This meeting is not subject to
Brown Act noticing requirements.
The agenda is subject to change.

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

**Water Demand Committee Members:**
*Molly Evans, Chair*
*Andy Clarke*
*Jeanne Byrne*

**Alternate:**
*Brenda Lewis*

**Staff Contact**
*Stephanie Locke*
*Arlene Tavani*

*After staff reports have been distributed, if additional documents are produced by the District and provided to the Committee regarding any item on the agenda, they will be made available at 5 Harris Court, Building G, Monterey, CA during normal business hours. In addition, such documents may be posted on the District website at www.mpwmd.net. Documents distributed at the meeting will be made available in the same manner.*

**AGENDA**
**Water Demand Committee**
**Of the Monterey Peninsula Water Management District**
*************
Tuesday, January 24, 2017, 8:30 AM
District Conference Room, 5 Harris Court, Building G, Monterey, CA

**Call to Order**

**Comments from Public -** *The public may comment on any item within the District's jurisdiction. Please limit your comments to three minutes in length.*

**Action Items** -- *Public comment will be received.*

1. Consider Adoption of October 3, 2016 Committee Meeting Minutes

2. Discuss and Provide Direction to Staff on Development and Implementation of Pressure Reducing Valve (PRV) Program

3. Consider Lawn Removal Rebate Request from Monterey Peninsula Unified School District for Martin Luther King Jr.

**Discussion Items** – *Public comment will be received.*

3. Update on Del Rey Wood and Monte Vista Turf Removal Projects

**Set Next Meeting Date**

**Adjournment**

Upon request, MPWMD will make a reasonable effort to provide written agenda materials in appropriate alternative formats, or disability-related modification or accommodation, including auxiliary aids or services, to enable individuals with disabilities to participate in public meetings. MPWMD will also make a reasonable effort to provide translation services upon request. Requests should be sent to the Board Secretary, MPWMD, P.O. Box 85, Monterey, CA, 93942. You may also fax your request to the Administrative Services Division at 831-644-9560, or call 831-658-5600.

U:\staff\Board_Committees\WaterDemand\2017\20170124\Jan-24-2017-WDC-Agenda.docx

**WATER DEMAND COMMITTEE**

**ITEM: ACTION ITEM**

**1. CONSIDER ADOPTION OF OCTOBER 3, 2016 COMMITTEE MEETING MINUTES**

**Meeting Date: January 24, 2017**

**From: David J. Stoldt,**
**General Manager**

**Prepared By: Arlene Tavani**

**SUMMARY:** Attached as **Exhibit 1-A** are draft minutes of the October 3, 2016 Water Demand committee meetings.

**RECOMMENDATION:** The committee should adopt the minutes by motion.

**EXHIBIT**
**1-A** Draft Minutes of the October 3, 2016 Water Demand Committee Meeting

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

**EXHIBIT 1-A**

**DRAFT MINUTES**
**Water Demand Committee of the**
**Monterey Peninsula Water Management District**
*October 3, 2016*

**Call to Order**
The meeting was called to order at 12:30 pm in the MPWMD conference room.

**Committee members present:** Molly Evans, Chair
Jeanne Byrne
Andy Clarke

**Committee members absent:** None

**Staff members present:** David Stoldt, General Manager
Stephanie Locke, Water Demand Division Manager
Arlene Tavani, Executive Assistant

**District Counsel present:** None

**Comments from the Public:** No comments.

**Action Items**

1. **Consider development of recommendation to the Board on the first reading of Ordinance No. 176 that would amend several sections of the MPWMD Rules and Regulations related to conservation and water permit processing**
   On a motion by Evans and second of Clarke, the committee recommended that the Board of Directors approve the first reading of draft Ordinance No. 176 with the following amendments: (a) one definition should be developed that includes accredited private schools, public schools and institutes of higher education; and (b) the Non-Residential Water Use Factors listed in Table 2 of Rule 24 will be updated to include a water use factor for each showerhead installed in excess of one. The motion was approved on a vote of 3 – 0 by Evans, Clarke and Byrne. No public comments were directed to the committee on this item.

