Meeting Date: 10/27/2009

ACTION	TYPE OF ITEM
☐ Approved Recommendation	☐ Info/Consent
☐ Ord. No(s). _____	■ Report
☐ Res. No(s). _____	☐ Public Hearing (Info/consent)
☐ Other _____	☐ Study Session

Prepared By: Anthony Emmert Agenda Item No. O-1

Reviewed By: City Manager City Attorney Finance Public Works for

DATE: October 19, 2009

TO: City Council

FROM: Mark S. Norris, Assistant Public Works Director
Public Works Department, Utilities Services Branch

SUBJECT: **Water Supply Outlook and Confirmation of Polices Regarding Projects Creating New Water Demands**

RECOMMENDATION

That City Council:

1. Consider a presentation on the current status of statewide and water supplies, long-term water planning, the Groundwater Recovery Enhancement and Treatment (GREAT) Program and the Water Conservation Program;
2. Affirm the January 15, 2008 policy regarding new water supplies for proposed development projects and provide direction regarding strengthening the policy through modification of the City's Water Shortage Emergency Ordinance,
3. Consider and provide direction regarding intensification of the City's response to the current water supply shortage, as per the Water Shortage Contingency Plan.

SUMMARY

Lower than average precipitation over the past few years, conveyance and storage deficiencies in the State Water Project system, and court decisions regarding endangered species in the San Francisco Bay-Sacramento-San Joaquin Delta (Bay-Delta) have led to reductions in imported water deliveries to the City of Oxnard. Efforts to protect endangered species on the Santa Clara River, intensification of water use by agricultural pumpers, and difficulty to recharge some groundwater basins ~~has~~ have strained local groundwater resources used by the City. In response to this, the City is enhancing its Water Conservation Program, in order to assist residents and businesses improve their water efficiency, and working to implement the first phase of the GREAT Program recycled water system, which will produce a new highly-treated water source suitable for landscape irrigation, industrial processes, future agricultural irrigation and future groundwater recharge. As the City can no longer expect to receive additional imported water to meet the needs of new development and redevelopment projects, the City

is also conditioning proposed new projects to be water neutral. Project proponents must provide water rights, water supplies, or financial or physical offsets equal to the projected water needs of their projects. Staff recommends that Council consider strengthening this policy by adoption of an ordinance. In anticipation of future potential imported water allocation reductions, staff recommends that Council consider mandatory water budgets for its customers and provide guidance on the methodology for creating the water budgets. In the long-term, the City will still be able to meet its water needs if it continues to actively pursue increased water use efficiency, regional cooperation and implementation of the GREAT Program. However, the dramatic recent reduction in the reliability of its imported water source will likely require decisive action by the City in the short-term.

DISCUSSION

Water Outlook

Water Sources. The City of Oxnard currently receives its drinking water supplies from three sources: 1) Northern California rainfall and snowmelt runoff derived from the State Water Project and purchased from the Calleguas Municipal Water District (CMWD), a member agency of the Metropolitan Water District of Southern California (MWDSC); 2) local groundwater purchased from the United Water Conservation District (UWCD), derived from Santa Clara River diversions and the operation of the Freeman Diversion, El Rio Spreading Basins and Wellfield, and Oxnard-Hueneme Pipeline System; and 3) local groundwater pumped from City-owned wells.

Imported Water. The imported water purchased from CMWD has historically made up approximately 50% of the City's total water supply. Lower than average precipitation over the last several years, conveyance and storage deficiencies in the State Water Project system, and court decisions regarding endangered species in the San Francisco Bay-Sacramento-San Joaquin Delta (Bay-Delta) area have led to reduced imported water deliveries. These reduced State Water Project deliveries led MWDSC in mid-2009 to reduce water deliveries to its member agencies, including CMWD, and consequently retail water purveyors, including the City of Oxnard. As the City of Oxnard and Port Hueneme Water Agency share the same CMWD turnout, the two agencies must reduce their usage of imported water by approximately 23 percent during the Fiscal Year 2009 – 2010 period, or face a fine of up to $5 million in mid-2010. Due to the very long time and large expense it will take to solve the State Water Project problems, the City no longer expects to receive its full contracted amount of imported water, but must produce or purchase additional water to meet its projected demands.

