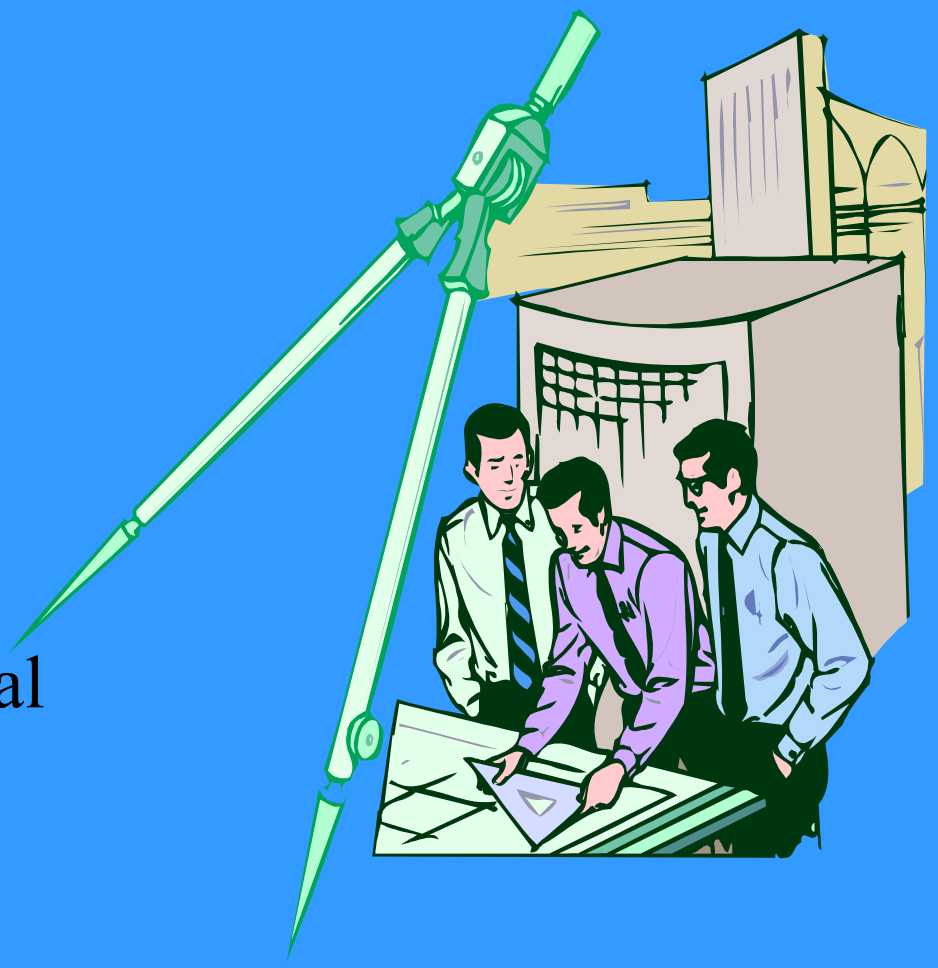
How We Did It

Water Management And Conservation Plan

Pat Dorning & Ray Johnson

Plan Development

- How we went about writing our plan
- What worked and what didn't
- The steps from 1st draft to final approval



Getting Started

You don’t have to re-invent the wheel

Water Management Plans Inc.

