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## MEMORANDUM

CWS File #07-360

To: Ms. Veva Deheza, CWCB  
cc: Terry Walker, Director of Public Works  
From: Val Flory  
Date: December 29, 2008  
Subject: 95% Progress Report for the Town of Windsor Water Conservation Plan

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Clear Water Solutions (CWS) has completed the final draft of the Town of Windsor ("Town" or "Windsor") Water Conservation Plan in accordance with the Guidance Document produced by the Colorado Water Conservation Board (CWCB). The Guidance Document outlines nine steps in the water conservation planning process. To date, CWS and Windsor have completed eight of the nine steps per the scope of work and the Plan is being presented to the public through a public review period that began on December 26, 2008 and is scheduled to end February 24, 2009. The Draft Plan was reviewed by Town staff, the Water and Sewer Board and the Town Board. All staff and Board comments were incorporated prior to the public review period.

Table 1 shows the water conservation goals as they evolved throughout the planning process. Original goals were set after characterizing Windsor's water distribution system, customer categories and past and future water use in each of those categories. Water conservation measures were then selected by the Town staff through two screening processes including a cost/benefit analysis. Estimated savings from the final measures were then compared to the original water saving goals and those goals were adjusted to better meet expected water savings.

**Table 1 – Water Conservation Goals**

Water Use Categories:	Total Projected Water Use (2008 to 2017)	Reduction Goals for Planning Horizon		Total Water Savings from Selected Programs	Resulting Reduction	Adjusted Reduction Goals for Planning Horizon	
	(AF)	(%)	(AF)	(AF)	(%)	(%)	(AF)
Residential	11,065	10%	1,106				
Residential Dual System	4,647	3%	139	1,332	8.5%	8.0%	1,257
Business	1,986	15%	298				
Business Dual System	152	10%	15	316	14.8%	15.0%	321
Industrial	2,312	5%	116	130	5.6%	6.0%	139
Public (schools & churches)	364	10%	36	38	10.6%	11.0%	40
Landscape Only	1,578	15%	237	297	18.8%	16.0%	252
Unaccounted-for Losses (currently 9.5%)	2,320	3.5%	855	867	3.6%	3.6%	867
Total Water Production:	24,423						
Total Demand Reduction:			2,802	2,981			2,876
Total Percent Reduction:			11.5%			12%	

Windsor has single and dual system categories for both residential and business customers. These were combined and final goals were set for Residential, Business, Industrial, Public, and Landscape Only customers and to reduce Unaccounted-for Losses.

A Universal list on conservation measures and programs was compiled to start the brainstorming process of finding the best measures and programs for the Town. The list included looking at all of the measures required by the CWCB guidelines. There were 49 water conservation measures and programs on the universal list, eight of which were existing measures with plans for improving or continuing effort. The universal list was screened with Town staff using the following criteria and was narrowed down to 32 measures and programs.

1. Financial implications
2. Staff availability
3. Staff and Board approval

A cost/benefit analysis was performed on the 32 measures and the measures were ranked in order of cost per 1,000 gallons saved. The second screening done with Town staff considered the resulting rank and the following criteria.

1. Additional staff time required
2. Financial implications
3. Staff and Board approval
4. Existing or planned Town projects

Nineteen measures were chosen to implement or continue and increase efforts. Table 2 shows the rank from the cost/benefit analysis and why the measure or program was chosen or not.

**Table 2 – Final Selection of Conservation Measures and Programs**

Conservation Measure or Program	Rank	Final Selection	Criteria for Selecting or Rejecting Measure or Program
Utility Maintenance Programs			
Water Waste Ordinance	1	Yes	The Town of Windsor would like to continue public education for this regulation.
Leak Detection & Repair Program	2	Yes	A leak detection and repair program is necessary to reducing unaccounted for losses.
Non-Potable Park Well Meters	3	Yes	Currently, the non-potable park wells are not metered making it difficult for Town staff to monitor usage and find leaks or problems with the system. Adding meters to these park wells will allow the Town a chance to get a handle on non-potable water usage.
Meter Testing and Replacement Program	11	Yes	Faulty meters may be responsible for apparent losses. Town staff would like to implement a testing and replacement program as staff time allows.
Regulatory Controls and Standards			
Watering Restrictions	13	Yes	Watering restrictions are important for water savings during the lawn watering season. The Town will continue this program and continue public education on the benefits of watering restrictions.
Water Rate Structure Changes	7	Yes	A rate study will be conducted to determine a fair structure that will help maximize water savings.
Restrict High Water-Use Turf on Medians and in Parking Lot Plantings	16	No	Cost rankings are high and there are not enough staff resources to implement this measure at this time.
Decorative Water Feature Requirements and Standards on New Construction	19	No	Cost rankings are high and there are not enough staff resources to implement this measure at this time.
Requiring Wind and/or Rain Sensors for Business and Open Space Irrigation	21	Yes	These measures have a high potential for water savings and will receive positive public perception.
Irrigation System Standards for New Development	22	Yes	
New Car Wash Standards (New Construction)	26	Yes	
Educational Programs			
School Education Program (K-12)	14	Yes	The Town of Windsor would like to grow these existing programs to increase water savings.
Xeriscape Gardening Classes	25	Yes	
Xeriscape Demonstration Garden	28	Yes	
Website Water Use Calculator	5	Yes	Putting a residential water use calculator on a website is an effective way for a customer to calculated their water use and get them thinking about how to save water and money.
Send ET Irrigation Scheduling in Water Bill	15	Yes	ET irrigation schedules can be prepared by the Town prior to the irrigation season and sent out to all customer categories to reference when programming their irrigation systems.
Public Education - Bill Stuffers & Website	12	Yes	Setting up a section on the website, dedicated to water conservation, would add an efficient way to distribute a lot of information and enhance public perception.
Post Business, Industrial, and Public BMPs on Website or as Bill Stuffers	24	Yes	
Professional Irrigator Education and Training	31	No	Cost rankings are high and there are not enough staff resources to implement this measure at this time.