**Set Next Meeting Date:** The next meeting is scheduled for November 16, 2016 at 3:30 pm.

**Adjournment**
The meeting was adjourned at 1:10 pm.



5 Harris Court, Building G, Monterey, CA 93940 • P.O. Box 85, Monterey, CA 93942-0085
831-658-5600 • Fax 831-644-9560 • http://www.mpwmd.net

**WATER DEMAND COMMITTEE**

## 2. DISCUSS AND PROVIDE DIRECTION TO STAFF ON DEVELOPMENT AND IMPLEMENTATION OF PRESSURE REDUCING VALVE (PRV) PROGRAM

| | | | |
|---|---|---|---|
| **Meeting Date:** | **January 24, 2017** | **Budgeted:** | **Yes** |
| **From:** | **David J. Stoldt, General Manager** | **Program/ Line Item No.:** | **Water Conservation 4-2-3-L** |
| **Prepared By:** | **Stephanie Locke** | **Cost Estimate:** | **$35,000** |

**General Counsel Review: N/A**
**CEQA Compliance: N/A**

**SUMMARY:** High water pressure in a home is analogous to high blood pressure. Appliances and water-using devices are designed to optimally work at certain pressures. Pressure above optimal increases the likelihood of leaks and breaks in the water lines and appliances due to excessive force on the plumbing. Water conservation devices such as toilets, showerheads, clothes washers, dishwashers, and faucet aerators use more water than they are designed to use when pressure is high (see graphic). High pressure is often the cause of leaks in these appliances/devices and in water heaters and softeners, ice machines, irrigation systems, etc.

| Supply Pressure | Water Wasted | Water Flow (Gallons) |
|---|---|---|
| 50 PSI | | 30g |
| 65 PSI | 6g | 36g |
| 80 PSI | 10g | 40g |
| 100 PSI | 15g | 45g |
| 150 PSI | 26g | 56g |

Building codes require water pressure regulating devices or valves (PRVs) when the pressure exceeds 80 psi. A PRV is a bell shaped device often located on the main line inlet pipe and usually near the house shut off valve outside the home. Generally speaking, recommended water pressure in a home is 50-60 pounds per square inch (psi); the maximum safe allowable pressure is 80 psi. California Plumbing Code, section 608.2 states; "Excessive Water Pressure. Where static water pressure in the water supply piping is exceeding 80 psi (552 kPa), an approved-type pressure regulator preceded by an adequate strainer shall be installed and the static pressure reduced to 80 psi (552 k Pa) or less."

PRVs control both the water pressure and the flow rate of the incoming water supply. A damaged or worn out pressure regulator can result in destructively high water pressure in the building. Private pressure reducing valves have a lifetime of approximately ten years. Most customers know little about the device's function or that it must be periodically checked to be sure it is operational. In our area, failed PRVs are prevalent. Homeowners and commercial property owners are often not knowledgeable about their PRVs, not realizing that they have these devices and that they fail over time. In other cases, there is no PRV and the incoming water pressure far exceeds optimum pressure.

## LOCALLY HIGH WATER PRESSURE

In the 2013 Cal-Am General Rate Case, MPWMD was approved for a pilot Pressure Reducing Valve Program. District staff is interested in reducing consumption and expanding the lifetime of water efficient appliances by ensuring that water pressure is maintained at an optimum level. To achieve this goal, staff has been obtaining pressure readings and considering a program to reduce pressure on the customer's side of the meter. Staff has been collaborating with Mike Rachel of Peninsula Home Inspections LLC, who has collected pressure data for more than 200 homes in the California American Water system between 2012 and 2016. His testing identified a high percentage of homes that had water pressure levels that exceeded 60 pounds per square inch ("psi"), and he has also found a high incidence of non-functioning pressure reducing valves.

For example, in 2015, MPWMD staff and Mr. Rachel conducted pressure testing at homes in an area of Monterey (Alta Mesa Circle) and determined that pressure in that residential neighborhood exceeded 145 psi: Approximately half of the homes tested had failed pressure reducing valves. In one case, the homeowner said her freezer's ice maker broke due to high water pressure. In another, an Irrigation System was not functioning properly, with emitters popping off as the result of the high pressure and no pressure reducer on the Irrigation System.