Borrow Ideas From Others

The State is your Oyster

Get some training/ information/ education

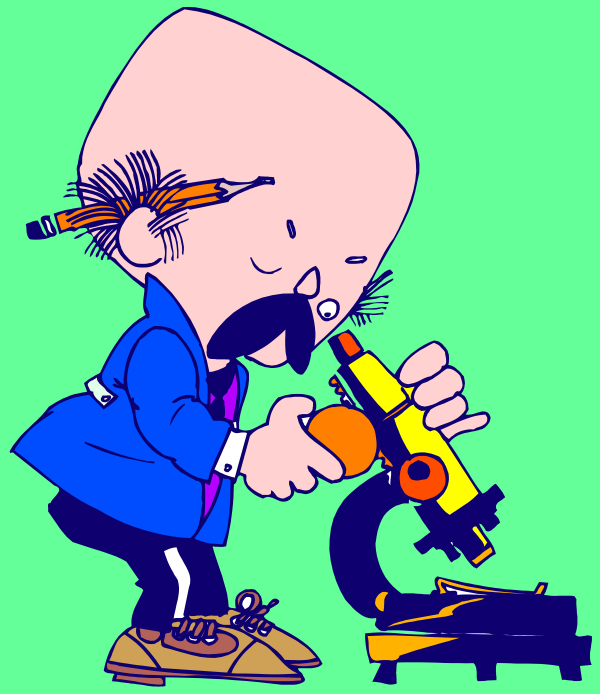
Collect other peoples plans

Communicate with Water Resources Dept

Build A Working File

- Gather information
- Keep everything you get your hands on
- Try to standardize electronic format

- Get familiar with **OAR 690-86-010-140**
- Use the Water Management Plan outline



Review the Rule

September 21, 1994

OREGON ADMINISTRATIVE RULES
WATER RESOURCES DEPARTMENT
CHAPTER 690
DIVISION 86
WATER MANAGEMENT AND CONSERVATION PLANS

General Provisions

Purpose

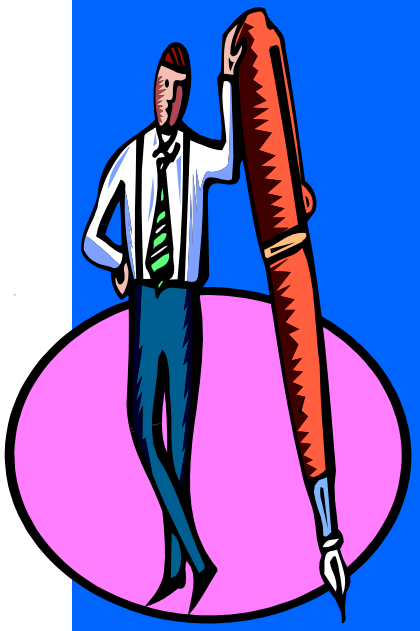
690-86-010 (1) The Water Resources Commission has adopted a statewide policy on Conservation and Efficient Water Use (OAR 690-410-060). The policy requires major water users and suppliers to prepare water management plans. These rules provide a pilot process to evaluate the effectiveness of conservation planning in achieving more efficient water use and preventing waste consistent with water supplier and Department capabilities. The Commission will review implementation of these rules and consider modifications in the planning requirements and the possible extension of the requirements to other water suppliers or users within two years.

(2) Many regions of Oregon face periodic and increasingly frequent water shortages during summer periods. Urbanization is resulting in a continually expanding need for municipal water supplies. It is increasingly important to the state's economy to maintain adequate streamflows to support aquatic life, provide recreational opportunities and maintain water quality. The continued implementation of conservation measures can help restore streamflows, stabilize water supplies, and provide for future needs for economic development and growth.

(3) The use of water at a rate or duty which is less than the maximum amount allowed under a water right which is achieved through improved water management practices is not a forfeiture under ORS 540.610. However, conserved water may only be used on additional acres or for other purposes not included in the original right after allocation of conserved water under ORS 537.455 to 537.500 or under other specific statutory authorizations. (For additional information, see correspondence from the Department of Justice regarding DOJ File No. 690-001-NR002-94, February 15, 1994.)

(4) Effective water management requires an evaluation of the adequacy of water supplies to meet current and future needs. Water management and conservation plans will identify planned modifications in water systems and development of new water supplies. However, the approval of a water management plan shall not substitute for compliance with Statewide Planning Goals nor any other comprehensive land use planning requirement or constitute approval of applications for water rights, water reservations, water storage facilities or extensions of time for permits.

(5) Water management and conservation plans will provide information important in water resources planning and management. In addition, the plans may provide support for applications for water use permits and water right transfers and requests for extensions of permits, approvals of exchanges, and reservations of water. Due regard shall be given to any relevant approved water management and conservation plans during consideration of these applications and requests.



Note: These rules were filed with the Office of the Secretary of State and took effect on September 21, 1994. The rules are subject to non-substantive modifications such as renumbering and correction of typographical errors pursuant to ORS 183.360 (2)(a) when published by the Secretary of State.