Conservation Measure or Program	Rank	Final Selection	Criteria for Selecting or Rejecting Measure or Program
<b>Rebates and Incentive Programs</b>			
Rebate for Low-Flow Faucet	6	No	At this time, Town Staff would like to focus only on the Irrigation System Efficiency Device Rebate Program, due to limited staff time.
Distribute Toilet Retrofit Devices	9	No	
Residential Rebate for Low-Flow Toilets	10	No	
Rebate for Low-Flow Showerhead	17	No	
Distribute Pre-Rinse Spray Heads to Restaurants and Institutions	20	No	
Business Toilet Rebate	23	No	
Rebate for High Efficiency Clothes Washers	29	No	
Rebate for High Efficiency Dishwashers	32	No	This program will be well received by Windsor residents. Cost rankings are high and there are not enough staff resources to implement this measure at this time.
Irrigation System Efficiency Device Rebates	27	Yes	
Turf Replacement and Xeriscape Incentives	30	No	
<b>Audit Programs</b>			
Residential Water Audit Kits	4	Yes	This is a high potential savings area. Online versions will be provided on the website as well as kits available at the Town offices.
Business and Industrial Water Audits	8	Yes	Business and Industrial customers are often the highest water users and have been an area of increasing focus for water conservation. Water audits can be performed by a third party consultant and is an effective way to educate businesses on how they can save water.
Landscape Customer Category System Audits	18	No	Cost rankings are high and there are not enough staff resources to implement this measure at this time.

Windsor has a small staff that is already operating at close to maximum efficiency. Adding the responsibility of implementing and tracking water conservation measures and the resulting water savings presents a challenge for the Town. While creating a schedule for implementation of the conservation plan this fact was discussed and considered. The plan is to spread the implementation out over 3 years so the responsibilities can be defined and properly assigned.

Implementation grants will help with material and staff costs. They can also help the Town hire third party consultants for things like the commercial and industrial audits, leak detection and standards review, which would be the most efficient use of the Town's resources. Table 3 shows the implementation schedule by year and associated costs and water savings. It also indicates which measures will seek an implementation grant.

**Table 3 – Implementation Schedule**

Measure/Program	Cost to Implement	Annual Cost without Lost Revenue	% of Total Water Savings	Implementation Considerations	Grant Request
<b>2009</b>					
Non-Potable Park Well Meters	\$6,300		0.4%	Staff time, Funding	Yes
Leak Detection & Repair		\$7,000	17.6%	Funding, obtaining 3rd Party	
Water Rate Changes	\$40,000		16.0%	Funding	Yes
<b>Total 2009 Cost</b>	<b>\$53,300</b>				
<b>2010</b>					
Leak Detection & Repair		\$7,000	See above	2nd Year of Program, obtaining 3rd Party	
Regulatory Standards Program			11.3%	Staff time	
Irrigation System Standards for New Development	\$400	\$6,250			
Requiring Wind and/or Rain Sensors for Business and Open Space Irrigation	\$400	\$6,250			
New Car Wash Standards (New Construction)	\$400	\$1,000			
Audit Program			10.3%	Staff time, Funding	Yes
Residential Water Audit Kits	\$8,775	\$800			
Business and Industrial Water Audits		\$4,100			
Educational Program			1.2%	Staff time, funding	Yes
Xeriscape Demonstration Garden	\$5,000	\$2,500			
<b>Total 2010 Cost</b>	<b>\$42,875</b>				
<b>2011</b>					
Leak Detection & Repair		\$7,000	See above	3rd Year of Program, obtaining 3rd Party	
Rebate Program			2.8%	Staff time, Public participation, Advertising, Funding	
Irrigation System Efficiency Device Rebates	\$400	\$2,306			
Educational Program			13.3%	Staff time, Obtaining 3rd Party, Funding	Yes
Website Water Use Calculator	\$600	\$100			
Send ET Irrigation Scheduling in Water Bill	\$600	\$500			
Public Education - Bill Stuffers & Website	\$2,000	\$6,053			
Post Business, Industrial, and Public BMPs on Website or as Bill Stuffers	\$600	\$729			
Meter Testing and Replacement		\$33,250	8.8%	Funding	Yes
<b>Total 2011 Cost</b>	<b>\$54,138</b>				
<b>Total Costs</b>	<b>\$186,225</b>	<b>\$84,838</b>			
<b>Total Combined Cost</b>	<b>\$271,063</b>				

The water conservation measures that the Town intends to implement will result in an efficient system, fair water rates and more information for customers to evaluate their own water use.

The Town's public-review process will be from December 26, 2008 to February 24, 2009. After the 60-day public process, public comments, if any, will be addressed in the plan, and the Town Board will formally adopt the Water Conservation Plan at their March Board Meeting. The Plan will then be submitted to CWCB for final approval.