Groundwater. The groundwater purchased from UWCD has historically made up approximately 25% of the City's water supply, and the groundwater pumped from City wells has historically made up approximately the other 25% of the City's total water supply. Lower than average precipitation over the last several years, efforts to protect endangered species on the Santa Clara River, intensification of water use by agricultural pumpers, and difficulty to recharge some groundwater basins have strained local groundwater resources. Both agricultural and municipal groundwater pumpers have implemented significant conservation measures, and the Fox Canyon Groundwater Management Agency (FCGMA) continues to refine its regulatory practices, in order to maintain the long-term integrity of our local groundwater resources. However, the general regional consensus is that some additional efficiency improvements must be made and that recycled water use should be expanded. The City's GREAT Program is one of the most significant regional projects that will expand recycled water use, and is supported in the FCGMA's Groundwater Management Plan.

Water Conservation. In response to the constraints upon its water supplies, the City of Oxnard continues to develop and refine its Water Conservation Program. The City's work on this Program includes developing a Water Conservation Master Plan, updating the City Code regarding water waste and implementing all of the Best Management Practices (BMPs) of the California Urban Water Conservation Council. Staff expects the City's consultant to complete the administrative draft of the Water Conservation Master Plan in the very near future. The Plan will analyze a suite of cost-effective program elements that could be reasonably implemented over time to produce water savings. Staff plans to present the Plan to the Utilities Task Force in an upcoming meeting and then to the City Council. In June 2009, the City updated its Water Conservation Ordinance, strengthening its water waste prohibition provisions. Staff has been actively educating its residents and businesses regarding water waste by numerous means, including patrols. In general, reaction to the education effort has been positive. City staff has continued to work toward full implementation of the Best Management Practices of the California Urban Water Conservation Council.

GREAT Program Recycled Water. The City also continues to implement its GREAT Program, primarily developing the first phase of the recycled water component. The first phase of the GREAT Program's recycled water system is sized to make up for the FCGMA groundwater pumping cutbacks over the last 20 years to meet the needs of existing water customers. Subsequent phases of the recycled water system will generate new groundwater pumping credits to meet new demands for approved development projects.

The Advanced Water Purification Facility (AWPF) Phase 1 Project will treat secondary-treated wastewater from the City's Wastewater Treatment Plant using microfiltration, reverse osmosis and advanced oxidation to produce 6.25 million gallons per day of purified recycled water that will be used for landscape irrigation, industrial processes and future groundwater recharge. Using the recycled water for these non-potable purposes will allow the City to stretch its drinking water resources further. The project is currently out to bid. Staff is currently negotiating with the recommended consultant for construction management services. The City expects to start construction on the AWPF Phase 1 Project before the end of the year. Due to the requirements of the $20 million dollar U.S. Bureau of Reclamation (USBR) grant, the project must be completed and delivering recycled water by September 2011.

Staff and consultants are also working on the design of the Recycled Water Backbone Pipeline Phase 1, which will deliver the recycled water to future recycled water customers along the Hueneme Road and Ventura Road corridors. The City expects to complete design work within the next few months and to start construction in early 2010. In order to meet the terms of the USBR grant, the pipeline projects also must be completed by September 2011.

Additionally, the City must work with potential recycled water customers to evaluate their on-site recycled water needs and to design and construct retrofits to their existing on-site water systems, in order to allow the use of recycled water. Staff is currently working on developing a request for proposals to select an engineering design firm to assist with the retrofits work. Discussions with potential recycled water customers are ongoing. This effort will need to intensify over the next few months, in order to have customers ready to receive recycled water when it becomes available.