Water Management Plan Outline

The questions that follow were prepared to aide in plan preparation. Answers to the questions are intended to be helpful in organizing your plan. Answers will usually take the form of short sentences; these can be turned into a sentence outline to write your plan. Questions are arranged into general groupings, and reflect State plan requirements as contained in Oregon Administrative Rule Chapter 690, Division 86. For exact plan standards, please refer to the administrative rule.

In terms of format, water "volume" should be listed in million gallons per day (MGD) or acre-feet per year (AFY); water "flow" should be noted in cubic feet per second (cfs), or gallons per minute (gpm). An acre-foot is equal to 325,851 gallons.

Section 1
Water Supply Background Information:

1.1 Name of water supplier:_____

1.2 Population (1995, or 1990 if a more current date is not available): _____

1.3 Describe your municipality's source(s) of water supply. This should include the name of the river, aquifer or other source(s) of natural supply. If your source is a tributary river, list the river to which it is tributary.

_____
_____
_____

1.4 List your municipal water right permits by number, year issued, and the amount of water allowed for consumptive use by each. Note any permits that are for less than year-round use.
Note: You will use this information later on when you analyze supply and demand. We can provide this information if you don't have it, call us at (503) 387-8455, ext 499.

Water Right Permit(s):	Issue Date:	Amount:	Year-round (#months)

Note the "useable" storage versus "total storage" for each.

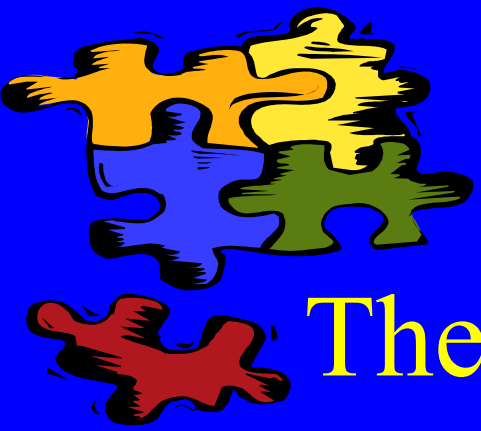
1.5 Briefly discuss how the system is operated to meet municipal needs.
Note: Relate this discussion to the diagram in item 1.6 below.
Total storage: _____ Useable storage: _____

Discussion of operation: _____
_____
_____

Who Does What?

Determine who has the best skills!