Staff has been testing water pressure as part of the inspection process and has collected more than 200 readings to date. The information is being mapped to identify areas with pressure between 80-100 psi (as one data point) and above 100 psi (as another data point). Staff proposes to target these high pressure areas for a pilot program whereby the District would provide PRVs for installation by licensed plumbers. The participant's water use will be tracked to determine savings and the success of the program.

## PROPOSED PRV PROGRAM

This proposed PRV program consists of three parts:

First, the District will undertake an effort to educate people about high water pressure. This will be done through direct mail and local advertising. A brochure will be distributed to local plumbing supply businesses and to our local civic centers. Information will be provided on our websites and social media, and a short ad may be played in the local theaters. Pressure testing will be done on request, giving staff an opportunity to inform the homeowner or business about the pilot program.

Second, Cal-Am customers with excessively high water pressure will be targeted to install functioning PRVs. The concept is to contract with qualified licensed plumbers who agree to install or replace PRVs at a set price or price range. The District will stock quality PRVs that will be available for installation by the licensed plumbers during the pilot phase of the program. The District will pay for installation in exchange for access to consumption information. Participants will also be given a pressure tester so they can periodically test their pressure. The participant's water use will be tracked over a two year period to determine savings and to obtain feedback.

Third, MPWMD will encourage and support efforts by Cal-Am to reduce system pressure in areas where pressure nears or exceeds CPUC General Order 103-A (Rules Governing Water Service, Including Minimum Standards for Operation, Maintenance, Design and Construction). Section VII-6, Pressures, states:

> A. Variations in Pressure
> Each potable water distribution system shall be operated in a manner to assure that the minimum operating pressure at each service connection throughout the distribution system is not less than 40 psi nor more than 125 psi, except that during periods new PHD [Peak Hour Demand] the pressure may not be less than 30 psi and that during periods of hourly minimum demand the pressure may be not more than 150 psi. Subject to the minimum pressure requirements of 40 psi, variations in pressures under normal operation shall not exceed 50% of the average operating pressure.

**RECOMMENDATION:** The Committee should discuss the concept program and provide direction to staff.

**EXHIBIT**
None

**WATER DEMAND COMMITTEE**

**ITEM: ACTION ITEM**

## 3. CONSIDER LAWN REMOVAL REBATE REQUEST FROM MONTEREY PENINSULA UNIFIED SCHOOL DISTRICT FOR MARTIN LUTHER KING JR SCHOOL

| | | | |
|---|---|---|---|
| **Meeting Date:** | **January 24, 2017** | **Budgeted: Yes** | |
| **From:** | **David J. Stoldt, General Manager** | **Program/ Line Item No.:** | **4-2-4-C** |
| **Prepared By:** | **Stephanie Kister** | **Cost Estimate:** | **$19,969** |

**General Counsel Review: N/A**
**Committee Recommendation: N/A**
**CEQA Compliance: N/A**

**SUMMARY:** Monterey Peninsula Unified School District (MPUSD) has enacted a District Wide Master Water Conservation Plan which includes the removal of large quantities of irrigated turf area across the District. In 2015-2016, MPUSD is implementing a 5th grade Eco-Ambassador program in partnership with Return of the Natives, Pacific Grove Museum and the Monterey Art Council. The goals of the program include educating the students about water conservation, create a native plant garden, and installing active rainwater catchment.

The Eco-Ambassador program is tied to the lawn conversion project. The designs for the new gardens were inspired by the professional landscape designs created for Ord Terrace Elementary who received a grant from MPWMD in 2014. MPUSD's goal is to reduce ornamental turf by 65% and to retrofit every field with water efficient irrigation systems by 2021. In 2015, MPWMD approved lawn removal rebates for two Cal-Am schools totaling $56,642. Now, MPUSD is requesting a $19,969 rebate for Martin Luther King Jr. School (which is served by the Seaside Municipal Water System) in Seaside. The estimated savings is more than 4 million gallons/year or 12 Acre-Feet.