Staff and consultants are currently working with the California Regional Water Quality Control Board to modify the City's existing National Pollutant Discharge Elimination System (NPDES) permit to

allow for the AWPF's membrane concentrate discharge to the Pacific Ocean and with the California Department of Health Services (CDPH) to permit the use of recycled water. CDPH permitting requires significant effort, including an administrative & user permitting plan, operations & maintenance plan, staffing plan and training plan for City staff and future recycled water customers. These plans must be completed within the next few months.

Water Planning in Support of City's General Plan. In support of its General Plan, the City's blueprint for future growth, staff conducts both short- and long-term water planning, in order to ensure that the water will be available to meet the needs of both existing and future water customers. The City's Urban Water Management Plan (UWMP) 2005 analyzed existing water demands and estimated the water demands of potential development and redevelopment projects known at the time, including some that were not included in the General Plan 2020. Due to the limitations on existing water supplies, the UWMP 2005 confirmed the need for the City to continue to improve its water efficiency through its Water Conservation Program and to develop recycled water as a new water source. Recycled water can be either used to directly offset potable water demands by using it for landscape irrigation or industrial processes, or to gain groundwater pumping credits by delivering it to agricultural irrigators or by using it to recharge groundwater aquifers. The City plans to issue a request for proposals in the very near future to prepare an updated UWMP, in support of the General Plan 2030. Staff expects that the updated UWMP will be completed in fall 2010.

In addition to the UWMP, staff reviews the projected water demands of all significant development and redevelopment projects and prepares Water Supply Assessments. Staff also confirms any FCGMA groundwater allocations that may be available for transfer to the City if the project is approved. If the proposed project can use recycled water and a connection to the City's recycled water backbone is feasible, then the City requires the project proponent to design and construct the project to use recycled water, in order to reduce potable water demands. Historically, if a proposed project could not provide a transfer of adequate groundwater allocations to meet its projected water demands, then the City purchased additional imported water to make up the difference. Due to the serious constraints upon the State Water Project, the City is no longer able to count on any additional imported water. New water sources must be developed to meet the increased water needs of proposed development projects.

Policy Regarding New Water Supplies for Proposed Development Projects

Because of the reduced reliability of the State Water Project and unavailability of any new imported water, the City Council, at its January 15, 2008 meeting, directed staff to require that all new projects of significant size be water neutral to the City water system. Project proponents can contribute water rights, water supplies, or financial or physical offsets to achieve this. Typical options open to project proponents to do so include transfers of FCGMA groundwater allocations to the City, participation in expansions of the City's GREAT Program recycled water system through physical or financial contributions, and participation in water conservation projects that produce measurable sustainable water savings. Several proponents of significant projects have complied with this requirement and several others are currently in negotiations with the City. Very small projects, such as single family residential projects or business tenant improvements have been exempted from this requirement, to date. Staff recommends that the City affirm this policy through an amendment to the existing Water Shortage Emergency Ordinance, as it has been effective at protecting existing utility customers while accommodating future growth if new water supplies can be developed.

Staff recommends that the following policy principles be included in the revised Ordinance:

- All proposed projects should either contribute water supplies or the financial or physical equivalent to offset the full estimated project demand. For example, a 200 acre agricultural property on which a development is proposed requiring 500 acre-feet per year of water would be granted 400 acre-feet of groundwater pumping allocation by the FCGMA. The 400 acre-feet per year would be reduced to 300 acre-feet per year by the FCGMA's 25% groundwater pumping cutbacks. The project proponent could transfer the 300 acre-feet per year allocation to the City. Under the proposed policy, the City would condition the project proponent to provide offset for the 200 acre-feet per year of project water demand that could not be met by the transfer.
- The policy would apply to all proposed projects, whether or not they were included in the existing General Plan or UWMP. Staff recommends that very small projects, such as home renovations or business tenant improvements be exempted.
- The City would develop a menu of mitigation options that may include:
    - Financial contribution toward the GREAT Program's recycled water facilities.
    - Financial contribution toward a City-controlled water conservation project or program that would generate verifiable long-term water savings.
    - Implementation of a developer-initiated water conservation project or program that would generate verifiable long-term water savings.
    - Contribution of any other additional water rights or water supplies.