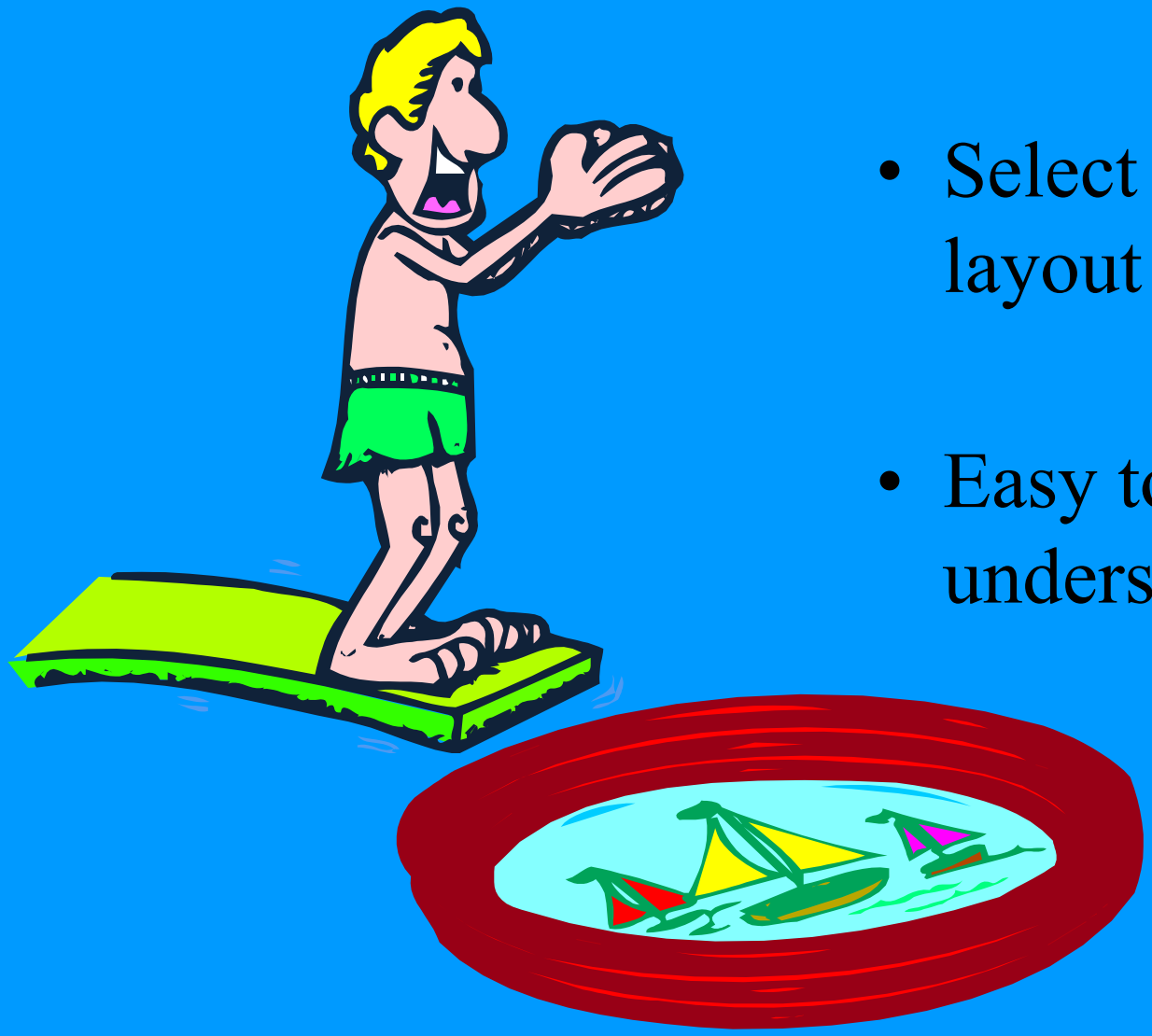
- Introduction & History
- Description of System
- Conservation
- Curtailment
- Long Range Supply
- Update Schedule



The Conservation Puzzle

- Tailored to “Your Community”
- Many elements make up the whole picture
- Network for research
- Will be looked at closely by the public

Dive On In



- Select a writing & layout format
- Easy to follow & understand

SECTION 2. WATER CONSERVATION ELEMENT

690-86-140 (2)(a) *A progress report on the conservation measures scheduled for implementation in the water management and conservation plan previously approved by the Department, if any:*

No prior approval of a water conservation plan approved by the Department exists.

690-86-140 (2)(b) *A description of the water supplier's water use measurement and reporting program and a statement that the program complies with the measurement standards in OAR 690, Division 85, that a time extension or waiver has been granted, or that the standards are not applicable:*

The City of Redmond is currently using an automated "Programable Logic Controller" (PLC) to extract flow and production data from each water source. A Sparling propeller flow meter is used to measure the flow from each well source. The flow data is then transmitted back to the PLC at the control headquarters, via telephone lease lines. Data is updated every 10 seconds and flow totalizers log the information to the PLC. Daily flow information is then compiled into monthly reports. The monthly production figures are then used to compile yearly water use reports submitted to the State Department of Water Resources. The City also has a data management system in place. Data available from this system should further enhance our reporting capabilities.

The City of Redmond's current reporting program complies with the measurement standards set by the Oregon Water Resources Dept. No wavers have been Requested, nor do we anticipate the need to do so.

