal Am sponsored Blue Watch Dog to assist MPUSD Energy Specialist to started a meter read program at all the Cal Am serviced sites to be able to detect leaks and to be able to communicate usage to the Irrigation Tech. The Meter Read program has now expanded to all water meters across the district. Learning how to set water budgets is the next step in this water conservation strategy.

At the same time MPUSD was working with California American Water, Blue Watch Dog and Bob Costa in developing a comprehensive plan to save water at all sites. MPUSD is currently requesting a landscape grant from Cal Am for the start of developing a Master Water Conservation Plan for 8 sites. Attached to this proposal is the Cal Am proposal.

As the Energy Specialist I am working diligently to conserve water across the whole school district. I have sent a proposal to the new Superintendent to set up a District Wide Water Conservation Plan. The proposal was a request to fund an additional 24 controllers for the remaining schools serviced by City of Seaside and Marina Coast Water. The proposal mirrors the plan and the standards we have set in the MPWMD and Cal Am serviced sites. Attached is a copy of the MPUSD Master Water Conservation Plan

In Spring of 2014 MPUSD also received a grant from MPWMD to install flow sensors and Master valves at all of the Hydro-point controllers. This grant was written with less than 24 hour notice and it was written without specific site research. During the implementation of the grant the true condition of our irrigation systems were uncovered. Our systems are antiquated, and inefficient. It was not possible to implement this grant. Therefore, I have met with MPWMD and Hydro-point and we are working together on this proposal. Hydro-point has agreed to allow MPUSD to return all the supplies purchased for a full refund. The funds that have been paid out already will go towards the Water Budgeting Training and the landscape projects. The failure in being able to implement the last proposal has had two extremely positive outcomes. First the communication between the Energy Specialist and MPUSD maintenance has opened up and energy conservation is now a priority. Second, the need for a Master Plan to address issues with irrigation and water conservation has gained huge momentum.

I look forward to working with MPWMD for many years.

Thank you

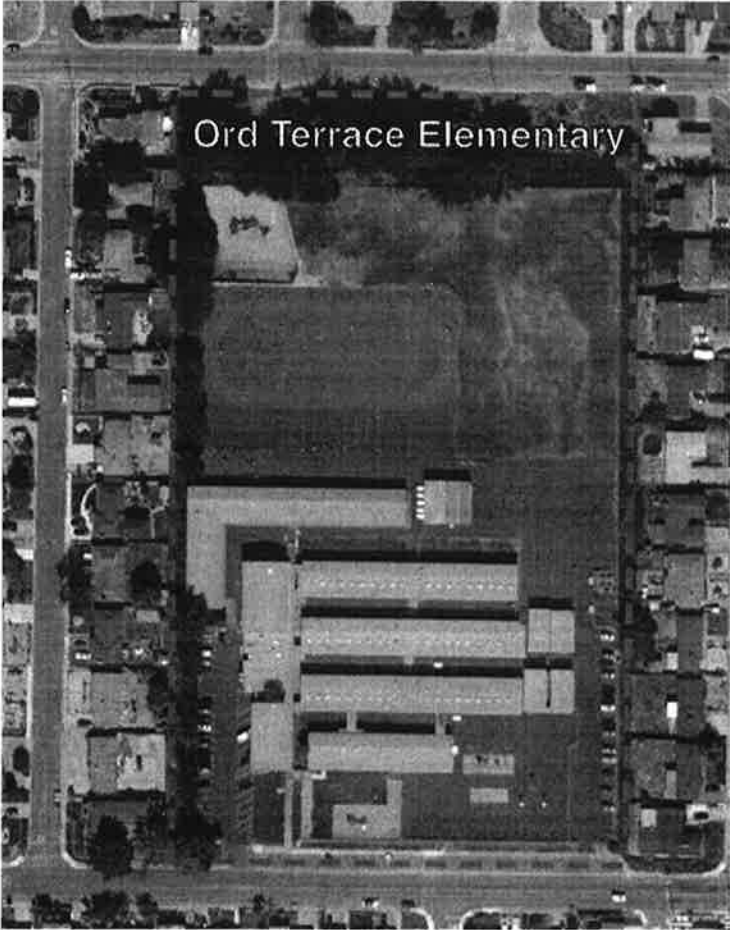
David Chandler

Energy Specialist

**APPLICATION ATTACHMENTS**

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**ATTACHMENT 1**  
**SITE MAP**