- Martin Luther King Elementary – Sports Complex
  - $19,969 requested for the removal of 88,750 sq-ft of turf
  - They will remove 39% of the turf and install a new irrigation system to improve efficiency on the remaining sports fields
  - Estimated water savings is 4,516,941 gallons/year
  - MPUSD's proposed portion of the cost is $146,764

District Rule 141, Water Conservation Rebates, allows a Lawn removal Rebate at a Public facility to exceed the square-footage limitation of 2,500 square-feet subject to Board approval. The total requested for one Seaside Muni school is $19,969 (see **Exhibit 3-A**). This amount is non-reimbursable and would be funded by the non-Cal-Am Rebate Fund in the current budget.

That fund has approximately $40,000 available and given that the fiscal year is nearly half over, it is highly unlikely that funding this request would result in denial of rebates this fiscal year.

**RECOMMENDATION**: Staff recommends the Board approve the request and recommend to the Board that the requested Lawn removal rebate be granted for the MPUSD project.

**EXHIBIT**
**3-A** MPUSD Proposal

**EXHIBIT 3-A**

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

# MLK Sports Complex

| | |
|---|---|
| Name of Applicant: | Monterey Peninsula Unified School District |
| Invoicing & Contract Name & Contact Information: | Brett McFadden, Associate Superintendent of Business Services<br>(831) 645-1269 bmcfadden@mpusd.k12.ca.us<br>700 Pacific St, Monterey, CA 93940 or<br>PO BOX 1031 Monterey CA 93942 |
| Project Manager Name & Contact Information: | David Chandler, Coordinator of Renewable Energy and Conservation<br>(831) 901-7376 dchandler@mpusd.k12.ca.us |
| Project Site Addresses: | 1. Martin Luther King School<br>1713 Broadway Ave, Seaside, CA 93955 |
| Account: | City of Seaside Water: 04-7590-00 |
| Proposed turf removal: | **Turf removal 88,750 square feet**<br>**Turf removal funds 22.5 cents per square foot: $19,969** |
| Proposed Projects: | Proposal will partially fund the turf removal and field Retrofit at Martin Luther King Jr. School. The proposal will also set a standard and model for the larger District Wide Master Water Conservation plan. This new field design will reduce turf area of the field by 39%, improve field quality and reduce water use by 79%. The new field design will include a backflow, master valve and flow sensor as well as focused efficient irrigation. This new equipment will allow the Smart controller to manage water budgets as well as detect irrigation issues on the Districts largest field.<br><br>The field projects are almost complete. The Turf removal funds will be used to plant native trees and shrubs to create a native habitat and park setting around the new fields. |

**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 2014 MPWMD funded a field retrofit and master water conservation Plan for Ord Terrace Elementary. This project has inspired MPUSD to commit to water conservation landscapes. Ord terrace eliminated 100% of the ornamental turf and replaced it with drought tolerant landscape. Water use has been reduced at Ord Terrace by 63%.

In summer of 2015 MPUSD funded and installed 27 Hydro-point weather trak ET controllers at the City of Seaside and Marina Coast water serviced sites. Making the districts irrigation fully controlled by Smart weather based irrigation controllers

In summer of 2015 MPUSD administration and board approved the use of water utility savings to be used to retrofit our fields irrigation, implement a turf removal plan and set up a turf maintenance program. The MPUSD Energy Program in collaboration with the facilities department has created a six year field retrofit plan and a six year Ornamental Turf removal plan.

In the 2015-16 school year MPUSD is implementing a 5$^{th}$ grade Eco- Ambassador program. Throughout the school year all 5$^{th}$ grade students will take classes from Return of the Native, Pacific Grove Museum and Monterey Art Council. Part of the goal of this program is to educate the students about water conservation and to create a Native garden with passive and active storm water catchment. The designs for these gardens are inspired by the professional designs funded by the Ord Terrace grant.

