

**AGENDA  
CITY OF PATTERSON**



**CITY COUNCIL SPECIAL MEETING  
March 14, 2016  
6:00 p.m.**

**(Water Workshop)**

**City Council Chambers  
1 Plaza  
Patterson, California**

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**NOTICE IS HEREBY GIVEN** that the City Council for the City of Patterson, California will hold a Special Meeting on Monday, March 14, 2016 at 6:00 p.m. or shortly thereafter in the City Council Chambers, located at 1 Plaza, Patterson, California.

- 1. Call to Order**
- 2. Statements of Conflict**
- 3. Items from the Public**

Any member of the audience desiring to address the Council regarding a matter on the agenda, please raise your hand or step to the podium at the time the item is announced by the Mayor. The public wishing to address the Council on items that do not appear on the agenda may do so;

however, Council will take no action other than referring the item to staff for study and analysis and shall place item on a future agenda (Resolution 92-25)

In order that all interested parties have an opportunity to speak, any person addressing the Council will be limited to a maximum of five (5) minutes unless the Mayor grants a longer period of time (Resolution 92-25)

**4. Public Works Department**

Receive Update on Water Conservation Related Mandates, Water Quality Issues, Water Master Plan Preparation, and Introduction to the Sustainable Groundwater Management Act (SGMA) and Local Progress.

Staff Report: City Manager Irwin, Public Works Director Willett

**5. Public Comments - Questions from the Public**

**6. Adjournment**



# CITY COUNCIL AGENDA REPORT

**TO:** Mayor Molina and Members of the City Council  
**FROM:** Ken Irwin, City Manager *KI*  
**BY:** Mike Willett, Director of Public Works *MW*  
**MEETING DATE:** March 14, 2016  
**ITEM NO:** 4  
**SUBJECT:** Receive Update on Water Conservation Related Mandates, Water Quality Issues, Water Master Plan Preparation, and Introduction to the Sustainable Groundwater Management Act (SGMA) and Local Progress.

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## RECOMMENDATION

Receive Update on Water Conservation Related Mandates, Water Quality Issues, Water Master Plan Preparation, and Introduction to the Sustainable Groundwater Management Act (SGMA) and Local Progress.

## ANALYSIS

**Water Conservation-** To reach the Governor's statewide 25 percent reduction mandate, a 2015 Executive Order assigned each urban water supplier a conservation standard that ranges between eight and 36 percent based on their residential gallons per capita per day (R-GPCD) for the months of June 2015 to February 2016. These months would then be compared to the same months in 2013. The city of Patterson was given a conservation goal of 28 percent. As of February 29, 2016 (end of the first monitoring period), the city has achieved the state-mandated conservation goal of 28 percent with a cumulative average of 28.11 percent or 306,527 million gallons of water saved. A brief summary of the first monitoring period is below:

- Number of complaints received: 63
- Number of follow ups: 63
- Number of warnings issued: 2,113
- Number of penalties assessed: 178
- Penalties collected: \$4,775

In a new executive order, dated November 13, 2015, the Governor states if drought conditions persist through January 2016, the State Water Resources Control Board (SWRCB) will extend the water conservation mandates until October 31. This final regulation was approved by the Office of Administrative Law on February 11, 2016. Section 865 of this emergency regulation provides suppliers with more flexibility in meeting their conservation requirements through adjustments and credits that allow a supplier to modify its conservation standard up to eight percentage points. These adjustments and credits include climate and growth adjustments and

drought-resilient supply credit. It is estimated the city of Patterson will receive a conservation standard of 25 percent, a reduction of three percentage points.

In addition to the mandatory conservation goals set forth by the SWRCB, these are current and upcoming regulatory requirements that the city is currently addressing or will need to address in the near future:

- SB 407 Property Transfers: Replacement of Plumbing Fixtures-On and after January 1, 2014, building alterations, additions, or improvements will require all non-compliant plumbing fixtures to be replaced with water-conserving plumbing fixtures before a final permit can be issued. It is also a requirement that all non-compliant plumbing fixtures in any single-family residential property be replaced with water conserving fixtures by January 1, 2017. These fixtures must also be replaced in commercial buildings by January 1, 2019. The retrofit law only applies to properties built on or before January 1, 1994.
- AB 1881 Model Water Efficient Landscape Ordinance (MWELO)-The city has auto-adopted the revised MWELO, with an effective date of December 1, 2015. The revised ordinance includes changes to the water allowances for new and rehabilitated landscape, efficiency changes to equipment and devices, and a reporting component that includes the number of housing starts, new commercial projects, enforcement challenges, and plan checking actions.