**ATTACHMENT 2**  
**PROPOSED PLAN (Phase 1)**

There are nine possible projects being proposed to Monterey Peninsula Unified School District for consideration.

| <u>Site</u>               | <u>Project</u>                              |   |
|---------------------------|---|---|
| 1. Ord Terrace Elementary | A. Sports-field redesign                    | Turf removal and field design by landscape architect, Jo Ann Jarreau. Calculations show a 23% reduction in turf and a 46% reduction in water use. |
|                           | B. Upper campus Water Conservation Redesign | Turf removal and water conservation landscape designed by Jo Ann Jarreau. Calculations show a 89% reduction in water use.                         |
|                           | C. Field Project                            | Field construction based on design. Need to go to bid after design is complete. Budget set at \$30,000 for full implementation of design.         |
|                           | D. Water Budget                             | Water budget training and implementation through Hydro-point.   |
|                           | E. Kinder turf project                      | Play area based on design. Need to go to bid after design is complete. Artificial turf surrounded by a rubber road. Garden area.                  |
|                           | F. Front turf                               | Play area based on design. Need to go to bid after design is complete. Artificial turf , low water landscape.                                     |
|                           | E. Creek Bed                                | Continuing the Bioswale? Cistern, Rain garden Native plant arboretum. Possible roof garden.   |
|                           | F. Center turf removal.                     | Water conservation landscape based on design. Need to go to bid after design is complete. , Orchard, rain gardens, water catchment.               |

**ATTACHMENT 3**  
**ESTIMATED BUDGET**

**Monterey Peninsula Water Management District  
LANDSCAPE GRANT PROPOSAL  
MONTEREY PENINSULA UNIFIED SCHOOL DISTRICT  
ESTIMATED BUDGET**

**Design of the Field By JoAnne Jarreau \$3500**  
**Design of the upper campus by JoAnne Jarreau \$15,000**  
**Research and submittals \$500**  
**(3 day) Water Budget Training and data entry \$7,354**  
**Field Project \$30,000**  
**Upper Campus Projects budget \$18,123**

**Total \$74,477**

Since the design is part of the proposal the field project budget and upper campus budget are estimates. The budgets will be managed by MPUSD's energy specialist with the intent to complete the whole design. The field design is the priority of proposal. Remaining field budget will be transferred to the upper campus budget. If the budget does not allow for complete design implementation of the upper campus a new proposal will be created. MPUSD and MPWMD will have open communication about project implementation

## **ATTACHMENT 4**

### **PROJECT TIMELINE**

Upon MPWMD award of proposal it is estimated the project could potentially take up to 2-3 months to complete. The designs will be completed within a timely manner, so that there is plenty of time for the project to be implemented by the deadline of the grant. The intent of MPUSD is to complete the proposal implementation by December 31, 2014.

## **ATTACHMENT 5**

### **MAINTENANCE PLAN**

Monterey Peninsula Unified School District (MPUSD) has one irrigation technician, Justin Frederick, that is responsible for 11 schools in California American Water's District. He is also responsible for an additional 16 other schools that are not serviced by California American Water. Justin is fully competent in the routine inspection and maintenance of the proposed irrigation system upgrades.

David Chandler, the MPUSD Energy Specialist, will oversee implementation of proposed irrigation projects. In addition, David Chandler, will be responsible for the creation of the water budgets for all the Cal Am serviced sites.