As the Coordinator of Renewable Energy and Conservation. I am working diligently to conserve water across the whole school district. The momentum of the MPUSD water conservation plan is growing. MPUSD is committed to reduce the need for water across the district. By 2021 we have the goal of reducing ornamental turf by 65% and to retrofit every field with efficient irrigation systems including flow sensors and master valves. MPUSD has been asked to speak at a state level as a leader in school districts water conservation. MPUSD has reduced its water use by 58% compared to the base year of 2013.

In 2016 MPUSD was awarded a Drought Response Outreach Program for Schools Grant to implement Storm water LID projects and education at 4 Seaside Schools.

I look forward to working with MPWMD for many years.

Thank you

David Chandler

Coordinator of Renewable Energy and Conservation

## APPLICATION ATTACHMENTS

## ATTACHMENT 1

## SITE Photo


**3.78 acres 164,656 square feet**

**Estimated cost of water annually* $54,469**

**Extreme risk of leaks – Flow sensors and Master valve installed 6/16**

**No Back Flow- Backflow Installed 6/16**

**Black pipe- obsolete sizing – New efficient irrigation installed 6/16**

**New Field size installed 240ft x 360ft = 86,400 sqft**

**New Estimated cost of water annually $18,101**

**67% cost avoidance**


**1.84 acres / 80150 sqft**

**Estimated cost of water annually* $26,514**

**Extreme risk of leaks- Flow sensor and Master valve installed 6/17**

**No Backflow- Backflow Installed 6/16**

**Black pipe- obsolete sizing – Efficient irrigation installed 10/16**

**New Field size installed 360ft x180ft = 64,800 sqft**

**New Estimated water cost annually $13,576**

**49% cost avoidance**

## ATTACHMENT 2

## PROPOSED PLAN (Phase 1)

| Site | Project | |
|---|---|---|
| 1. Martin Luther King Jr. School | Sports Complex | Turf removal, field retrofits and water conservation landscape. Calculations show a 79% reduction in water use.<br>• MPWMD turf removal grant funds will be used to restore native habitat and create park like setting in removed turf areas around field<br>• Soccer field retrofit with efficient irrigation<br>• Track field retrofit with efficient irrigation<br>• Track Graded and rolled |

## ATTACHMENT 3

## BUDGET

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

**BUDGET**

**Turf removal 88,750 square feet**
**Turf removal funds $21.5 per square foot: $19,969 (Plants, benches, landscape material)**

**MPUSD Budget for Field Retrofit/ Sports Complex $164,233**
**MPUSD budget for Native Plants $2500**

## ATTACHMENT 4

## PROJECT TIMELINE

Upon MPWMD award of proposal it is estimated the native habitat and park setting project Would be complete by April 2017 The Field retrofits are complete. The Track grading is complete. The Track field is growing. The Soccer field is being used by the Elementary school. The intent of MPUSD is to complete Open the fields to the Public on Spring 2017, with a Field opening celebration and community Habitat planting.

## ATTACHMENT 5

## MAINTENANCE PLAN

The MPUSD maintenance department will maintain the Sports complex as there scheduled maintenance. Aeration, fertilization and seeding standard has been set for all new field retrofits. This maintenance will be scheduled annually. As to date the fields have been aerated and seeded twice.

David Chandler, the MPUSD Coordinator of Renewable Energy and Conservation, will oversee implementation of proposed irrigation projects.

## ATTACHMENT 6

## WATER SAVINGS

Currently Martin Luther King Jr. School has 239,950 feet of irrigated field. With the current size and irrigation efficiency it used 7,516,749 gallons of water annually. The new proposal will have an irrigated field area of 151,200 square feet, a 37% reduction in size. The proposal will also increase the irrigation efficiency. This proposal will reduce water use 4,516,941, a 60% reduction in water use.

In addition the flow sensor and master valve will eliminate excessive leaks that this site. In 2013 a leak at this site cost the school district $45,000 in water cost.

## ATTACHMENT 7

## CURRENT LANDSCAPING INFORMATION

| | H20 Requirement | Current Irrigation |
|---|---|---|
| Field | Turf (High) 239,950 sq. ft. | Gear Rotors Smart ET controller |