690-86-140 (2)(c) *A description of other conservation measures, if any, currently implemented by the water supplier.*

Current Conservation Measures

The single most important, current conservation measure for the City of Redmond was established in 1972. Adoption of City of Redmond codes 4.127, 4.129, 4.131,4.133 and 4.137 "Irrigation Regulations". [see attachment (2)-2] These city codes mandate water conservation by controlling the length of the irrigation season and requirement of odd numbered street addresses to water on odd numbered days and even numbered street addresses to water on even numbered days and enables the City Manager to implement a policy of no "day time watering" of lawns. This accomplishes two goals:

1. The "odd day even day" regulations lessen the demand on water supply

690-86-140 (4)(b) *A comparison of the projected water needs and the system capacity and size and reliability of water rights, permits or other current water supply contracts held by the water supplier:*

The City of Redmond currently holds ground water rights in the amount of 12.75 million gallons per day. Providing permits can be secured, ground water is of high quality and is available in sufficient quantities to be considered a reliable source of water in the future. The City could also consider using surface water rights as an alternative supply to ground water. Problems with winter time supplies, cost of treatment facilities and a high potential for surface water contamination makes ground water a more feasible and economical water source.

The City of Redmond is expected to increase in population by nearly 4.25% per year. A population of 37,891 is anticipated by the year 2020 and 58,843 by the year 2030. If population projections hold, it appears that the addition of 3.24 MGD and an increase of approximately 3 million gallons of storage will be needed every three years to keep pace with expected future demands on the system. This increase equates to 14 additional wells with a production rate of 2250 gpm, or an increase of 46 million gallons per day over our existing 12.85 MGD permits to accommodate peak day demands.

690-86-140 (4)(c) *If future demand projections indicate that additional water will be required within the next 20 years, the plan shall include:*

690-86-140 (4)(c)(*A.*) *A comparison between the potential sources of additional water, conservation, reuse, and interconnection with other municipal systems:*

The development of the long range water supply policies for the City of Redmond including new source development and the selection of conservation measures will be implemented under the guidance and direction of the City Council. The water division staff will research the costs, benefits, and environmental aspects regarding water supply issues and submit reports with recommendations to the Council. The decisions to implement or eliminate any of the elements of this Water Management and Conservation Plan ultimately resides with the City of Redmond City Council. The City Council has further directed that the main focus of our conservation efforts will be towards residential lawn irrigation since that is where the largest water savings can be expected.

<u>Interconnections</u>

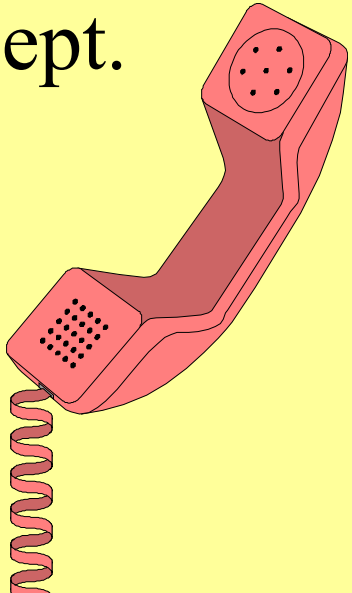
At the current time there are no interconnections between the City of Redmond and any other water supply system. No systems of size or consequence are near enough to the City of Redmond to make such a connection practical. Therefor interconnections with other systems is not feasible and has no effect on determining the future water supply demand projections.

Drafts & Rewrites

Use a non-team member to proof drafts

Work with Water Resources Dept.