**Sustainable Groundwater Management Act-** On January 1, 2015, California began implementing SGMA. This landmark law empowers local agencies to implement groundwater sustainability plans tailored to the needs of their communities. Long-term planning through Groundwater Sustainability Agencies (GSA) will ensure that groundwater is a buffer against drought and climate change and contributes to reliable water supplies regardless of weather patterns in the State.

The draft Groundwater Sustainability Plan (GSP) guidelines were released on February 18, 2016. These guidelines require local public agencies to define a course to achieve sustainable groundwater management within 20 years of plan implementation. Key elements of the plan include: identify when and where groundwater conditions cause problems, the specific projects and management actions that local agencies will implement to prevent the problems, management actions on monitoring groundwater and how monitoring data will be used to improve conditions in the basin. Local agencies will have the flexibility in defining the problems within their basins, establishing minimum thresholds, setting measurable objectives, and determining the projects and actions that will be required to achieve sustainability in their basins.

For the last 12 months, the city of Patterson has been part of a regional effort to address the SGMA requirements for local water and land use agencies. The city has been attending meetings facilitated by the San Luis Delta Mendota Water Authority. The Water Authority is proposing to create four GSAs based off of geographic locations. The city of Patterson would be part of the Northern Delta Mendota Subbasin GSA. Other agencies in this region include but are not limited to: West Stanislaus Irrigation District, Patterson Irrigation District, Del Puerto Water District, and Stanislaus and Merced County. Once a draft memorandum of understanding (MOU) is released, the city can then decide if it will be part of this regional effort or possibly be its own GSA. The city has been evaluating the advantages and disadvantages with both options to better serve the subbasin's ability to achieve sustainability while still accommodating planned growth.

**Water Quality Update-** The city is currently and has historically relied solely on local groundwater for its drinking water supply. At present, the city operates seven active potable wells with an aggregate supply capacity of approximately 7,300 gallons per minute (GPM) to meet the city's potable water needs. On July 1, 2014, the SWRCB's Division of Drinking Water (DDW) adopted the maximum contaminant level (MCL) of 0.010 mg/L for Chrome 6. **Although the water quality of the city's water supply has remained unchanged**, the seven groundwater wells that constitute the entirety of the potable supply all exceed the newly adopted MCL. DDW

subsequently issued a compliance order requiring the city to take measures to meet compliance with the MCL. As part of the compliance order, a Corrective Action Plan (CAP) outlining the steps and estimated timeframe needed to achieve compliance was submitted to DDW and ultimately approved on October 14, 2015.

The first step identified in the CAP is to determine whether the Chrome 6 concentrations in the potable water supply can be reduced by modifying the current pumping operations of the city's potable wells. It may be possible to reduce concentration levels by confining the pumping of the wells to screen depths that extract from portions of the formations that may potentially contain lower quantities of Chrome 6. Although still in progress, Step 1 will consist of the following tasks/subtasks: well testing preparation, well access surveys, and dynamic and chemistry profiling.

Once the field testing of the wells is complete, a feasibility study will need to be conducted to identify the alternatives available to the city to meet the Chrome 6 MCL and to narrow those alternatives to one or a few that would be more suitable to address the site-specific conditions in Patterson. A pilot study will then be performed based on the treatment alternatives identified in the feasibility study. Upon the findings from the pilot testing and field testing of the wells, a Basis of Design Report will establish the final design and operating criteria to be used for future pumping operations. The estimated timeline anticipated to implement and complete each step in the CAP, which includes construction, is 66 months.

**Water Master Plan-** The scope of the Water Master Plan includes an analysis of the City's future water demands, current supplies, and the definition of future supply needs and a plan to meet those needs. The master plan also looks at the infrastructure needs associated with adding supply sources, defines a capital improvement program (CIP) and an implementation plan from 2015 to the city's buildout. A critical element on the supply plan is the definition of supply options and the characterization of those options in terms of relevant criteria including capital costs, the cost per unit of water, regulatory and permitting elements, needs for coordination with other agencies, needs to avoid or mitigate potential environmental impacts, and water quality considerations. The costs for the options includes not only the cost of the infrastructure to extract or convey water from sources to the city, but also any costs associated with treatment or with the acquisition of the water itself. The plan looks at both potable and non-potable demand.

Future City demands (through 2050) were developed based on billing records, water service connection density and existing and buildout land use. The city's total demand at buildout conditions is estimated at 15,800 AFY. Significant offsets to this demand can be achieved with non-potable sources for non-potable demands, and with water efficiency programs.