### **MPUSD Master Water Conservation Plan**

#### **First phase of the Master Water Conservation Plan.**

- Install hydro-point controllers on every irrigation system across the school district. (Cal Am Serviced sites complete + Marina High)
- Install water conservation irrigation heads across the Cal Am service sites (Cal Am proposal)
- Have a landscape architect design a full site Master Plan for Del Rey Woods (Cal Am Proposal)
- Have a landscape architect design a full site Master Plan for Ord Terrace (MPWMD proposal)
- Implement a site Master Plan at Ord Terrace (MPWMD Proposal)

Monterey Peninsula Unified School District  
Monterey Peninsula Water Management District  
Water Conservation Grant Proposal

- Implement a meter read program that analyzes current use with base year use. (Implemented 5/2014)
- Set a water budget based on evapotranspiration (MPWMD proposal)
- K-6 students participate in Zun Zun Water Conservation Assemblies (In progress)
- Collect information for the Master Water Conservation Plan for communication (In progress)
  - Calculate the cost of each irrigated area
  - Photograph and research other school districts alternatives to Turf
  - Continuing education about water conservation
  - Create a preliminary report to present to MPUSD water conservation advisory team
  - Write grants and seek outside funding
  - Set up a MPUSD water conservation advisory team.

### **Second phase of the Master Water Conservation Plan**

- Set a standard for all new irrigation projects
  - Including Master valve and Flow sensor on all new design
  - Using MP Rotors and other water conservation irrigation heads
  - Using a Landscape architect to design project.
- Open communication with all invested parties with concern to how the district is going to manage water.
- Test irrigation efficiency of each system to prioritize projects.
- Set a standard for water conservation projects.
  
- Create a water conservation plan for each specific site.
- Create a timetable for implementation of plan
- Implement plan over a set time period and budget. (Grant funding, District funds?)

The goal of the Master Water Conservation plan is to move forward in addressing the major issue of upgrading the antiquated irrigation systems across the district. Ultimately MPUSD will become a model for water conservation for the community, education and the State.

**ATTACHMENT 6**  
**WATER SAVINGS**

**Currently Ord Terrace has 71,308 square feet of irrigated field. With the current size and irrigation efficiency it uses 2,233,816 gallons of water. The proposal will reduce the field to 54,740 square feet a 23% reduction and with the increased irrigation efficiency it will reduce water use to 1,714,802 gallons, a 46% reduction in use.**

**The upper campus has 19,045 square feet of irrigated turf. 15,580 square feet is cosmetic turf. With the current size and irrigation efficiency it uses 591,220 gallons of water. The proposal will reduce the irrigation by removing turf, planting landscape with low plant water factor and increase irrigation efficiency. The proposal when fully implemented has the potential to reduce water use 65,968 gallons, a 89% reduction in water. In the introduction and Landscape quote the savings is stated as 50%+.**

**Weekly water meter reads and the creation of water budgets will save water use across the district 20-30%. In addition it will eliminate excessive leaks that historically have cost the School district \$85,000.**



**ATTACHMENT 7**  
**CURRENT LANDSCAPING INFORMATION**

**Project 1.**

|       | <u>H2O Requirement</u>     | <u>Current Sprinklers</u> |
|-------|----------------------------|---------------------------|
| Field | Turf (High) 71,308 sq. ft. | Gear Rotor                |

**Project 2.**

|        | <u>H2O Requirement</u>   | <u>Current Sprinklers</u> |
|--------|--------------------------|---------------------------|
| Kinder | Turf (High) 3465 sq. ft. | Fixed Spray               |

**Project 3.**

|                 | <u>H2O Requirement</u>   | <u>Current Sprinklers</u> |
|-----------------|--------------------------|---------------------------|
| Front of school | Turf (High) 3108 sq. ft. | Fixed Spray               |

**Project 4.**

|           | <u>H2O Requirement</u> | <u>Current Sprinklers</u> |
|-----------|------------------------|---------------------------|
| Creek Bed | Turf (High) 2575sq.ft  | Fixed Spray               |

**Project 5.**

|             | <u>H2O Requirement</u>   | <u>Current Sprinklers</u> |
|-------------|--------------------------|---------------------------|
| Center turf | Turf (High) 9725 sq. ft. | Fixed Spray               |