<u>Ask</u> <u>Em!</u>



Close to the Finish Line

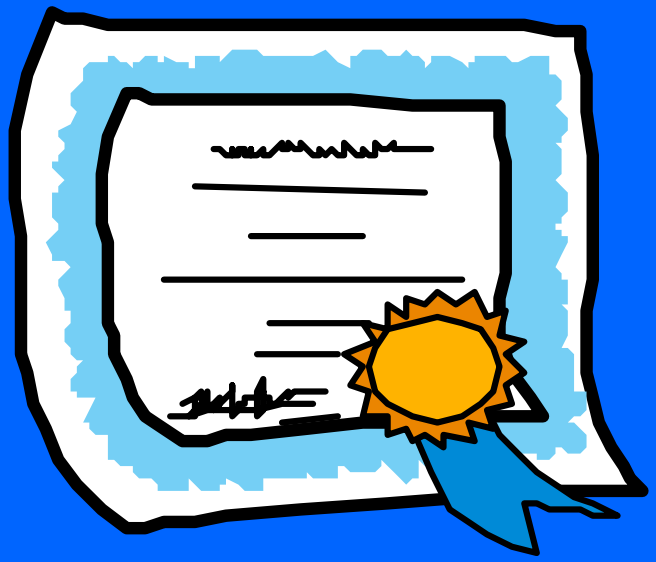
Input and direction from City Council

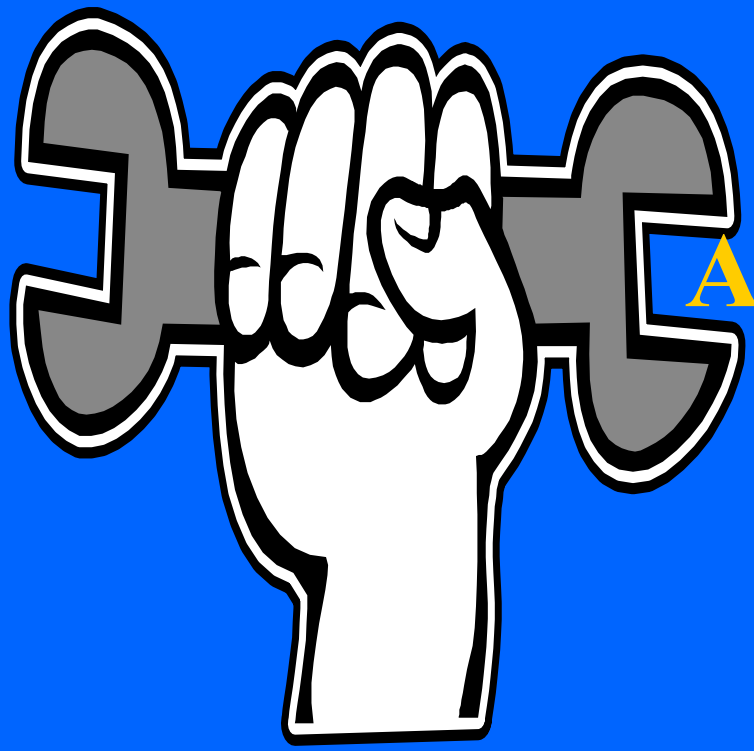
Submit to OWRD for public hearing & approval

OWRD approval

Council adoption

Done Deal!





A very useful tool

Water Management

and Conservation Plan

June 2000

OCT. 2001

Following Our Own Plan

Water
Management
Plan indicates
need for more
wells

WATER RIGHTS
HB-2184

City introduced legislative concept

Deschutes Basin Mitigation Bank

OWRD allows system of credits

City of Redmond

Water Conservation Program

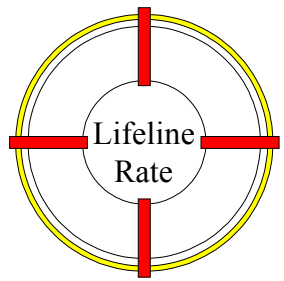
Consumer Awareness

CITY OF REDMOND OREGON
SINCE 1910
CITY of REDMOND
WATER CONSERVATION PROGRAM
Fix Leaks
Watch what you water
Water 1" every 4 days
The 20 Gallon CHALLENGE
Each Citizen saves 20 Gallons of Water per Day.
Reduces yearly Demand by 100 MILLION Gallons.
Use Water Wisely
Save Water, Energy and Money
Please Help yourself to FREE "Conservation Kit"
Adjust timer often

Water: Cost-of-Service Rate Structure

Includes "Lifeline" Rate for Low Usage Levels

Meter Size	Monthly Fixed Rate	Usage Allowance *	Volume Rate (/ccf)
5/8"	$8.08	None	$0.66
¾"	10.43	None	0.66
1"	15.12	None	0.66
1 ½"	26.83	None	0.66
2"	40.90	None	0.66
3"	78.40	None	0.66
4"	120.59	None	0.66
6"	237.78	None	0.66



✔	Efficiency
✔	Equity
✔	Conservation

* No usage allowance recommended

Hey ! I'm gonna need another reservoir
"Capital Improvement Plan"

Questions ?