Thirteen potential water supply options were developed and assessed based on their yield, capital and operating cost and unit cost of water. Supply options were further evaluated based upon a number of non-monetary criteria. Supply options included additional conservation programs, long-term transfers, several options for exchange of treated wastewater effluent with Central Valley Project (CVP) and State Water Project (SWP) contractors, developing non-potable sources for non-potable demands, indirect potable reuse, capture and recharge of storm flows, and additional groundwater pumping. Supply options were scored against each technical criterion and ranked using a decision-support model and a number of discussions with city staff.

Based upon the analysis of supply options, supply portfolios (combination of options) were prepared to meet the City's buildout demands. Portfolios included supply options around specific strategies: 1) emphasis on potable sources; 2) Patterson control; and 3) reduced reliance on groundwater. The preferred portfolio emphasizes city controlled water sources, including additional groundwater pumping, recycled water use, stormwater capture and additional conservation measures.

The city's hydraulic model has been updated to include new water lines and facilities, future

demands as projected as part of the master plan, and the buildout supply sources. A CIP and implementation plan are currently being prepared.

Additional pumping options included in the preferred portfolio were limited to remain within the city's operational yield as determined by the groundwater recharge study described below.

**Groundwater Recharge Study-** As part of the Groundwater Recharge Task, an Operational Yield Study was performed to estimate how much water could be extracted from the groundwater basin without impacting the City's existing extraction wells or neighboring water users. Using a calibrated model for the Central Valley (C2VSim), multiple pumping and hydrologic scenarios were evaluated. Based upon those model runs, it was determined that the City could pump about 10,000 to 12,000 AFY without impacting its existing infrastructure or causing significant drawdown outside of the City's Sphere of Influence.

A field investigation is underway, guided from a desktop analysis of local lithology and hydrogeology. As part of field investigations, a process to fully engage the landowners is ongoing. About a dozen boring locations have been identified for potential drilling to identify areas with high recharge potential. Pending procurement of access agreements from the landowners, the field investigation will continue to determine potential areas for groundwater recharge.

**Urban Water Management Plan-** Urban Water Management Plans (UWMP) are planning documents required by the California Department of Water Resources to evaluate future water security and ensure compliance with statewide conservation requirements. Completion of an UWMP is required to receive State funding for water-related projects. 2015 UWMPs require confirmation of the City's per capita water use baseline and 2015 and 2020 conservation targets (which have been confirmed) and the completion of a water loss audit to track and address system water loss. A majority of the UWMP has been drafted and will soon be reviewed. An update to the Water Shortage Contingency Plan (which had been implemented during the drought) still needs to be developed. After a 30 day public review period (in April/May) the City Council should adopt the UWMP before submittal to DWR by July 1<sup>st</sup>.

### **Fiscal Impact**

This item is for informational purposes only.

# Public Workshop-Water

## City of Patterson Water Workshop Agenda

March 14, 2016

6:00-8:00pm

### Staff/Members Present

Time	Item	Owner
6:00-6:05pm	Introduction	Staff
6:05-6:30pm	Water Conservation Update <ul style="list-style-type: none"><li>• SWRCB Update</li><li>• Regulatory Items (SB 407 &amp; AB 1881)</li></ul>	Staff
6:30-6:45pm	SGMA <ul style="list-style-type: none"><li>• Introduce SGMA</li><li>• SGMA Regulations/Timeline</li><li>• Status of Local Action/Progress</li></ul>	RMC/Staff
6:45-7:00pm	Water Quality Update <ul style="list-style-type: none"><li>• Chromium 6<ul style="list-style-type: none"><li>○ Status on Step 1 of Corrective Action plan</li><li>○ Next Steps</li></ul></li></ul>	RMC/Staff
7:00-8:00pm	Water Master Plan Update <ul style="list-style-type: none"><li>• Water Master Plan<ul style="list-style-type: none"><li>○ Scope</li><li>○ Demands</li><li>○ Supply options</li><li>○ Selected Portfolio (Patterson Control)</li><li>○ General Implementation Path</li><li>○ Hydraulic Modeling</li></ul></li><li>• Groundwater Recharge Study<ul style="list-style-type: none"><li>○ Operational Yield and Results</li><li>○ Status of Field Investigations</li></ul></li><li>• 2015 Urban Water Management Plan<ul style="list-style-type: none"><li>○ General Scope</li><li>○ Changes from 2010</li><li>○ Status</li><li>○ Adoption Process/Schedule</li></ul></li></ul>	RMC
8:00pm	Adjournment	