Water Shortage Response Options

If the 2009 – 2010 northern and central Sierra Nevada Mountains snowpack is below average and if the State of California and other Bay-Delta stakeholders cannot quickly come to a temporary solution regarding State Water Project pumping, then MWDSC may further reduce the City's allocation of imported water for the 2010 – 2011 fiscal year. MWDSC would likely take this action in April or May 2010. If MWDSC makes further reductions, the City will likely not be able to balance its water budget by continuing its current effort of active education of its water customers and enforcement of water waste prohibitions. The City has three options to keep its water budget in balance: 1) dramatically increase its Water Conservation Program's scope and budget, 2) establish mandatory water budgets for all customers and enforce those budgets, and 3) draw down the City's emergency water reserve.

A Water Conservation Program is most effective as a sustained effort over many years to retrofit existing irrigation systems, plumbing systems, and industrial processes and to change customers' behavior. Santa Rosa, California, a city of similar size, demographics, conditions, and water portfolio to the City of Oxnard, has achieved approximately 25% water savings over the past 20 years through a sustained Water Conservation Program. It is unlikely that the City of Oxnard can achieve similar water savings within a one- or two-year period, even with dramatic increases in both the operating budget of the Water Conservation Program and a capital improvement budget to retrofit both public and private facilities. However, staff recommends that the City continue to develop and improve its Program, and to consider establishing a capital improvement program for water conservation retrofits.

The City could fairly quickly balance its water budget by establishing water budgets for all of its customers. Baselines for customers can be set using records of historical usage or by more in-depth

analysis. Across-the-board percentage reductions based upon historical usage are easier to implement; however, they tend to penalize water customers who have been efficient in their water usage and reward those that were less efficient during the baseline period. Because of this equity problem, staff discourages setting water budgets based solely upon straight historical usage. The other common method of establishing water budgets is to analyze each customer's water needs and then set a customized water budget. For example, a single-family residence on a large lot may have a fairly high historical water usage, due to a significant amount of water being used for irrigation. The City could establish a water budget that would allow this customer a reasonable indoors water budget, but would require a significant reduction in the outdoor usage for irrigation. This method is much more equitable and rewards those who have been efficient, but will take much more time to prepare. It would require several months work and consultant assistance to analyze existing geographical information and utility billing database data and reprogram the utility billing system. Utilizing any type of mandatory water budgets will require that the City step-up its customer education, establish procedures and an appeal process, and dedicate significant staff time toward implementation and administration.

The City maintains an unofficial emergency water reserve, equal to approximately one year's worth of water demand. This reserve is primarily to ensure that the City can meet its water demands in the event of an emergency that would reduce or eliminate one of its water sources. For example, if the Bay-Delta experienced a significant earthquake and consequent levee failure, the resultant flooding of one or more delta islands with seawater could result in a shutdown of the State Water Project for up to two years. In that case, the City could draw-down its water reserve until such time as the Bay-Delta system could be repaired and the State Water Project reactivated. Dependent upon the final MWDSC allocation reduction for the current fiscal year, the City may end up drawing-down its reserve by approximately 5,000 to 10,000 acre-feet this fiscal year. The City could continue to draw down the reserve in ensuing years. Staff recommends retaining all or most of the reserve, as it may be needed to provide minimal water service during an emergency.

In the long-term, the City will still be able to meet its water needs if it continues to actively pursue increased water use efficiency, regional cooperation and implementation of the GREAT Program. However, the dramatic recent reduction in the reliability of its imported water source will likely require decisive action by the City in the short-term.

FINANCIAL IMPACT

None.

(AAE)